Decreasing work caused by supplier related non-conformities: Case KONE Industrial Ltd

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The theme for my thesis was given by my current employer KONE Industrial. The aim of the study was to investigate how KONE Global Spares Supply could decrease work caused by supplier related non-conformities, and how to integrate communication of these problems.

The supply chain is only as weak as its weakest link, which is why it is important to concentrate on every participant in the supply chain. In this thesis the focus is on suppliers, and the purpose is to improve quality of supplier deliveries in a KONE spare part unit called Global Spares Supply.

The first part of this thesis concentrates on theoretical background. First of all, supply chains are introduced as well as management of them. Because this study mainly concentrates on suppliers, purchasing and supplier relationship management are studied more closely. The last part of the theoretical background is legislation; both United Nations Convention on Contracts for the International Sale of Goods (CISG) and Finnish trade law are studied as well as what is enacted in these laws in relation to the sellers' duties.

The second part of the thesis concentrates on the case company and problems caused by suppliers in their supply chain. It describes what should be developed and why. The last part of the thesis provides a proposal for improving the communication with suppliers. It also tells how these improvements are planned to be put in action.

Key words: Supply chain, Supply chain management, Purchasing, Legislation: CISG, FSGA, non-conformities

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Opinnäytetyön aiheen sain työnantajaltani KONE Industrialilta. Tutkimuksen tavoitteena oli selvittää, miten KONE Global Spares Supply voisi vähentää toimittajien virheiden aiheuttamaa työtä sekä yhdentää näiden ongelmien kommunikointia.

Toimitusketju on yhtä heikko kuin sen heikoin lenkki. Siksi on tärkeää keskittyä jokaiseen ketjun toimijaan. Tässä työssä keskitytään toimittajiin ja yritetään löytää keinoja parantaa toimittajien toimitusten laatua KONEen varaosayksikössä nimeltä Global Spares Supply.

Työn ensimmäinen osa keskittyy teoreettiseen taustaan. Ensin on esitelty tilaus-toimitusketjuja sekä niiden hallinta. Koska tämä tutkimus keskittyy toimittajiin, ostoa ja toimittajasuhteiden hallintaa on tutkittu tarkemmin. Viimeinen osa teoriaosuudesta on lainsäädäntöä, jossa tutkitaan sekä YK:n kauppalakia CISG:a että Suomen kauppalakia, sekä sitä mitä näissä laeissa säädetään myyjän velvollisuuksista.

Toinen osa keskittyy case yritykseen ja ongelmiin joita toimittajat aiheuttavat yrityksen tilaus-toimitus-ketjussa. Tämä osa kertoo, mitä pitäisi kehittää ja miksi. Viimeinen osa tarjoaa ehdotuksia kommunikoinnin kehittämiseen toimittajien kanssa. Lopuksi kerrotaan myös, miten nämä kehitysehdotukset tullaan ottamaan käyttöön.

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1   Introduction

The theme of my thesis is directly work related. I have been working for KONE Industrial since two and a half years and the department I am working for is a spare part unit of KONE, called Global Spares Supply (GSS). I have been in purchasing team whole time; I started as a purchasing assistant and have continued as a purchaser. Once I got my studies in the point where I started to plan my thesis, the purchasing manager of our team gave me a suggestion for the subject to my thesis. The possibility of studying a work related issue sounded interesting, so I decided to go with it. The subject changed a bit during the process, but the original idea remained the same.

KONE GSS is using a wide range of different suppliers and supplier related non-conformities are causing a lot of unnecessary extra work to purchasing team members. These non-conformities include for example delayed shipments, defective materials, unclear shipments and wrong deliveries. There are no specific instructions how purchasing team members should act on these cases. For the time being, problems have been handled case by case in many different ways, mostly by emails, and there is no proper claim tool in use. The aim of my thesis was to find new and better ways to communicate these non-conformities to suppliers, and this way also to reduce the amount of problems by adding suppliers' knowledge about the problems they are causing GSS purchasing.

The problems in GSS supplier deliveries affect to whole supply chain of KONE GSS, by causing delays, defects and more work. That is why the basics of supply chains and management of them needed to be studied, as well as the supply chain of the case company. Studying the supply chains in general led to a more wide understanding of the case company's supply chain. The basics of purchasing needed to be studied as well, in order to get a better picture about purchasing as a supply chain function and as an important operation of every business. Legislation regulates which are the obligations of sellers and buyers, and these are needed to keep in mind when ordering and delivering goods. Legislation also describes what can be required from suppliers. The case company is international and it has suppliers all over the world, that is why both Finnish and international trade laws are studied.

The research method used in this thesis is qualitative. Theories are studied from written books and articles, as well as from the internet. Information about case company's purchasing processes bases on mine and my colleagues' experiences and knowledge. So the research method includes participant observation, by taking part into the everyday work of the case company.

Results of the study are introduced in the last chapter. The results can be divided into three different parts. First of all communication of defective deliveries is improved, by changing the method of communication between warehouse and purchasing from emails to a tool. Second improvement action is an information letter about GSS warehouse processes to suppliers. The information letter will be sent to suppliers every time a purchaser thinks it is necessary. Third one is a tool where to collect all supplier related non-conformities, in order to be able to inform suppliers and KONE Sourcing about the problems that suppliers has caused. Appendixes also include more details about these new working methods. The information letter of warehouse processes and working instructions of a new tool are attached.

The process was an interesting and instructive experience. The results will be useful almost every day in KONE GSS purchasing and I hope those will end up being helpful for my team members. There is always room for improvement in working methods of every function, even if the current methods are considered as good ones. This thesis describes one improvement action to KONE GSS purchasing team.

2 Supply chains and management of those

2.1 Supply chain

Hugos (2003, 1) describes in his book that every business takes part into one or more supply chains, and has a role in each of them. He also states that by knowing how to build and be a part of a strong supply chain, a company can increase its competitive advantage in the markets.

The supply chain is a set of three or more companies that pass materials forward. Companies in the supply chain are directly linked by upstream and downstream flows of products, services, finances and information from a source to a customer. (Mentzer, 2001, 2-6.) Lysons and Farrington (2006, 92) explains that upstream means the relationship between a company and its suppliers, and downstream the relationship between a company and its customers.

Mentzer (2001, 6) distinguishes between different types of the supply chains. A company, an immediate supplier and an immediate customer linked by upstream and downstream flows of products, services, finances and information, is called the basic supply chain. If there are also suppliers of the immediate supplier and customers of the immediate customer in chain, it is called the extended supply chain. The ultimate supply chain means all the companies involved in both upstream and downstream flows of above mentioned from the initial supplier to the ultimate customer. These are shown graphically in figure 1.
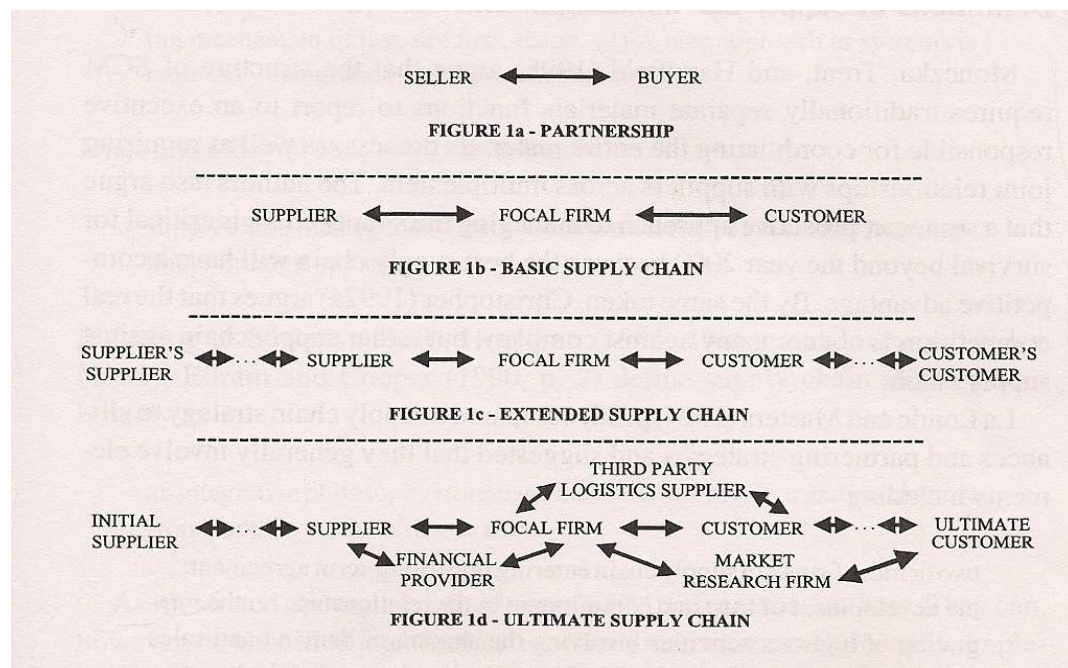

Figure 1: Types of Channel Relationships (Mentzer, 2001, 7, Figure 1.1)

A supply chain is only as strong as its weakest link. It is important to a company to know what is happening in their extended supply chain, which describes everyone who contributes to a product. (Wailgum, 2007, 4.) A large set of activities is a part of the supply chain, and those vary widely according to the end product. In the beginning of an extended supply chain there is the ultimate supplier and at the end of it there is the ultimate customer. And between these two there is a wide range of companies who supply services in logistics, finance, marketing, and information technology. (Hugos, 2003, 23.)

It is often asked, what the difference between the supply chain and the value chain is. Company's value chain, created by Michael Porter, means all the primary and support activities that lead to the competitive advantage. These activities work together to provide the value to the customers. The supply chain means downstream flow of goods from the source to the customer, but in the value chain the value flows as a demand from the customer to the supplier. The differences between these chains are, what flows and in which direction. (Monckza, Handfield, Giunipero, Patterson, 2009, 11; Feller, Shunk, Callarman, 2006, 1-4.)

2.1.1   Supply chain operations

Hugos (2003, 43) presents the Supply Chain Operations Reference (SCOR) model in his book. This model is originally developed by Supply-Chain Council and it divides the supply chain operations into four categories, which are plan, source, make and deliver.
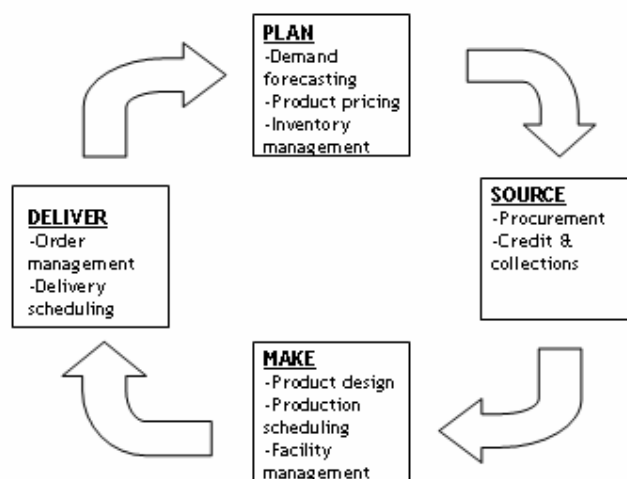

Figure 2: Four Categories of Supply Chain Operations (Hugos, 2003, 43).

The first one of the categories is to plan. It refers to all the operations needed to plan for the other three categories. It includes forecasting, pricing and inventory management. The second one is to source, and it includes activities needed to procure the materials or services to meet their demand, for example purchasing of raw materials or services.

The third one is to make. This category refers to the operations needed to make the product or service that a supply chain provides, and it includes for example design of the product and production. The last category is to deliver, and it means receiving of customer orders and delivering products to them. (Hugos, 2003, 43-46.) SCOR model may include also the fifth category called return, but Hugos has not mentioned it. Return describes all the activities needed in returning or receiving returned products (Bolstroff and Rosenbaum, 2007, 3.)

2.2 Supply Chain Management

Supply chains exist in distribution channels, whether they are managed or not. But supply chain management (SCM) needs efforts by the organizations within the supply chain (basically it means managing a supply chain). (Mentzer, 2001, 6-7.) Hugos (2003, 4) defines supply chain management as "a coordination of production, inventory, location and transportation among the participants in a supply chain to achieve the best mix up of responsiveness and efficiency for the market being served".

Mentzer (2001, 14) makes clear difference between supply chain management and supply chain orientation (SCO). He defines supply chain orientation as a management philosophy, as company's recognition of the implications of the activities and processes involved in managing the flows in a supply chain. But supply chain management means all the actions proceed to realize this philosophy, in other words implementation of this supply chain orientation across suppliers and customers.

The scope of SCM is to accomplish competitive advantage to the supply chain as whole, not only for a single company. When a customer is satisfied, it is expected he or she behave in ways that bring benefits to the supply chain's success. (Mentzer, 2001, 62.)

Monczka etc (2009, 17-18) state that there are four enablers of supply chain management which support development. Those enablers are human resources, organizational design, information technology and measurement. The quality of a company's employees is the key to its success.

2.2.1 Activities in Supply Chain Management

Monczka etc (2009, 15) highlight that every activity has an important role in the management of the supply chain. All of them are part of the network which defines how efficiently and effectively products and information flow across the supply chain. Supply chain activities are briefly introduced below.

Purchasing is a major activity in the supply chain. As a central focus of this thesis, it will be introduced more specifically later. Inbound logistics is an activity concerned with receiving, handling and storing the materials. It includes warehousing, transport and stock control. Outbound logistics means activities needed to move the product to the end user. It includes for example packing, shipping and transport. (Lysons & Farrington, 2006, 102.)

Marketing is aimed towards customer satisfaction and the exchange of values between parties. It is the process of planning and executing the image of a company, as well as pricing and promotion. Sales concentrate on selling products or services in return for money. Sales function's main task nowadays is to develop and maintain stronger customer relationships. It plays a critical role in creating value for supply chain partners. (Mentzer, 2001, 77-80; 443-444; 101-103.) Customer service aims at keeping the customer satisfied with a product or service. Customer service takes care of customer's needs before, during and after the transaction. (Monczka etc, 2009, 17.)

Research and development is an important function in organizations, and it focuses on designing and developing new products (Mentzer, 2001, 445-446). Forecasts define which products will be needed, when those will be needed and what amount of those will be needed. It helps companies to plan their operations and to meet market demand. (Hugos, 2003, 48-49.)

Traditional production, called craft, is basically changing raw material into a single product, from start to finish by an individual worker. But nowadays mass production is more common; it means production of only some part of a final product, by an individual worker. Lean production means flexible workers assembling parts of a final product. (Mentzer, 2001, 185-189.)

2.2.2 Supply Chain Management processes

Lambert (2008, 10), as well as Lysons and Farrington (2006, 95), lists eight supply chain management processes, which every organization in the supply chain needs to implement. These eight processes are originally identified by the Global Supply Chain Forum and introduced shortly in this chapter.

Customer Relationship Management (CRM) process is concerned with segmenting customers, learning about their behaviour and trying to fulfil customers' needs to keep them satisfied. The aim of *Customer Service Management* is to make sure that promises made in product and service agreements are delivered as planned. *Order Fulfilment process* enables a company to meet customer requests efficiently, effectively and with minimum cost.

Supplier Relationship Management (SRM) is the mirror image of CRM; it is concerned as to how a company interacts with its suppliers and what kind of agreements the company has with them. The aim is to improve relationships between supplier and buyer as well as to achieve lower costs and improve performance. *Demand Management process* matches supply with demand and manages an inventory.

Manufacturing flow management is a process that is concerned with transforming inputs and resources into products and services. *Product Development and Commercialization* is concerned with all the processes involved in developing and marketing of new or existing products. *Returns Management* process enables management to manage reverse product flow and to reduce unwanted returns.

(Lambert, 2008, 9-12; Lysons & Farrington, 2006, 95-97.)

3   Purchasing

Every organisation needs an input of goods and services, and purchasing is the function which manages this input. The scope of purchasing includes five objectives which should be acquired: right quality, right time, right quantity, right source and right price. It is not easy to say what is right, but these are the well-known objectives of purchasing. (Baily, Farmer, Jessop & Jones, 2005, 3.)

There are different reasons why to purchase products or services to a company. Hugos (2003, 64-67) simply divides these into two types of products; materials needed to produce products, and products needed for maintenance, repair and operations. The main function of purchasing is to buy raw materials, components, goods or services. Purchased items are used for conversion, consumption or resale, depending on the business field. The purchasing process is a set of sub processes which creates a purchasing process chain. Information is the link between these sub processes. External and internal messages are sent. (Lysons and Farrington 2006, 4.)

The purchasing cycle has several phases. Heinritz, Farrel and Smith (1986, 43) divides purchasing into five different phases. The first is that purchasing gets requests for materials from

the users. Then they need to select a supplier and create a purchase order. Created orders need to be followed up and materials need to be receipted and inspected. The last phase is to check the invoices from suppliers. (Heinritz etc, 1986, 43-49.) Below is Monczka's and his colleagues' vision of the purchasing process and its' activities.
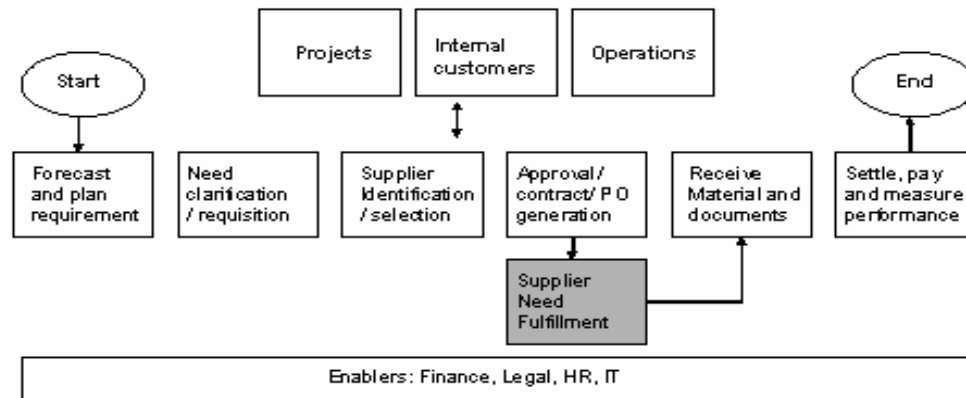

Figure 3: Procure to pay-high-level process map (Monczka etc, 2009, 43).

There is a lot of information shared between the supplier and the buyer during the process, for example ordered items, quantities, prices, delivery dates, delivery addresses and billing information (Hugos, 2003, 67).

3.1   Right quality

As Heinritz and his colleagues (1986, 118) say, the quality of purchased items is usually considered first in purchasing decisions and only after quality, comes service and price. Baily and colleagues (2005, 108) define quality as a whole set of features that makes a product meet its requirements and fit for its purpose.

Total Quality Management (TQM) is a management philosophy and pays attention to processes more than individual goods. Total Quality Management focuses on improving the quality of delivered goods and services by participating in all organizational functions. It is based on three principles; a focus on product improvement, shared responsibility for product quality and offering information about quality processes to managers. (Lysons and Farrington, 2006, 268-270.)

Standards are documents that require a minimum level of performance and quality. Standards can be individual, company or association standards, and national or international. ISO is the International Standards Organisation which produces worldwide standards. By ISO standards a

company can increase its reputation for quality; it is usually a first step for TQM. (Lysons and Farrington, 2006, 280-282.)

Many of ISO standards are made for a particular product, material or process. But ISO 9001 and ISO 14001 are generic and can be applied to any organization. ISO 9001 is a set of requirements for a quality management system and ISO 14001 includes requirements for an environmental management system. (Discover ISO ,2010.)

3.2   Right quantity

It is not always easy to decide what is the right quantity to order, and when. If it is a one-time purchase and the exact order (quantity) is known, then it is appropriate to order that quantity. But most of the purchases are for regular and recurring requirements. Those are needed to stock or direct use, and more than once. (Baily etc, 2005, 136.)

If there is not a one-time purchase in question, many things need to be taken into account when deciding the right quantity to order. Purchaser needs to consider at least unit cost in various lot sizes, cost of issuing a purchase order, transportation costs and inventory costs. (Hugos, 2003, 145-146.)

Material requirements planning (MRP) is an important part of planning the purchasing. It is usually done by computer software. It is a system to calculating the quantities needed to order. The calculation base on customer orders, sales forecasts, quantity of items on stock, delivery times etc. (Baily etc, 2005, 145-148.)

Just-in-time is an inventory strategy and an aspect of both TQM and Lean production. JIT production means making the right material at the right time and in the right quantity, without using any extra resources. It aims at waste elimination and zero defects. (Lysons and Farrington, 2006, 340-344.) JIT has significant effects on every purchasing phase as well as in inventory management (Hugos, 2003, 163). Lean thinking aims at eliminating every waste in the production, in other words eliminating every activity which is not adding value to the end product (Baily etc, 2005, 131-132).

3.3   Right time

Baily etc (2005, 160) state that time is a key variable in purchasing. It needs to be minimised because it is just a waste in the supply chain. If company wants to deliver items to its customers faster, it needs to get materials from its suppliers also faster. But no company can stay price competitive by having high levels of stock, so usually materials are made and sup-

plied only when needed. That is why materials have lead times which need to be accurate. It also needs to be decided, when to buy. Late delivery can mean lost sales, unsatisfied customers and production downtime. (Baily etc, 2005, 160-176.)

A purchaser's task is to agree delivery times with suppliers and to convince suppliers that they need to deliver when agreed. A good way to achieve on-time delivery is to make sure that suppliers are aware that on-time delivery is an important thing when comparing suppliers and making source-decisions. Baily etc states that 94 per cent on-time deliveries is often achieved when suppliers realise that requirement dates are accurate, they need to explain if they are late and that on-time delivery counts a lot in the future allocation of purchases. (Baily etc, 2005, 160-176.)

3.4   Right price

Price paid for purchased materials or services is usually the main cost in business. As Harding and Harding (2001, 103) indicate, on average 60 per cent of the manufacturing costs come from purchased materials, depending on the business field.

Demand and supply are balanced by the influence of price. When there is more demand than supply, prices are higher. But when supply exceeds demand, prices fall. Competition on markets depends on the amount of suppliers and buyers. The perfect competition exists when there are many suppliers, many buyers, exactly same product and it is easy to transport. Almost every nation has legislation to regulate competition. (Lysons and Farrington, 2006, 434-437.)

Nowadays many purchasing organizations believe that it is more cost-effective to work closely with suppliers, in a partnership, and to have only a few suppliers. When buyer and supplier work closely together, they can be more efficient and avoid unnecessary costs. (Baily etc, 2005, 208-209.)

3.5   Right source

Deciding where to buy is one of the most important decisions in purchasing. Many factors have to be taken into account when choosing the best supplier. Baily etc (2005, 179) list some attributes of a good supplier:

- Delivers on time
- Provides consistent quality
- Gives a good price

- Has a stable background

- Provides a good service back-up

- Is responsive to our needs

- Keeps promises

- Provides technical support

- Keeps the buyer informed on progress

Sourcing is the process which identifies, selects and develops suppliers. It is at tactical and operational level as well as at strategic level. Tactical and operational sourcing is concerned with lower-level and short-term decisions. Strategic sourcing takes care of top-level and longer-term decisions, as well as supplier base and purchasing policies. (Lysons and Farrington, 2006, 367.)

Earlier the selection of supplier was mostly based on the quality of ordered items. But today decision-makers are more interested in supplier's processes, management of those and financing. (Östring, 2004, 3.) Heintritz and his colleagues (1986, 97) find four stages in selecting source. The first one is called survey stage. It means finding all the suppliers which can provide the product in question. The second one is the inquiry stage, in which the potential sources are analyzed. The third one is the stage of negotiation and selection, and products are finally ordered. The last one is the experience stage which means evaluating of supplier after delivery.

3.5.1   Supplier evaluation

The evaluation of suppliers is important, because it aims to improved supplier performance and it helps in future source decisions. Evaluation is done before choosing the source, but also continuously during relationship. (Lysons and Farrington, 2006, 384.) Baily and his colleagues (2005, 185) point out, that most of the organisations use 80 per cent of their money to 20 per cent of their suppliers. That makes the evaluation of these big suppliers very important.

There are many things to evaluate, but most common ones are quality, quantity, timing, service and price. Service includes such things as accurate offers, reliable delivery times, available technical service and good communication. A supplier's good service reduces the work load of the purchaser, makes products more easily available and eases in future source decision making. (Baily etc, 2005, 185.)

As Lysons and Farrington (2006, 385) says, ratings are usually presented in the form of a scorecard. The scorecard shows, which the performance indicators are, how they are

weighted, and how an individual supplier managed to reach them. The performance level achieved can then be compared with the target level.

4   Legislation

Because this thesis concentrates on non-conformities caused by suppliers, the research below is that which is enacted in two laws, United Nations Convention on Contracts for the International Sale of Goods (1980) and Finnish Sale of Goods act (1987), about seller's duties. The case company is international, which is the reason why both laws are studied.

4.1   United Nations Convention on Contracts for the International Sale of Goods

CISG is a well known abbreviation of United Nations Convention on Contracts for the International Sale of Goods. While international trade is growing a lot, CISG has an important role in business. The number of cases which have been decided on the basis of CISG has grown a lot. (Kruisinga, 2004, 9.)

 CISG is a convention providing uniform law for international sale of goods, approved by 62 states on April 11, 1980 in Vienna (Honnold, 1999. 3). At the moment there are 74 contracting states, Finland being one of them since 1989 (CISG: Table of contracting states, 2010). Contracting states are painted black in Figure 4 (map), and those are listed in the appendix 1.

Figure 4: CISG: Contracting states (CISG by State, 2010).

CISG applies to the contracts between the parties who have their place of business in contracting states (see appendix) or to cases in which the parties are using contracting state's law (CISG, 1980, article 1). Kuoppala (2000, 17) points out that contracting states can however choose which legislation to use, and the best choice between CISG and domestic law is the one, which benefits both the best. That is why it is important to be familiar with CISG as well as the Finnish Sale of Goods Act when acting in international business. Both of them are dispositive.

Finland has made an Article 92 declaration in CISG. By this declaration they are not bound by Part 2, formation of the contract. (Poikela, 2003, 16.) Finland, as well as other Nordic countries, made also an Article 94 declaration in CISG. By this declaration Denmark, Finland, Norway and Sweden have declared that the CISG does not apply in sales between those states. (Kuoppala, 2000, 17.)

4.2   The Finnish Sale of Goods Act

The Finnish Sale of Goods Act (FSGA) was enacted in 1987. Before that there was only an out of date and incomplete legislation from 1734 available. Especially in international sale of goods it led Finland into a poor situation, while it was always forced to accept other party's choice of law. (Kuoppala, 2000, 19-22.) The new Finnish Sale of Goods Act gave Finland an equal starting point in bargaining situations compared to their foreign business partners. That was an important improvement for Finnish sales. (Poikela, 2003, 16.)

After the CISG was approved in 1980, Finland started to discover if it could be used in Finland too. Finally, in 1987, Finland enacted a Finnish sales law for the domestic sales and in 1989 Finland ratified the CISG. CISG was used as a base for the FSGA, so there are only few differences between those two. (Kuoppala, 2000, 19-22.)

4.3   Obligations of the seller according to the CISG

4.3.1   Time and place of delivery

Kruisinga (2004, 28) summarizes that the obligations of the seller regulated in CISG are to deliver goods subject to the contract and to deliver goods which are in conformity with the contract. The time and place of delivery are defined in CISG Articles 31-34. The supplier needs to deliver goods to the place which is mentioned in the contract. If there is no mention about it, CISG gives some basic rules to follow. When goods are ready to be shipped, the supplier must provide the buyer with all the information he needs. The supplier must clearly identify goods

by markings on the goods, by shipping documents or by giving the buyer notice of consign-ment. (Honnold, 1999, 205-215.)

In most cases parties are more interested about the time when goods are left to the agreed place. If the delivery date is agreed on the contract, the seller must deliver the goods on that date, or if there is a fixed period of time, within that period. If there is no delivery time agreed, supplier must deliver goods within a reasonable time. (CISG 1980, article 33.)

4.3.2 Conformity of the goods

Non-conformity of goods in CISG means hidden and apparent defects of goods, as well as to-tally wrong goods. Articles 35-44 in CISG are important when dealing with conformity of goods. The first paragraph provides that "the seller must deliver goods which are of the quan-tity, quality and description required by the contract and which are contained or packaged in the manner required by the contract." (CISG 1980, article 35, 1.)

With this sentence it is highlighted, that seller, as well as all parties, must always comply with the contract. If the delivered goods are not in conformity with the contract or are not packaged the way required, then there is a breach of contract and buyer has a right to submit a claim. However it might be difficult for parties to concur what *required by the contract* exactly means in each case. That is one of the reasons why contracts should be clear enough and requirements of the goods should be precisely provided. (Kruisinga, 2004, 25-29.)

CISG article 35, 2 describes a bit more detailed situation about a seller's responsibility for quality. In every single contract it is detailed more specifically what is needed, but this para-graph provides some common guidelines which suit for every transaction. It, for example, says that goods need to be fit for the purposes for which they are bought to, goods need to possess the quality of buyer's sample and goods need to be packaged well. (Honnold, 1999, 225-228.)

The goods need to have all those characteristics that the buyer may reasonably expect them to have based on the contract; right quality, quantity, description and packaging. Quality must be the one the buyer can by reason expect them to have. If the buyer has given a sam-ple to the seller, it becomes the agreed standard for the contract, and delivered goods must possess the same quality as the sample. Goods have to be packaged in the manner which is usual for such goods, or in a manner which is good enough to protect the goods. If goods are packaged in an incorrect way, it can also lead to non-conforming goods. (Kruisinga, 2004, 28-34.)

The seller is liable for any lack of conformity which exists when the risk passes to the buyer. It doesn't matter if the non-conformity comes up afterward; seller is still liable for it. (CISG, 1980, article 36.)

4.3.3 Examination of the goods

As the CISG (1980, article 38, 1) says "the buyer must examine the goods, or cause them to be examined, within as short a period as is practicable in the circumstances". Buyer also has a right to examine the goods before paying the price, if not otherwise agreed in the contract. Examination can be done by the buyer or by some other person. The seller can also give a sample which guarantees that other items are of the same quality, and the buyer can examine only this sample. (Kuoppala, 2000, 27-41.)

4.3.4 Notice to seller

According to CISG (1980, article 39, 1) a buyer needs to give notice to seller about lack of conformity of the goods within a reasonable time after he or she has noticed it. Otherwise a buyer loses the right to rely on it. Paragraph 2 gives a cut-off period of two years. It means that in any event, the notice must be given within two years from the date buyer got the goods.

Notice given to the seller must specify the lack of conformity well enough. The seller should be placed in a position where he can understand the lack of conformity and take the steps. As an exemption to the rule in article 39, article 44 says that if a buyer has a reasonable excuse for not giving the notice to seller, he will be afforded some limited remedies. These are only reduction of the price and recovery of damages, except loss of profit. (Kuoppala, 2000, 61, 85-89.)

4.3.5 Remedies

Articles 45-52 set the basic remedies which are given to the buyer in case there is a breach of contract by the seller. Article 46 states that the buyer may require performance by the seller. That means that a buyer may require goods that are in conformity with the contract. If the lack of conformity leads to a fundamental breach of contract, a buyer may require new delivery. If the breach is not fundamental, a buyer has a right to ask a seller to repair the goods. (Honnold, 1999, 205, 279-285.)

According to CISG (1980) article 47, a buyer can give a fixed period of time to the seller to fix the lack of conformity. Article 48 gives a seller a right to remedy at his own expense any failure to perform his obligations (even afterwards).

In some cases a buyer can avoid the contract. Article 49 states two grounds on which a buyer can do that. The first one is when a seller fails to perform his obligations in a way that leads to a fundamental breach of contract. The second one is when the seller does not deliver the non-delivered goods within the period of time given by the buyer. (Honnold, 1999, 304.)

CISG Article 50 (1980) states that if the goods do not conform with the contract, the buyer has a right to reduce the price. Reduction must be done *in the same proportion as the value that the goods actually delivered had at the time of delivery bears to the value that conforming goods would have had at that time*.

If only part of the goods is not in conformity with the contract, remedies apply only to those ones. If the seller delivers the goods before the agreed date, the buyer can choose whether to accept them or not. If the seller delivers a greater quantity that was agreed, the buyer can choose whether to accept them or not. But if the buyer takes delivery of the excess quantity, he also needs to pay for them. (CISG, 1980, articles 51-52.)

4.4   Obligations of the seller according to the FSGA

4.4.1   Time and place of delivery

As already told before, CISG and FSGA have a lot in common because CISG has served as a model for FSGA. Regulations concerning time and place of delivery in FSGA are almost equal to the ones in CISG.

Chapter 2, paragraphs from 6 to 11, in FSGA defines the place and time of delivery. According to FSGA the seller must deliver the goods as required by the contract. Delivery must be done to a place and in the time provided by the contract. If there is no agreement about the time of delivery, the goods must be delivered within a reasonable time. (FSGA, 1987). These regulations are almost the same than the ones in CISG.

4.4.2   Conformity of goods

The section of FSGA which enacts the conformity of goods begins with a sentence almost equal to CISG article 35: *the goods must conform to the contract in regard to description, quantity, quality and other properties and be contained or packaged in the matter required*

by the contract (FSGA, 1987, paragraph 17)". The starting point is the contract itself, but when such requirements are not present in the contract, it has to be decided how to define what conformity with the contract is. For example, the goods must be *fit for purpose for which similar goods are ordinarily used* and this sentence regards to good quality. (Poikela, 2003, 21.)

4.4.3 Examination of goods

Kuoppala (2000, 34) states that the regulations of examining the goods in FSGA are almost similar to the ones in CISG. Paragraph 31 (FSGA, 1987) provides that the buyer must, as soon as is practicable in the circumstances, examine the goods delivered *in accordance with proper usage*. CISG provides almost the same, but there is no mention about the proper usage.

Paragraph 49 in FSGA states that before buying the price the buyer has a right to examine the goods, if the contract does not disallow doing that. The examination of only a sample is also mentioned in FSGA paragraph 17, 2, and it regulates that the quality of a sample must be the same than the quality of delivered goods. (Kuoppala, 2000, 27-32.)

4.4.4 Notice to seller

Paragraph 32 cuts off the buyer's rights if he does not notify the seller of a defect. This approach is almost identical to the one in CISG, but the difference between these two is the time limit of notification. FSGA does not specify any time limit, it only says *within a reasonable time after he discovered or ought to have discovered it*. But in CISG it is provided that the notification must be done within a period of two years. CISG also gives more clear instructions about how to frame the notice in detail. But as the purpose of the notice is the same in both laws, the buyer needs to frame the notice in detail, even though there are no requirements for the form of the notice in FSGA. (Kuoppala, 2000, 102, 105.)

4.4.5 Remedies

In case of non-conforming goods, the buyer can use some remedies against the seller. These remedies are described in FSGA chapter 6. The buyer may require the seller to repair the goods, to cure the goods by a substitute delivery, to lower the price or to terminate the sale and claim the damages. The buyer may also refuse to pay the price. (Maggi, 2004, 270.) There is a following difference between CISG and FSGA about the damages. FSGA distinguishes direct and indirect losses. Basically only direct losses need to be recovered. CISG does not distinguish direct and indirect loss, and according to CISG all losses has to be damaged.

5   Introduction of the case company and problems in its supply chain

5.1   KONE

KONE is a company which provides elevators, escalators, modernization solutions and mainte-
nance for its customers, who are builders, building owners, facility managers and developers.
KONE has about 250 000 customers, most of them in the maintenance business. (KONE in
brief, 2010.)

KONE vision is to offer the best 'People Flow' experience to its customers. It enables people
to move smoothly, safely, comfortably and quickly. KONE values are delighting the customer,
energy for renewal, passion for performance and winning together. KONE values guide the
behaviour of its 34 000 employees. (Vision and strategy, 2010; Values, 2010.)

KONE is one of the global leaders in its industry. For almost 100 years KONE has been an in-
dustrial engineering company with many different businesses, but its' main focus has always
been the elevator and escalator business. KONE is an international company, and it is present
in 50 countries all over the world. It has eight production units, seven global R&D centres and
its head office is in Helsinki. (KONE in brief, 2010.)

Figure 5: KONE Worldwide (KONE in brief, 2010.)

5.1.1   KONE suppliers

KONE has a wide range of suppliers. It collaborates with suppliers in order to maximize business value and result, as well as to improve customer value. KONE expects good quality, cost control, innovation and reliability from its suppliers. (Suppliers, 2010.)

KONE requires its suppliers to sign and comply with its General terms and conditions, as well as to conform to its Supplier code of ethics. Terms and conditions are set forth in contracts between KONE and its suppliers. General terms and conditions are examples of these requirements. (Suppliers, 2010.)

Supplier code of ethics contains the values which KONE is following in its own operations. "KONE requires its suppliers to be committed to ethical conduct, full compliance with all applicable national laws and international treaties and to respecting human rights in the spirit of internationally recognized standards." (Suppliers, 2010.)

5.2   KONE Global Spares Supply

GSS (Global Spares Supply) is a KONE department which provides spare parts for elevators, escalators and automatic doors. It also supplies working clothes and tools. The vision of GSS is to provide quality spare parts cost-efficiently at the right time in the right place. At the moment GSS has a range of over 100 000 different spare parts. (KONE Intranet, 2010.)

GSS is a global department, having officers in Finland, China, India, France and Germany. GSS has three warehouses, one in Europe, two in Asia. GSS has both stock and non-stock materials. Stock items are stored in warehouse, but non-stock items are ordered for every single order without warehousing them. (KONE Intranet, 2010.)

KONE GSS has outsourced its European warehouse operations to Panopa Logistik Gmbh, which is a company providing logistics services to its customers. Warehouse is located in Herten, Germany. Warehouse processes in Panopa are highly automated, and that is why we require high accuracy in our supplier deliveries. (KONE Intranet, 2010.)

Supply chains are introduced earlier in chapter 2. As Mentzer says the supply chain is a set of three or more companies that pass materials forward. KONE GSS is taking part into supply chains as a buyer and as a seller. It buys spare parts from its suppliers and sells them to its customers, which are mainly KONE Frontlines. The supply chain of KONE GSS includes initial suppliers, suppliers, customers, logistics suppliers, financial providers etc.

5.2.1 GSS Purchasing

GSS has a wide range of suppliers, for some of them they are big customers, but for most of them not. Biggest suppliers' performance is measured monthly, and it is done by the supplier quality manager of KONE. As told before on chapter three, Baily and his colleagues state that most organisations use 80 per cent of their money to 20 per cent of their suppliers, so it is important to measure these big ones.

Measuring is done by 'Complete on Time' reports, which tell whether suppliers have delivered parts on time or not. Also the quality of supplier deliveries is measured by following NCFs and feedbacks. NCFs are "non-conform process declarations" which are received from the warehouse in case there is something wrong with the delivery. Feedbacks are received from KONE Frontlines, internal customers, when they notice that something is wrong with the parts or when delivery is severely late. Supplier quality manager checks monthly with suppliers how they have managed to perform.

This system is not against the suppliers from who GSS buys only rarely. If they fail too many times, and do not accept any corrective actions, the last choice is to try to source the items from them to the other suppliers. That is because GSS do not have same kind of power against small suppliers as they have against the big suppliers. When GSS is creating only few low-value orders in a year for a supplier, GSS is a very small customer to the supplier and supplier is not that interested in satisfying KONE as a customer. But if GSS is one of suppliers' biggest customers, they want to satisfy the customer.

KONE Sourcing is implementing supplier relationship management, which is introduced in chapter 2, and supplier evaluations, introduced in chapter 3, across KONE GSS suppliers. KONE Sourcing also takes care of contracts, supplier selecting and much more. Purchasing takes care of operative issues, but also supports KONE Sourcing in these cases.

5.2.2 Problems in GSS supplier deliveries

As told previously on chapter 2, supply chain is only as weak as its weakest link. Parties in a supply chain affect to the whole functionality of the supply chain. This thesis concentrates on those problems in KONE GSS supply chain which are caused by GSS suppliers. Problems in question are introduced in this chapter.

For the time being supplier non-conformities are causing a lot of extra work and costs to GSS purchasing. In some cases suppliers do not confirm to purchase orders, do not deliver on time, deliver wrong or defective goods, deliver with too little information, deliver with wrong

quantity or fail in some other way. Like studied in chapter four, these cases are not accept-able in law either. CISG and FSGA regulates that goods must conform with the contract in any case, and goods must fit for purpose.

Anyway, at the moment in GSS purchasing these cases are handled case by case, with or without help of sourcing. GSS has more power against the big suppliers, as told earlier, and only their performances in these areas are measured monthly. But some kind of a claim sys-tem should be implemented for the smaller suppliers as well, to ensure the quality of deliver-ies.

Because GSS European warehouse is outsourced and is using highly automated processes, it is not so easy to handle with these non-conforming cases, when there is something wrong with the delivery. The actual material handling is not visible for GSS, therefore purchasers can only ask warehouse workers to check and take some photos.

In most of the cases suppliers do not understand what kind of extra work delivering for exam-ple one extra piece can cause. Warehouse workers are guided to create an NCF case every time the delivery does not comply with the delivery note or purchase order. For example, when GSS has ordered 100 pieces and supplier delivers 102 pieces, GSS receives an NCF and orders need to be modified in a way that warehouse workers are able to book two extra pieces in. This phase includes few emails, extra work and delays in getting items into their location in warehouse, which can also cause delays for customer deliveries.

Figure 6 on the next page introduces major problems in GSS supplier deliveries. On the left is introduced the basic steps of purchasing. If everything goes as planned, the process is only vertical. Problems which come up in different phases are introduced on the right side of the normal process, and also the way how they are handled in GSS purchasing. Last raw intro-duces all the teams in GSS which are or might be affected.

Affects :

Process	Problem	Handling	Affects
Purchase order	Confirmation Missing	-Handled case by case with or without supplier	Purchasing, Customer Service
Order confirmation	Delayed Shipment, supplier	-Handled case by case with or without supplier / SQM (key suppliers)	Purchasing, Customer Service
Shipment	Delayed Shipment, UPS	-Handled case by case with or without supplier	Purchasing, Logistics, Cust service
Inbound	NCF (supplier)	-Handled case by case with or without supplier / SQM (key suppliers)	Purchasing, Panopa, Inventory, Logistics, Customer service, Technical services
Item on stock	NCF (Panopa / GSS)		
	Invoice problems	-Handled case by case with or without supplier	Purchasing, Bratislava, Sourcing
Customer delivery	Quality feedback	-Handled case by case with or without supplier / SQM (key suppliers)	Purchasing, Quality feedback, Technical Services, Logistics, Inventory
Delighted customer			

Figure 6: Problems in GSS supplier deliveries, by writer.

6   Project

Planning of this project began in summer 2009. As I had been working for KONE GSS for one and a half years, my supervisor suggested to me that I could do my thesis about a work re-lated issue. The first meeting was between me and my boss in July 09. We went through the idea of the whole project and reviewed the scope. After that meeting the process slowly started.

I was working full-term through the whole project, so it was sometimes hard to manage the time. It was not possible to do the thesis during working hours, so I needed to rearrange my spare time. Meetings and work related issues were done at work, but others at home. That arrangement was not easy, but I managed to do it by prioritizing other tasks. We also had hard times at work during the autumn, so this project was on hold for a while. At that time I was reading and creating the theoretical background.

The original idea was to create a claim tool where purchasing team members could put all supplier related problems, and to communicate them to suppliers from the tool. I had a meeting with supplier quality manager about the process, and he told me his suggestions for me to do, and what is unnecessary. I started to think about GSS purchasing processes more deeply. I listed all the problems we had and started to think about the best solution which would lead us into a successful outcome. It changed the scope of this project a bit. There may not be a need to find a new way of doing things, but the solution could be to improve process. So the original idea of the thesis was too large and I decided to concentrate only to the problems we had at the moment in the existing system.

The problem was mainly the one that GSS suppliers are unaware of the whole process. GSS is using outsourced warehouse, and they are paying for any little thing they do. And non-conformities in suppliers' deliveries are causing them more costs than suppliers think. And it is not as easy to deal with the non-conformities when you never see the actual delivery, only photos and what warehouse workers told you. There is a place for misunderstanding between purchasing team member and warehouse workers. That is why it was needed to find a better way of doing things, or at least to find some solution which could reduce purchasers work.

I was thinking about all the problems that GSS suppliers are causing them, and I listed all of them. Then I created process flow charts about the process as it is and as it would be. I decided to concentrate on NCFs, but also a bit to the other problems.

6.1   Improve communication

As already told on chapter three, 94 per cent on-time deliveries is often achieved when suppliers realise that requirement dates are accurate, they need to explain if they are late and that on-time delivery counts a lot in the future allocation of purchases. This applies to other processes as well. If supplier understands how important it is that the goods are marked properly, counted accurately and so on, they will put more effort on these tasks. That is why communication needs to be improved in GSS purchasing as well. Suppliers should be more aware of GSS processes in order to get better service from them.

I decided to create an information letter to suppliers about the warehouse processes, as well as to change in our working methods so that we would inform our suppliers every time there appears a new NCF case from our warehouse. That would reduce NCFs by adding supplier's knowledge about the processes and problems they are causing to GSS. I also checked the possibility to use one of GSS tools in NCF communication, and we started to run it with a few specialists.

I tried to find a better way to inform suppliers about all non-conformity cases. I decided to create a template where every purchaser could fill in all the problems with their suppliers easily and same way. The systematic claim process was what I decided to postpone and to create it later with a bigger team, if needed, when time would be better.

Figure 7 shows what should be done in a different way in the future and how it would help to do daily tasks in GSS purchasing. Notification to supplier means a note about the case in the Excel file. When every case is visible in a monthly review, suppliers will pay more attention in future orders. And that will lead to fewer problems in their order handling and delivery processes, as well as it will help purchasing team members' daily work.
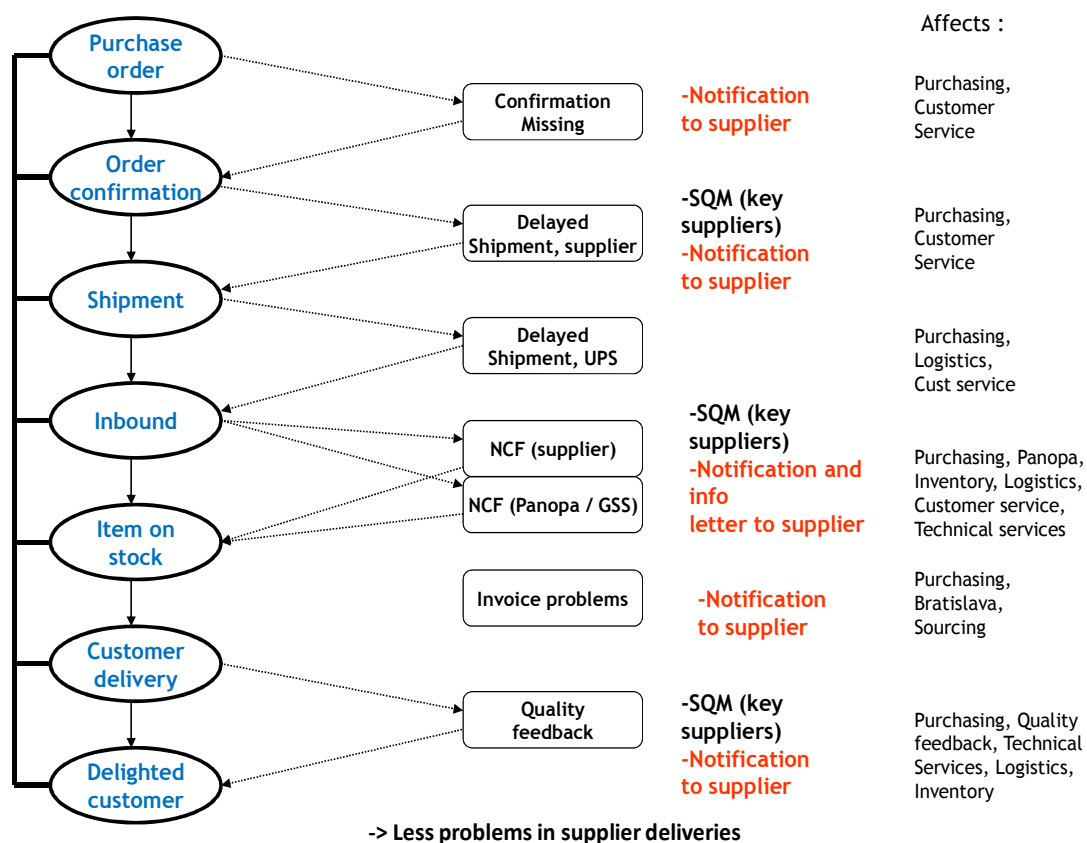
Figure 7: What to claim, by writer.

According to both CISG and FSGA (see chapter 4) buyer loses the right to rely on non-conformity of the goods if he or she does not give a notice to the seller. If the seller do not know that there has been something wrong, it is not possible to make any corrective actions from supplier side. But if the notice is given to the seller, they can take appropriate steps to

recover the delivery and buyer has the right to claim. That is why it is important to notify the seller in case of any non-conformity.

6.2 Information letter to suppliers

Suppliers do not know how many problems they are causing to GSS purchasing. In some cases they do not understand the challenges which highly automated warehouse is creating to GSS purchasing team members. Realizing this fact led to the idea of creating an information letter about warehouse processes to suppliers.

The information letter that I created includes information about Panopa warehouse and its' inbound processes. It also explains every reason for rejection, how a supplier should act in the case of NCF and how they can prevent NCFs. The information letter is attached to the end of this thesis (see Appendix 2). The information letter begins with a short description of what is Panopa and how does it book goods into their location. The fact that incorrect deliveries are causing GSS a lot of work is pointed out. Info letter also includes a sentence "we are measuring our suppliers also by quantity of NCFs". This information will hopefully change their way of thinking, and that way also change their way of packing.

There are 12 different NCF reason codes in use and all of them are shortly explained in the information letter. It describes what a supplier should do in case of an NCF. In the end of the information letter there are some tips on how suppliers can reduce the number of NCFs. Importance of complete and correct delivery note is pointed out, as well as correct quantity of delivered items and correct packing.

The information letter will be available for all GSS purchasing team members, and they can send it to their suppliers every time they think it is necessary to remind suppliers. All of the NCF cases should be sent to suppliers every time there appears one, even though any actions would not be required from the supplier side. Current working method is that NCFs are sent to suppliers only when some actions are needed from their side. The way of working should be changed because suppliers can make corrective actions only if they know that something is wrong.

Purpose of the information letter and new way of working is to get suppliers aware of Panopa inbound processes and the amount of work they are creating to GSS purchasing. This way the amount of NCFs and amount of work could be reduced. When suppliers notice that NCF cases are followed, they understand that it is necessary to put some efforts to their future deliveries.

6.3   GSS GTS Issue tool

I had a meeting with our technical staff and we considered the possibility to use one of our tools for NCF purposes. It came up that one of our logistics engineers had already planned a tool like this a bit, but it was on ice. So I started to develop it further.

6.3.1   Present situation

At the moment NCF's are handled by emails. Warehouse workers fill in an NCF form and send it in a PDF form to a purchasing email box. Then a purchasing team member checks it through, puts the case in an excel file called 'Summary' and sends it to the responsible purchaser. If the case is an easy one, the first handler can also close the NCF with the warehouse. But if not, the purchaser checks if it can be handled right away. If not, then the purchaser checks it with the supplier and finally sends a solution of the case to the warehouse. Then they confirm if the case can be closed and if yes, a purchasing team member closes it in 'Summary' file, and also saves the answer in the network. This is introduced in the Figure 8.
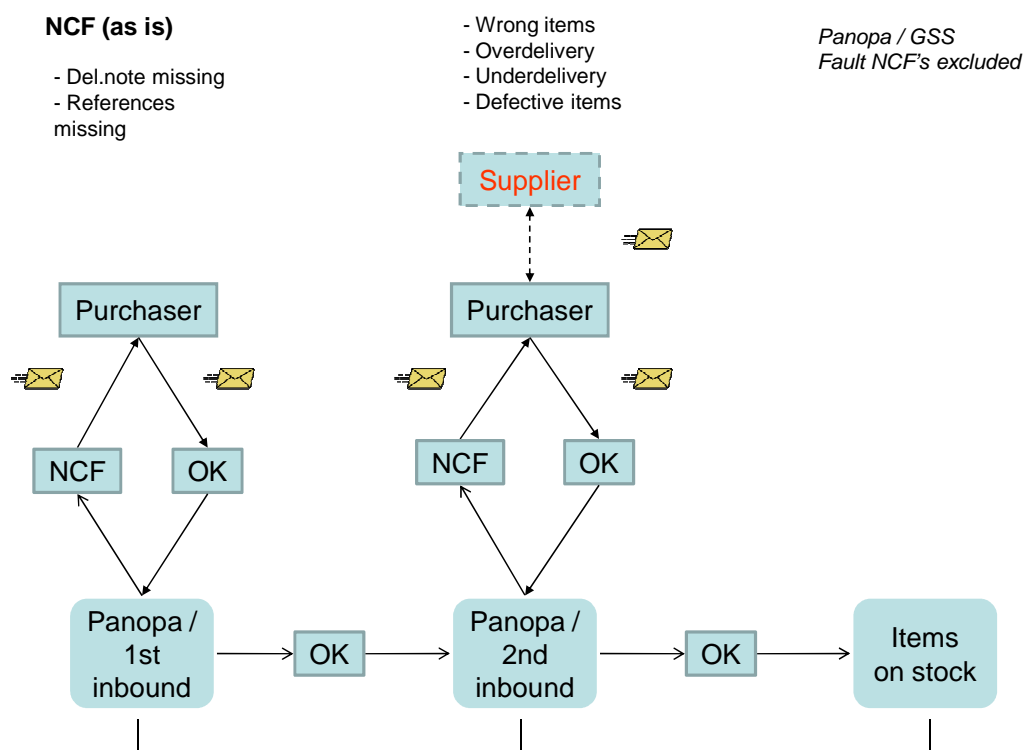
Figure 8: NCF handling (as is), by writer

Current system is not efficient enough and has too many different phases. The biggest problem is that all these phases take too much time and efforts from purchasing team members. There should be an easier way to handle all NCF cases.

6.3.2   To be

GSS will start using one of their tools, GSS GTS Issue tool, to communicate the NCFs between Panopa and purchasing. Issue tool 2.0 will be available only later this year, so it was decided to use same kind of form in a share point site. Later this system will be added in the new Issue tool. We developed the share point site with two data analysts, who created the site according to our will. If the tool works properly, suppliers might be added into the tool as well. Then cases could be handled between Panopa and suppliers, and only the responsibility would stay in GSS purchasing. But first the tool will be used between the warehouse and purchasing.

Warehouse workers in Panopa will add all NCF cases in the tool. They will fill needed information in the tool and the program will automatically send a notification about new case to GSS purchasing team. Then a purchaser will forward it to the supplier and they will handle the problem and send a solution to the purchaser. The purchaser will add the answer to the system, and warehouse will close the case, physically in the warehouse and electronically in the system. Changes comparing to the old system are introduced in Figure 9.
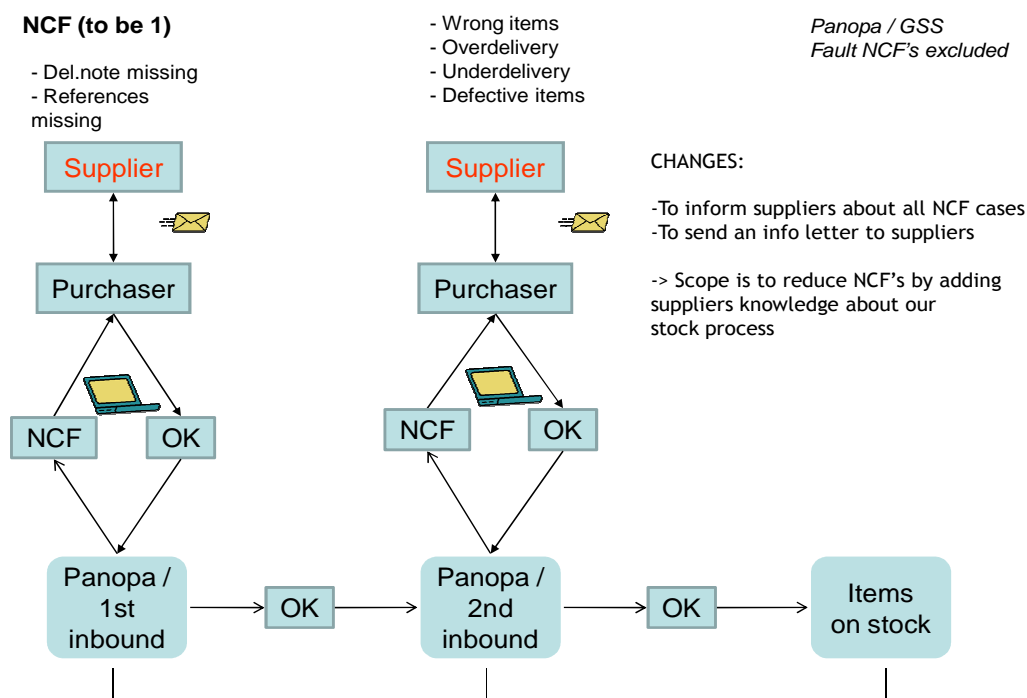
Figure 9: NCF handling (to be), by writer.

We can also get statistics from the system to analyze the number of NCFs per suppliers or by total. This will replace the old 'Summary' file, where we need to fill in the details manually. The tool will automatically save all the answers to the system; we will not need to do that anymore. And it will be easier to find the cases later from the tool; also warehouse workers will be able to see all of them in the tool.

Later, if this starts to work properly, we can try to use this tool for communication between warehouse and suppliers also. But first we need to get this tool to work properly between purchasing and Panopa. If it works properly, I will start to investigate the possibility to use the tool between Panopa and suppliers as well. That action would save a lot of GSS purchasing team members work.

I had many meetings with our purchasing key users, logistics engineer, data and technical staff and purchasing manager. We checked the possibilities of the tool and checked how it really could be used. Existing template needed to be changed a bit, and also the technique of the tool. But it started to sound to be a good way to handle NCFs.

We decided that:
- Our warehouse workers would fill in the template in the tool
- The tool would give us a sign of new case
- GSS purchasing team members would go to the tool to check it
- To send it to the supplier in the form of email
- Close the case in the tool with warehouse

There is no need to do any actions for NCF form or summary file, because those won't exist anymore when the new tool goes live.

6.3.3   Potential benefits of using GSS GTS Issue tool

There are a lot of benefits in using this kind of tool in communicating NCFs. First of all, there will be fewer emails, because GSS purchasing team members need to send emails only to suppliers. Also all cases will be visible for all team members and warehouse workers in the tool, without a need to save emails in the network. The tool will save all cases automatically.

One of the biggest benefits is the one that there will be no need to fill cases in the summary file anymore, because the data is available in the system. And because all the cases and their statuses are visible for all in the tool, there is no need to double-check with warehouse if they have some cases open or not as GSS purchasing has in their side, and other way around.

Because of the reports GSS purchasing can get from the tool, there is a possibility to download NCF cases per suppliers from the tool easily for sending them to suppliers as notifications. Later, if possible, the suppliers could have access to the tool concerning their own cases and they could handle all their cases by themselves with Panopa. That would be a huge time and cost saving issue.

6.3.4   Time saving estimation

I made a time and cost saving estimation which tells how much time and money GSS can save by using the NCF tool. Calculation is based on the average time used for NCFs at the moment with NCF volume from year 2009, and how much time and costs can be saved when using the tool. Time savings are counted in one person's working hours. For example, if there are five members in a team and time savings are 100 % of one member's working hours, it means that only four team members are needed to the old tasks and one can be released to some other tasks. This calculation is classified as secret information, so I do not introduce the whole calculation, only the percentages and time savings. But all in all, there were 1657 different NCF cases in year 2009. This year it seems that the volume of NCF cases is growing.

First step, which means handling the cases in the tool between GSS and Panopa, would save the price of one NCF 27,5 per cent. With this tool we are able to save time all in all 79 working days from GSS in a year, if the NCF volume remains the same as in 2009. In 2009 there were 252 working days, so savings are 31,3 per cent of one GSS member's working hours.

Second step, a tool between Panopa and suppliers, would save NCF handling costs almost 100 per cent. These high savings are because NCFs would be handled between Panopa and suppliers, not through GSS anymore. Counted in working days this system would save all in all 161 GSS working days in a year, which makes 63,9 per cent savings to one GSS member's working hours. Of course it wouldn't be 100 per cent in the beginning, and the responsibility would still remain in GSS purchasing. That would cause working hours of course for checking and monitoring the cases.

6.3.5   NCF Sharepoint tool going live

Data analyst, data trainee and manager of technical services created NCF Sharepoint tool to GSS purchasing, according to the wishes from me and purchasing key users. Also purchasing manager took part into this project a lot. After the tool was ready and checked, a meeting was held to plan next actions. Two logistics team members took part into the meeting as well. It was decided that next action will be to pilot the program with one of the warehouse workers. Before that we need to wait for the user rights to be ready.

After the pilot phase NCF tool and instructions of the tool will be introduced to all warehouse workers. There will be a training session to all Panopa persons who are handling NCFs normally. Then go live date will be decided, and hopefully everything will go like planned. It is meant to put this tool into use in June, but because this is a project you never know exactly. But I will continue in the project team and follow this up. (To get more information about the system, see Appendix 3, working instructions of the tool.) It is also planned to implement this tool in Asia warehouses as well.

6.4 Other actions

I started to plan some other actions too, because NCF handling covers only part of supplier related non-conformities. NCFs cover only the defects in actual delivery phase. We would need a tool to collect all the non-conformity cases. When a completely new tool is taken into use, it is taking a lot of time before users will get used to it. Inventing a new tool is also very expensive. That is why tool to collect information should be some of the tools GSS already has in their range. Excel is the one which is familiar to all GSS team members and probably to most suppliers as well.

I created an Excel file where to put all supplier related issues. The excel file includes different sheets to different files, and working instructions to purchasers how to find and collect the data. Excel file includes following sheets: orders where confirmation is missing, orders where delivery has been late, NCF cases, invoice problems and feedback cases. This data comes from SAP and other reports, but a purchaser needs to modify the information a bit before the file is filled completely. This file is mainly for the smaller suppliers, because the measurement of bigger suppliers is done by supplier quality manager and he has his own files to measure those suppliers.

6.5 Last words about the project

The project was interesting and it made me think about the purpose of my work as well as my working methods more deeply. Now I know what the theories behind purchasing are and how a company can interact with its suppliers effectively. The legislation is the base of trade and regulations should always be followed.

I will continue this project by arranging trainings about these new working methods to my colleagues and I will also work in a project team of our new NCF tool, which will soon be released, and I follow the functionality of all these. Until now the feedback has been positive, and my suggestions are being appreciated.

List of references

Baily, P., Farmer, D., Jessop, D. & Jones, D. 2005. Purchasing principles and management. Ninth edition. Prentice Hall.

Bolstorff, P. & Rosenbaum, R. 2007. Supply chain excellence: A handbook for dramatic improvement using the SCOR model. Second edition. Amacom.

CISG: Table of contracting states. 11.05.2010.
http://www.cisg.law.pace.edu/cisg/countries/cntries.html

CISG Database. CISG by state. 11.05.2010. http://www.cisg.law.pace.edu/cisg/cisgintro.html

Discover ISO. 13.02.2010. http://www.iso.org/iso/about/discover-iso_whats-different-about-iso-9001-and-iso-14001.htm

Feller, A., Shunk, D., Callarman, T. 2006. Article: value chains versus supply chains. BPTrends.

Harding, M. & Harding, M-L. 2001. Purchasing. Second edition. Barron's business library.

Heinritz, S., Farrell, P. & Smith, C. 1986. Purchasing (principles and applications). Seventh edition. Prentice Hall.

Honnold, J. 1999. Uniform law for international sales, Third edition. Kluwer Law International.

Hugos, M. 2003. Essentials of supply chain management. John Wiley & Sons, Inc.

Kauppalaki / The Finnish Sale of Goods Act. 1987.

KONE in brief. Vision and strategy. Values. Suppliers. 30.03.2010.
http://www.kone.com/corporate/en/company/Pages/default.aspx

KONE intranet. 27.04.2010. http://intranet.konenet.com

Kruisinga, S. 2004. Non-conformity in the 1980 UN Convention on Contracts for the international sale of goods: a uniform concept? Intersentia.

Kuoppala, S. 2000. Examination of the goods under the CISG and the Finnish sale of goods act. Turun yliopiston oikeustieteellisen tiedekunnan julkaisuja.

Lysons, K. & Farrington, B. 2006. Purchasing and supply chain management. Seventh Edition. Pearson Education Ltd.

Maggi, M. 2004. Review of the Convention on Contracts for the International Sale of Goods. Kluwer Law International.

Mentzer, J. 2001. Supply chain management. Sage Publications, Inc.

Monczka, R., Handfield, R., Giunipero, L. & Patterson, J. 2009. Purchasing and Supply Chain Management. Fourth edition. South-Western Cengage Learning.

Poikela, T. 2003. Conformity of Goods in the 1980 United Nations Convention of Contracts for the International Sale of Goods. Nordic Journal of Commercial Law, issue 2003, 1.

United Nations Convention on Contracts for the International Sale of Goods. CISG. 1980

Wailgum, T. 2007. Supply Chain Management Definition and Solutions, article in CIO. http://www.cio.com/article/40940/Supply_Chain_Management_Definition_and_Solutions?page=1

Östring, P. 2004. Profit-focused supplier management. Amacom.

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Appendixes

Appendix 1 Contracting states, CISG

Albania

Argentina

Australia

Austria

Belarus

Belgium

Bosnia-Herzegovina

Bulgaria

Burundi

Canada

Chile

China (PRC)

Colombia

Croatia

Cuba

Cyprus

Czech Republic

Denmark

Ecuador

Egypt

El Salvador

Estonia

Finland

France

Gabon

Georgia

Germany

Greece

Guinea

Honduras

Hungary

Iceland

Iraq

Israel

Italy

Japan

Republic of Korea

Kyrgyzstan

Latvia

Lebanon

Lesotho

Liberia

Lithuania

Luxembourg

Macedonia

Mauritania

Mexico

Moldova

Mongolia

Montenegro

Netherlands

New Zealand

Norway

Paraguay

Peru

Poland

Romania

Russian Federation

Saint Vincent & Grenadines

Serbia

Singapore

Slovakia

Slovenia

Spain

Sweden

Switzerland

Syria

Uganda

Ukraine

United States

Uruguay

Uzbekistan

Zambia

USSR (superseded)

(www.cisg.law.pace.edu/cisg/countries/notables.html, 11.05.2010)

Appendix 2: NCF / Panopa instructions to GSS suppliers

What is PANOPA?

KONE GSS has outsourced its European warehouse operations to Panopa Logistik Gmbh, which is a company who provides logistics services to its customers. Warehouse processes in Panopa are highly automated, and that is why we require high accuracy in our supplier deliveries.

(More information can be found from the web site http://www.panopa.com/en.html)

What is NCF?

When Panopa receives a delivery from supplier, they check it carefully. If there is something wrong or unclear, they create an NCF (non-conform process declaration) and purchaser will handle it. Every case will be handled individually and also will be listed. We are measuring our suppliers also by quantity of NCF's.

Below is listed every reasons which create supplier related NCF.

What to do in case of NCF?

1. P/O number missing
   - Please send us our order number
2. Del note missing
   - Please send us the delivery note
3. Part number missing
   - Please send us our part number
5. Part number is missing in the P/O
   - Part no mentioned on delivery note is not ordered in order no mentioned. Please send us the correct order and part numbers.
5.2 Supplier part no wrong
   - Your part no differs from the number in our system -> please check if the item is correct
5.4 Other reasons
   - Explained, please act the way needed
6. Parts are not delivered
   - Parts mentioned on delivery note are missing
7. Quantity under delivered
   -> Will you send or credit the missing items?
8. Quantity over delivered
   - For your information
9. Parts cannot be identified
   - Please check the pictures and inform us what to do
10. Parts are not according to the part number
    - Please arrange pick up of the goods and send us new ones
11. Parts are not complete
    - Please send the missing parts
12. Parts are damaged
    - Please send us new items and arrange pick up for the damaged ones (if can't be scrapped)

How to reduce the number of NCF's:

- Delivery note needs to exist with needed information (KONE order number and KONE material number)
- Quantity must be exactly the same as confirmed
- Goods must be packaged well

Appendix 3: NCF Issue tool 1.0 User instructions

USER INSTRUCTIONS FOR PANOPA

1 INTRODUCTION

This is an instruction for Panopa how to create and maintain NCF's at centralized Issue Tool between Panopa and KONE GSS. This is instead of former PDF-forms sent by emails to GSS. The management of emails was challenging which will improve by this NCF Issue Tool 1.0.

2 WORKING INSTRUCTIONS

2.1 Login to NCF Issue Tool
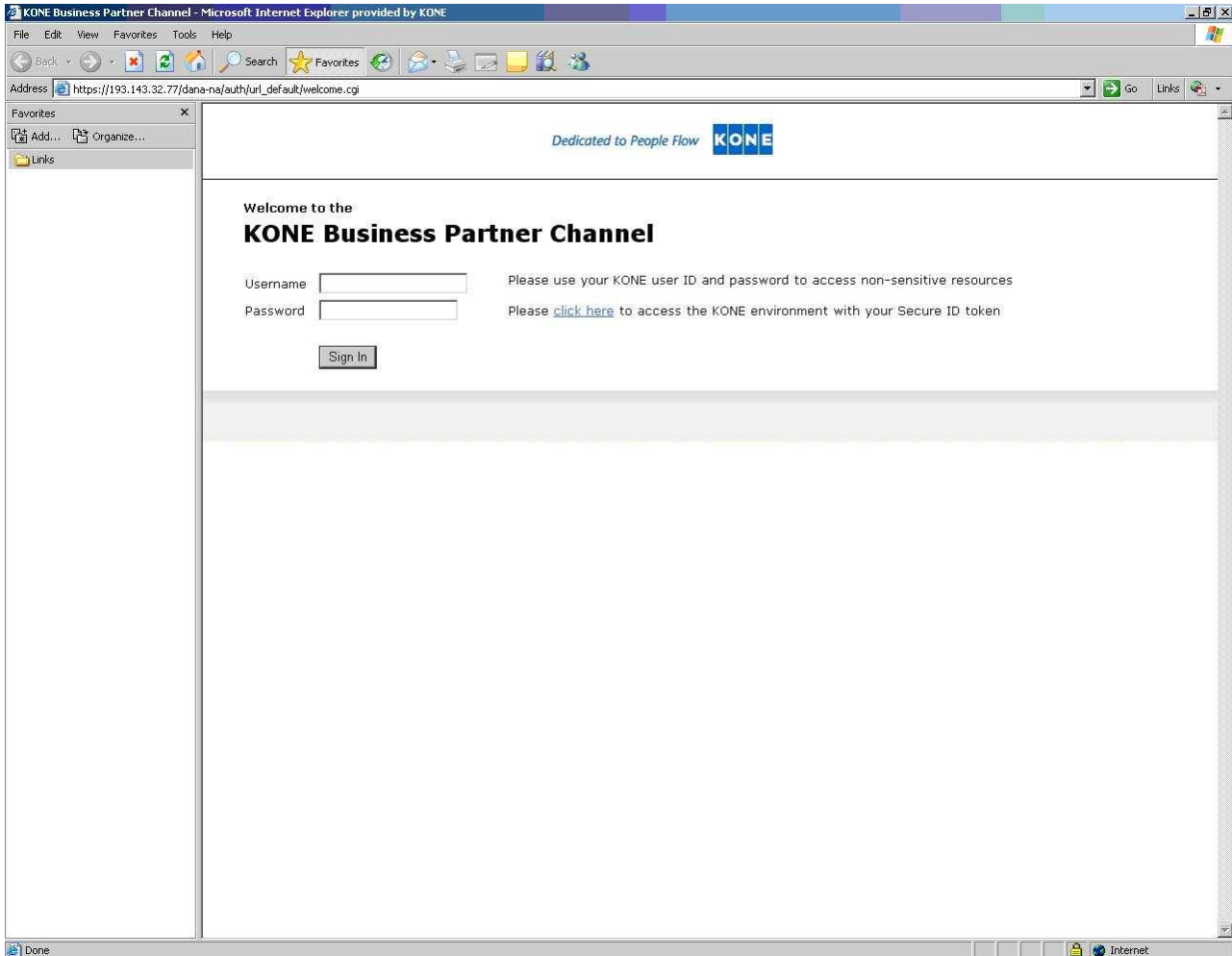
- Access Internet page

https://193.143.32.77/sites/projectserver_119/delivery/GSS/NCF/Lists/Issuesss/,DanaInfo=eudnt177+PANOPA.aspx

- Enter your username and password provided by GSS

- You can inquiry new usernames and passwords from GSS/ Mika Turunen

2.2 Panopa section in NCF Issue Tool

- You have entered the NCF Issue Tool

- In this View you can see tasks for Panopa to be handled, see section 2.4.5 "Panopa" for more details

- To create a new NCF Issue, click "New Item" –button

2.3 New NCF creation

- You have entered the new NCF item form

- Fill in the form as follows:

  - Select from "Supplier" the concerned supplier

  - Write the name of the concerned supplier, if not found from "Supplier" -dropdown

  - Select from "Order Type" the one order belongs to, if you don't know, please use field "I don't know".

  - Write the KONE purchase order number to "Order Number" –text field

  - Write the KONE material code to "Material Number" –text field

  - Select from "Reason for Rejection" –checkboxes all the related reasons

  - In case the reason for rejection is some of numbers 7-13, please

    - Type the amount of quantity on delivery note to "Delivery note quantity" –text field

- Type the amount of physically received or complete quantity to "Received quantity" –text field

- Type the message to GSS to "Comments" –text field

- Select from "Supplier related NCF" -list box "Yes" if the NCF is related to Supplier and "No" if it's not

- Select from "Material type" –list box the related material business line

- After filling in the form click "Save and Close" –button

2.4 Viewing NCF Issues

- After creating a new issue you will return to Panopa View

- You can enter other views by clicking the links at the left panel

- Explanations for other views can be found below:

2.4.1 All Issues

- In "All Issues" -view you can see all the entered issues

- All statuses and assignments can be seen in this view

2.4.2 My Issues

- "My Issues" –view is meant for Panopa

- In "My Issues" –view you can see all the issues (open and closed) that you've personally created to the tool

- You can follow progress of your open cases by finding out the status of the issue and who the issue has been assigned

- You can find also all your own old cases and their answers in this view

2.4.3 My Active Issues

- "My Active Issues" –view is meant for person working on the issue

- You can see all the issues that have been assigned to you and are still open

- You can follow up the case by writing notes to the "Comments" field of the issue during active working progress

- Issue will disappear from "My Active Issues" –view after assigned to next team or person

2.4.4 Inbox

- "INBOX" –view is meant for GSS team members who are seeking to start solving a new NCF issue

- You can see the new created but not yet processed issues in "INBOX" –view

- Start solving an issue by editing it and assigning it to your own name

- Issue will disappear from the "INBOX" –view after you've assigned it to yourself

2.4.5 Panopa

- "PANOPA" –view is meant for Panopa team members

- You can see issues assigned back to Panopa for your next step actions

- Continue solving an issue by editing it and assigning it to your own name

- Issue will disappear from the "PANOPA" –view after you've assigned it to yourself

2.4.6 All Active Issues

- "All Active Issues" –view is meant for persons following all active issues

- You can see all open issues that have been assigned to any person

- You can use this view when you need to follow other members active issues e.g. in absence situations

- It is advisable to agree with the assigned to person who will handle the item

- It is also advisable to assign issues first to yourself before start to continue on issue started by other members

2.5 Display the issue

- You can display the issue by clicking "Issue ID" or "Material Number" –column at any view
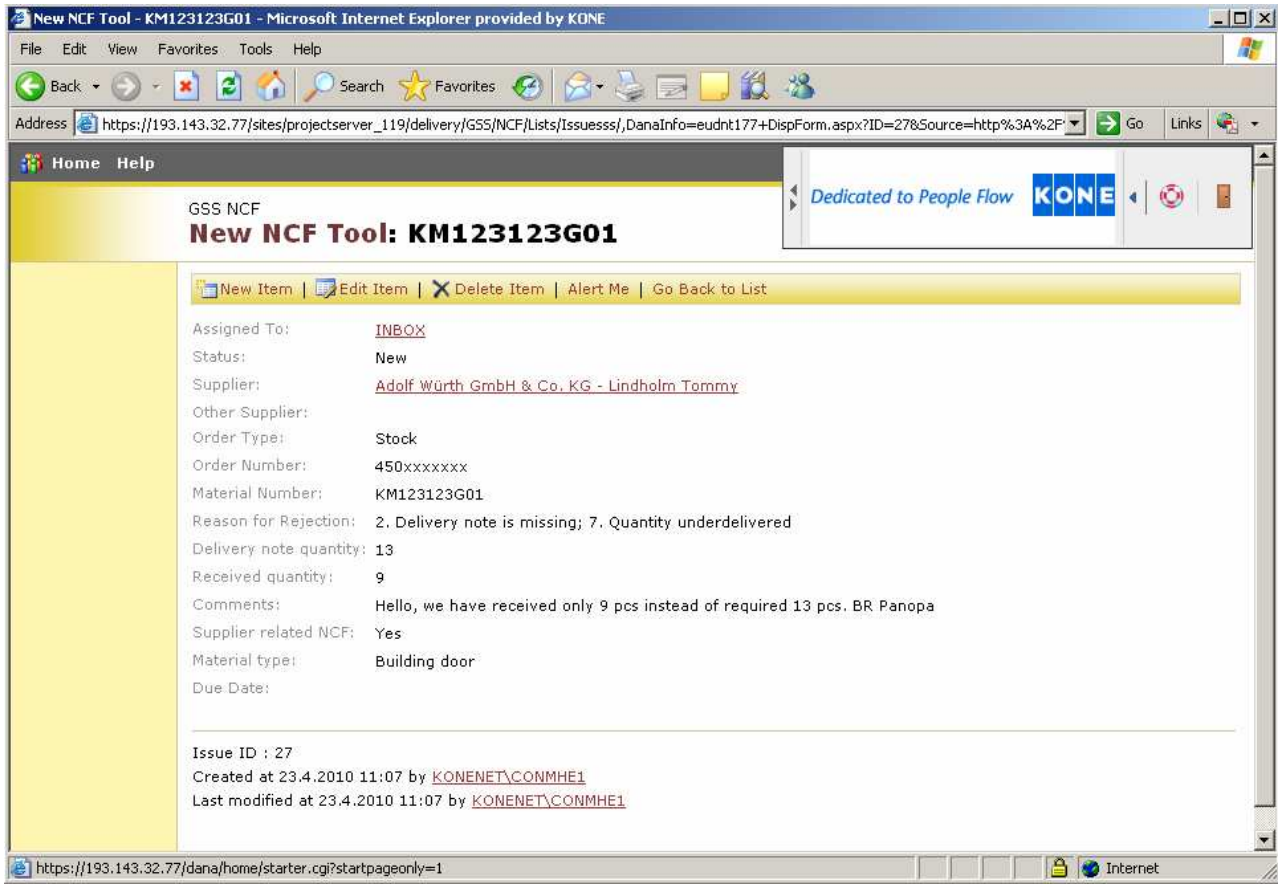
- You will enter display screen of selected issue

- You can view the progress of the item online from this screen

2.6 Edit the issue

- You can start to edit the item by clicking the "Edit Item" -button on the display screen

- You will enter the edit item screen
- You can read the next step task from "Comments" –text field
- You can note your progress on the task on the "Comments" –text field
  - Write the new text on top of the new text on the "Comments" –text field
  - Do not remove the old text at "Comments" –text field for archive purposes
- After editing the item click "Save and Close"-button

2.7 Sending case back to purchasing

Appendix 3

When you get the NCF back from purchasing to Panopa inbox, and there is still something to be cleared in purchasing side, you can send the NCF back to purchasing.

1. Open the item and click "Edit item"

2. If you know who is responsible in purchasing side, please choose his / her name from the field "Assigned to". If you do not know, choose INBOX from the same field.

3. Change status to "Pending purchasing".

4. Write your comments to the "comments" field.

5. "Save and close"

2.8 Close the issue

- After you've completed the task assigned to Panopa, close the task by changing "Status" to "Closed"

- Review all the fields for correctness

- Click "Save and Close" -button

- Issue is now closed and cannot be edited anymore

2.9 Logout of NCF Issue Tool

- You can logout from the NCF Issue Tool by clicking the door icon
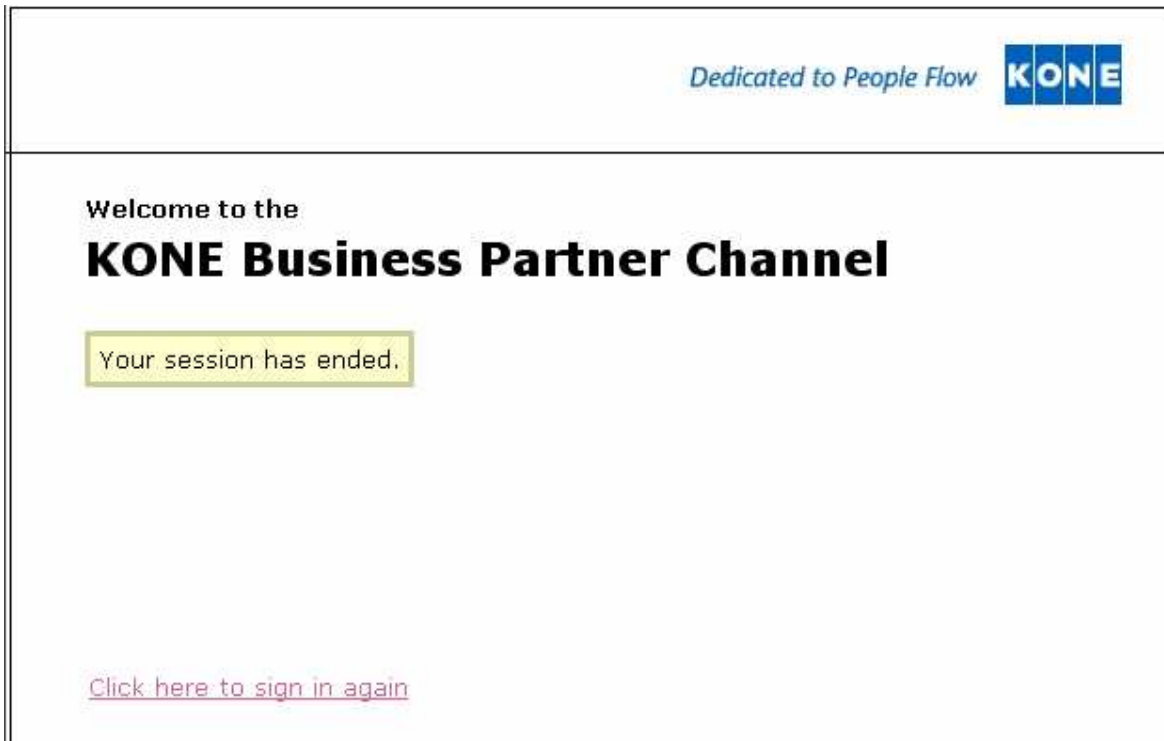
- The tool will confirm that you've logged out
- You can log back by clicking the link at the bottom of the page

2.10 Help

- You can access the help pages of the remote connections by clicking the "life buoy" icon

- You can move "KONE" –bar from right to left by clicking the two arrow icon e.g. if it is on the way

- You can partially minimize the "KONE" –bar by clicking the one arrow icon to gain some more space

- You can return to homepage of the remote access tool by clicking the "KONE" -icon