UNIVERSITY OF VAASA

FACULTY OF TECHNOLOGY

INDUSTRIAL MANAGEMENT

Jaakko Kervinen

SUPPLIER COMPLAINT MANAGEMENT

Master's Thesis in

Industrial Management

VAASA 2011

TABLE OF CONTENTS

ABBREVIATIONS

8D	*8 Disciplines Systematic Problem Solving Method*
CCMS	*Customer Complaint Management System*
COMPL	*Delivery Complaint Handling Tool*
CPI	*Continuous Process Improvement*
CRM	*Customer Relationship Management*
EFQM	*European Foundation for Quality Management*
JIT	*Just-in-Time*
KPI	*Key Performance Indicator*
OEM	*Original Equipment Manufacturing*
SAP	*System Analysis and Program Development (SAP AG)*
TQM	*Total Quality Management*
VSM	*Value Stream Mapping*

LIST OF FIGURES

LIST OF TABLES

UNIVERSITY OF VAASA
Faculty of Technology

Author:	Jaakko Kervinen
Topic of the Master's Thesis:	Supplier Complaint Management
Instructor:	Marja Naaranoja
Degree:	Master of Science in Economics and Business Administration
Department:	Department of Production
Major Subject:	Industrial Management
Year of Entering the University:	2005
Year of Completing the Master's Thesis:	2011 **Pages**: 92

ABSTRACT:

A complaint takes place when something goes wrong with no one willing to deal with the topic. If a customer fails to express oneself about something that went wrong, the firm stands to lose: an opportunity to improve has been missed. In order to retain existing customers, complaint management should be more than just a system of monitoring customer satisfaction: customers must be encouraged to bring out their concerns in form of complaints.

This study focuses on complaint management from two viewpoints: customer-based and delivery-based complaints. Processes and systems of complaint handling are discussed in context of continuous improvement and problem solving. In addition, methodologies and models supporting employee empowerment are discussed. The main purpose of this study is to create an interface solution to unify communication between a team of operative purchasing and the customer in order to improve data acquisition and utilization within decision-making. The most critical elements of this study pertain to analysing the present state, choosing the correct system for complaint management, and designing documents to support the communication towards both suppliers and customers.

The study was carried out in the form of focused interviews. At an early stage employees from different positions were interviewed for relevant background information. In addition, current processes were studied both from quantitative and qualitative point of view and the performance was evaluated in comparison against two other teams alike. Managerial interviews had an important role in the development process from a strategic point of view. Interviews indicated that complaints were perceived low within the work task hierarchy due to their rareness. Monthly complaint-per-buyer rate was close to zero resulting in lack of motivation. The lack of standardized process practices and supporting documents was also apparent.

This thesis was carried out as a company assignment.

VAASAN YLIOPISTO
Teknillinen tiedekunta

Tekijä:	Jaakko Kervinen
Tutkielman nimi:	Toimittajareklamaatioiden hallinta
Ohjaajan nimi:	Marja Naaranoja
Tutkinto:	Kauppatieteiden maisteri
Laitos:	Tuotannon laitos
Oppiaine:	Tuotantotalous
Opintojen aloitusvuosi:	2005
Tutkielman valmistumisvuosi:	2011 **Sivumäärä**: 92

TIIVISTELMÄ:

Reklamaatio on asiakkaan tapa ilmaista tyytymättömyyttään ja seurausta siitä, ettei yritys ole pystynyt lunastamaan lupauksiaan tai täyttämään asiakkaan odotuksia. Reklamaatioihin liittyy vahva negatiivinen mielikuva, joka luo oman haasteensa niiden tärkeyden korostamiseen. Jos asiakas ei reklamoi, yritykselle ei tarjoudu mahdollisuutta hyvittää epäkohtaa tai parantaa toimintatapojaan. Pelkkä asiakastyytyväisyyden mittaaminen ei riitä, vaan asiakkaita tulisi kannustaa ilmaisemaan mielipiteensä yrityksestä – niin positiivisessa kuin negatiivisessakin mielessä.

Tämä tutkimus käsittelee kahden erilaisen reklamaatiotyypin hallinnan tehostamista; toimittajareklamaatioiden ja toimitusperäisten reklamaatioiden näkökulmasta. Reklamaatioiden hallintaprosessia ja –järjestelmiä tarkastellaan prosessien jatkuvan parantamisen ja ongelmanratkaisun näkökulmista. Samalla käydään läpi reklamaatiohallinnan johtamiseen liittyviä malleja ja keinoja vaikuttaa reklamoijan ja reklamaation käsittelijän asenteisiin. Tutkimuksen tarkoitus on yhtenäistää operatiivista ostotoimintaa harjoittavan tiimin kommunikaatiorajapintaa reklamoivan tahon suuntaan, jotta tiedonkeruuta ja erityisesti sen hyödyntämistä voitaisiin tehostaa päätöksenteon tueksi. Työn kannalta kriittiset elementit liittyvät nykytilan analysointiin, reklamaatiohallintajärjestelmän valintaan ja kommunikaatiorajapintaa tukevien dokumenttien suunnitteluun.

Tutkimusta varten yrityksen työntekijöitä haastateltiin teemahaastatteluiden muodossa. Työn yhteydessä nykyistä reklamaationhallintaprosessia tarkasteltiin sekä määrällisesti että laadullisesti ja suoritustasoa verrattiin kahden vastaavan tiimin suoritustasoon. Esimieshaastattelut antoivat strategiset suuntaviivat prosessin kehittämisen kannalta. Haastattelutulokset tukivat tilastollista analyysia reklamaatioiden vähäisestä määrästä ja prosessikäytäntöjen puutteellisuudesta. Reklamaatiohallinnan keskittäminen tuli kysymykseen tehokkuuden näkökulmasta. Empiirinen tutkimus tuki hypoteesia, jonka mukaan yritykset keräävät reklamaatiodataa, mutta eivät hyödynnä sitä tehokkaasti.

Lopputyö toteutettiin toimeksiantona.

AVAINSANAT: prosessien kehittäminen, reklamaationhallinta, asiakastyytyväisyys

1. INTRODUCTION

As a results of several major changes in operational environment over the last decade, most companies face a new era today. In this increasingly competitive business environment, companies are forced to create more value in parallel to low costs. Efficiency is commonly discussed in the terms of quality, which interlinks business operations to customer satisfaction (Lambert, Cooper & Pagh 1998). Business operations manage the process of transforming inputs into outputs of greater value, whereas customer feedback is used to fine-tune the process (Russell & Taylor 1998).

For every company, confronting the customer – the root cause of business – is always a critical moment. Excellent service can only be achieved through extensive knowledge of customer needs. Therefore it is obvious that firms have increased their efforts to become more market-oriented in order to gain total control over business operations that interact with customers, not forgetting the suppliers (Stauss & Schoeler 2004). Jagersma (2009) points out, that management should focus on developing new approaches that can match the strategic imperatives of the future: strategic management models are frameworks for achieving sustainable competitive advantage. As customer-orientation is considered a top priority, companies should discover unique channels to communicate directly with the customer (Barlow & Møller 1996). The complaint management process may be considered one of these channels.

To date, complaint management has not been broadly discussed in the terms of scientific research, except for the construct of complaint behaviour that is well grounded. Even then most research on this field of study has been carried out from a consumer-oriented point of view lacking the business-to-business aspect. Barlow & Møller (1996) proved that interest towards complaint management experienced a rapid growth during the 1990s. According to a study by Stauss & Schoeler (2004), most companies do not actually calculate the benefits of complaint management or measure complaint management profitability at all. Added to this, Barlow & Møller (1996) argue that most companies do not even have a complaint policy. Despite the negative impressions, complaints do elicit the level of quality the customer has experienced and may actually turn out as a profitable, competitive advantage.

1.1. Research Problem and Objectives

A team of operative purchasing is currently lacking a standardized way of handling complaints. Hence, poor visibility throughout the process hinders the exploitation of complaint data in context of reporting and management decision-making: complaint data affects *key performance indicators* (KPIs) and is also used as a source on the biannual supplier performance evaluation. An organization-wide tool of delivery complaint management was introduced in order to systematically standardize the tasks of complaint handling, but so far the team has not introduced the tool into direct use. This complex situation has been causing delays in complaint handling and uncertainty about the actual volume of complaints.

The current complaint tool, *COMPL*, was introduced as a substitutive solution for its predecessor. However, COMPL was intended a temporary solution before switching to a SAP based solution. By the time of implementation, SAP was clearly the number one solution for complaint handling. Unfortunately, resources required for the implementation were not available. To date, most purchasing units take advantage of COMPL but SAP based complaint handling has also been put to use among some teams. Due to diverse practices, there is evidently a need to tailor and unify complaint management practices to cover organizational needs. (Manager D 2010.)

The main purpose of this study is to create an interface solution to unify communication between the buyer and the supplier. In order to reach the target, first objective of this study is to gather relevant background information within the case company together with internalizing theoretical aspects.

In short, the desired outcome of the research problem "*How to manage the reclamation process in a supplier network?*" may be divided into two key objectives:

1. Creating an interface solution to standardize current reclamation handling process towards suppliers.
2. Enabling more accurate reporting to provide visibility throughout the process.

1.2. Research Approach and Methodology

The main research methods used in this thesis are mostly qualitative: focus of this study relates strongly to business excellence and development. Methods reviewed are linked to process thinking and continuous improvement together with problem solving.

Personnel interviews and discussion are the main source of gleaning empirical data. General process orientation and overview are absorbed in form of given topic interviews. During the actual interface development process, continuous feedback will be collected. In addition, propositions and solutions are exhaustively discussed using a peer and/or management review.

Due to the limited period of time, the study is carried out from only one team's point of view. On a more global level, the procurement team is responsible for supplier management and processes related (e.g. claim management). To narrow down the research scope even further, this study only concentrates on certain types of claims leaving for example warranty issues outside the scope.

1.3. Thesis Structure

The structure of this thesis consists of theoretical framework, case study, discussion, and conclusions. In the theoretical framework, relevant theories of continuous improvement, problem solving and complaint management will be presented. Moreover, the benefits of implementing relevant, theoretical methods into complaint management will be discussed. The theoretical framework used in this study relies strongly on the case company's quality program and guidelines driving continuous improvement in performance and processes.

The empirical part consists of analysing the actual research problem and its feasibilities. This part will also cover analysing statistical complaint data and interviewing employees working in the midst of the process along with personal observation and an analysis based on the findings. Finally, results will be summarized jointly within conclusions and possible targets of future research and development will be proposed.

2. CONTINUOUS IMPROVEMENT

Continuous improvement is an endless cycle of improving products, services, and/or processes, with a strong link to quality. Vice versa, quality may be considered as an integral part of continuous improvement that is frequently discussed in the terms of process thinking. The main objective of continuous improvement is to create a dynamic culture of sustainable excellence, where an improvement is always followed by one another. Continuous improvement strives for incremental change by creating a whole culture of improvement. It shares the idea of quality thinking for managing excellence (Martín-Castilla & Rodríguez-Ruiz 2006: 136), but is equally meant to motivate employees and help them to perform their tasks more effectively: achieving improvements is always motivating.

The *New Oxford American Dictionary* defines quality as "*the degree of excellence*" that is "measured against other things of a similar kind". Alike the rapidly changing business environment, the term "*quality*" is under continuous evolution. Russell & Taylor (1998: 87) consider quality as a key component of strategic planning. Martín-Castilla & Rodríguez-Ruiz (2006) argue that it has lately been partially replaced by a more management-oriented term "*excellence*", which may be equalized to optimal management: the way of managing the organization to achieve competitive advantage. Excellence, which refers to a change in philosophy, culture, and/or strategy, comprises factors such as customer satisfaction, process management, resource optimisation, and social responsibility (Martín-Castilla & Rodríguez-Ruiz 2006: 135–136). The multiplicity of factors to be considered assures that both quality and excellence are studies on a large scale.

2.1. Historical background

Production as a function has been here forever. However, widespread production of consumer goods together with operations management evolved during the *industrial revolution* in the 1700s. The next big step was the introduction of mass production familiarized by the automotive industry in the early 1900s. Henry Ford's idea of a moving assembly line was joined by research on scientific management that approached the management of work, along with aspects such as job performance and activity scheduling cart. The human relations movement of the 1930s introduced the idea of

work motivation linking it to productivity. The 1950s and 1960s were triumphal march of management science and computer programming. During 1970s, focus turned into quality – once again driven by the automotive industry. The "*quality revolution*" was joined by the information age of the 1980s and 1990s giving the incipient globalization a kick-start in the form of worldwide markets and operations. (Russell & Taylor 1998.)

During these decades, a wide range of operations models have been introduced and developed to support the implementation of continuous improvement. These include philosophies, tools, and methods such as total quality management, kanban, lean, robotics, and even automation (Russell & Taylor 1998). And what they all have in common, in a way or another, is quality. What is also noteworthy is that most scientific research from the last century still remains valid, if adapting to today's requirements and circumstances. For example, the concept of production process has altered as the distinction between consumption and production has blurred: When the concept of lean production was introduced in the 1980's, production was considered more as a process stopping at the factory gate. To date, a production process is seen to compromise the whole value chain all the way from the producers to the customers (cf. Womack & Jones 2005).

Whatever the case may be, most present-day theories are all based on the same theoretical framework of the last century. For example, several authors (e.g. Rambaud 2004; Tague 1995; Womack & Jones 2005) have introduced tools to describe and implement generic, step-by-step processes of quality improvement and problem solving related. What they all have in common is the management-oriented concept of continuous improvement in context of process improvement and problem solving that are used to incorporate relevant aspects into a single, structured process. However, Finlow-Bates (1994: 15) encourages critical thinking and the ability to see the "big picture". In other words, whatever strategy you finally adopt, should not be flawed by one's own concept of "a mythological absolute" as there is no unambiguous formula for global success.

2.2. Process Improvement

An excellent organisation manages activities as processes (Martín-Castilla & Rodríguez-Ruiz 2006: 137), which may be defined as "the essence of operations

management" (Russell & Taylor 1998: 228). With an increasing interest on logistics and supply chain management, process management has also made it to the spotlight. Process management targets on defining and maintaining the firm's core provision processes by continuous defining, sustaining, and improving the processes (Womack & Jones 2005). In order for process management to succeed, the management team has to be committed to follow through all the improvements.

The main function of a process is to transform inputs into outputs to achieve a more effective outcome (e.g. Womack *et al.* 1990). Russell & Taylor (1998: 228) define process strategy as the "organization's overall approach for physically producing goods and services" that may be considered as a source of competitive advantage. The ability to maintain competitive advantage is dependent on the firm's ability to improve, where processes have an important role: even best practices may be improved further. As a follow-up, Jagersma (2009) defines continuous process improvement (*CPI*) as a philosophy of striving for a best practice in the context of "*performance improvement gap*" – the gap between current and desired level of performance, which requires extensive understanding of the process and continuous effort to improve in order for closing it.

2.2.1. Lean

As a philosophy of continuous improvement, *lean* aims to increase the overall performance in terms of value. Lean is a management-oriented improvement philosophy of Japanese origin that was developed based on the best practices of mass production and craft production. In short, lean is about efficient managing of inventories, quality, workforce, and suppliers (Goldsby & Martichenko 2005). Womack, Jones & Roos (1990; 2005) define lean as a way of producing better products with cheaper costs and more variation, where the most eligible state is based on perfect value provided with zero cost. In this context, every part of the process must create surplus value to the end customer. Rather than pushing existing systems to their limits, lean focuses on fundamentally changing the way a system works (Womack *et al.* 1990) which is done by striving for the ideal solution rather than developing a completely new system.

Benefits of lean are earned by the idea on eliminating "*muda*"; a Japanese term that simply translates to "*waste*". Waste is defined as material surplus and lost input in terms

of time, material, and work contribution (Womack *et al*. 1990: 56) as well as motion, extra processing, transportation, waiting, defects, overproduction, and inventory (Cole 2009: 17). According to Petersen (1999) chronic waste can be substantially reduced via quality improvements in the system. In addition to decreasing production costs, lean also results in fewer defects and produces a greater variety of product, which both should be in the interests of the customer. In contrasts to this, Womack & Jones (1996: 15) define goods and services that do not meet the customer expectations as a source of waste to be eliminated.

Numerous examples (cf. Womack & Jones 1996) stand as proof that the company's overall competitiveness may be improved through lean implementation. In context, Voss (1989) and Worley *et al*. (2006) agree that production practice improvements target on gaining competitive advantage; in the case of lean, through customer value added. According to Åhlström *et al*. (1996: 47), declines in productivity are typical when implementing lean into practice. However, the implementation must be seen as an investment with time value: in the long run, increased productivity, shorter lead times, and improved quality will cover the implementation costs and show a profit. Due to the stabilizing and rationalizing effect upon production chain, lean may also prove out profit making granted that sales volume and/or price remain stable (Levy 1997; Womack & Jones 1996). As lean will eventually free up resources, there is actually a rush to find more customers in order to make the most out of the existing resources and capacity (Womack & Jones 1996: 35).

Lean may be easiest to perceive in a conventional production environment. In order to "do more with less", Womack & Jones (1996) introduced the concept of *lean thinking* – a mindset constantly striving for perfection and which promotes the fact that lean principles are possible to introduce in any process activity. The concept of lean thinking is based on value that needs to be defined and specified in order to line-up value-creating actions in the best sequence. The main principles of lean thinking consist of *value*, *value stream*, *flow*, *pull*, and *perfection*. (Womack & Jones 1996.)

Value is one of the key elements of process improvement, in which the customer defines value in the terms of a specific product or service. From a customer's point of view, value is the reason why firms producing goods exist. Set in order, value-creating tasks form a *value stream* – a set of individual value activities and tasks defined as all the necessary steps for a product to reach the end customer. An efficient value stream

requires transparency to improve collaboration between different value-creating steps in order to optimize *flow*: how items and people involved in the production process move in interaction from the start to the end. Effective flow is based on the idea of continuity – against the idea of batch production. This takes us to the concept of *pull-production*, the second-last step of lean thinking towards *perfection*. (Womack & Jones 1996.)

A well-organized production system should support the implementation of newer, substitutive systems. Best-case scenario, the production system should correspond a batch production system producing amounts equivalent to customer demand. Ordinary production (i.e. mass production) may be referred to as "*push-production*" where goods are produced according to a given production schedule regardless of actual demand. Womack & Jones (2005: 2) makes a point saying that mass production actually tries to "convince customer that they want what the firm has already designed or produced". In this context, Womack & Jones (2005: 108) count lean rather as a reflexive than a cognitive (information) management system.

On the other hand, "*pull-production*" (i.e. lean production), a reverse from the push method, is based directly on customer demand. In short, *upstream* should not produce a good or service until the customer *downstream* has "placed an order" (Womack & Jones 1996). Once the order is placed, information is passed upwards in the supply chain, from customer to manufacturer, where a customer order works as the trigger for production. In the context of pull-production, Womack & Jones (1996) highlight the importance of efficient material handling: material must be available at the right place, at the right time (cf. Schonberger 1982), exclusive of inventories in order to produce what has just been ordered by the downstream step. In this respect, production is rather about controlling the material flow than scheduling the production process. (Åhlström *et al.* 1996.)

Successful pull-production requires production promptness together with efficient inventory management, which can be achieved through "*Just-in-Time*" (JIT). JIT is a cornerstone of Japanese production philosophies relying on the concept of well-timed production of smaller quantities in exact amounts; "just in time" rather than massive quantities "just in case" (Schonberger 1982: 16; Womack *et al.* 1990). From a lean point of view, JIT is considered as a flow management system and an integral part of lean (Womack & Jones 1996). In addition to JIT, inventory minimization, operations flexibility, and supplier collaboration work as a base for the lean production

environment: in order to advance, all factors must be fitted together. The idea of inventory minimization is based on the assumption, that production process of good quality does not require a buffer stock. The production process can ill afford a service break causing massive losses. Together with obviating the need for inventories, operations flexibility makes a good antidote for demand fluctuation.

2.2.2. Kaizen

Kaizen refers to a people-oriented philosophy that focuses upon continuous process improvements and promotes process-oriented thinking (Wittenberg 1994). Womack *et al*. (1990: 153) define kaizen as the "continuous incremental improvement in the production process" that result from continuous effort to quality. The term itself is actually more of an umbrella term that covers many quality and process related management techniques from the past years (Wittenberg 1994).

What is remarkable about *kaizen* is that it is actually the "antithesis of innovation" (Wittenberg 1994: 12). To be exact, most quality related philosophies and theories have remained untouched for the last 50 years or so – and still they remain superior! *Kaizen* differs from innovations by its stabilizing continuum resulting gradual improvement of processes whereas innovations represent one-time improvements of performance. Through standardization, an essential element of kaizen, processes are substantially easier to establish, maintain and improve. In this context, standards define practices for all major operations. In addition, *kaizen* suits a slowly growing economy while innovations drive the growth in fast-growing economies. Compared to lean, kaizen is less management-oriented. (Wittenberg 1994.)

2.2.3. Value Stream Mapping

The most fundamental characteristics of measuring value of a process are based on the concept of *value analysis* and *value stream mapping* (VSM). Value analysis may be defined as "an analytical approach for eliminating unnecessary features and functions" (Russell & Taylor 1998: 217), in which VSM is based on. The main principles of VSM are identification, definition, measurement, and evaluation of the process in context of

added value perceived by the customer. In addition, VSM aims to identify the *performance gap* between current and the desired state in order to improve business operations further.

Creating a value map is a key step in the lean transformation process (Womack & Jones 1996). VSM is done by dividing different functions (e.g. purchasing) into activities that are furthermore subdivided into different flows (e.g. order flow), finding out linkages between different activities, and then defining the value of each step (Porter 2004). Womack & Jones (2005) describe the common and fundamental characteristics of process mapping as follows: At first, the process and its purpose must be clearly defined. Whether the purpose is being served, measures of performance must be developed. After the process has been identified, defined, and indicators have been set, every step in the process is recorded in order to measure the performance gap between current and desired state of the process. Finally, once the process has been mapped, it is time to evaluate each process step to determine whether they actually create value. (Womack & Jones 2005.)

According to Tague (1995), process steps may be categorized to primary and secondary functions, according to their importance and the value they create. This also includes the design of an improved process along with the project planning. Womack & Jones (1996: 38) propose activities to be divided into three different categories according to the value they create as perceived by the customer: (1) activities which actually create value; (2) activities which create no value but are currently required by internal operations; and (3) activities which do not create value. (Womack & Jones 1996.)

An illustration will ease the task of defining each and every step of the process. This may be done using a flowchart, which is a common method for describing the steps of a process in sequential order: it clarifies the sequence of actions and decisions needed to complete the process. According to Tague (1995: 137) flowchart is a highly workable method when trying to understand the actual process and potential targets of improvements. It provides a simple but effective way to clarify even the most complex structures and consequences of each action involved in the process. A flowchart may also be used to improve communication within the process. (Tague 1995.)

According to Porter (2004: 48), linkages between different activities lead to competitive advantage through both optimization and coordination. In other words, linkages, such as

a more thorough (and costly) phase of product development may finally lead to reduced service costs, which is why these activities must be coordinated and optimized relative of the corporate strategy. After mapping the process, a value analysis helps to reveal the resources tied and value created (i.e. linkages) by each step in order to achieve further cost reductions. Womack *et al*. (1990: 152) point out that the value analysis continues through the entire process resulting a continuum, in which savings may be achieved by incremental improvements through kaizen (cf. Chapter 2.2.2.).

2.2.4. Deming Cycle

The Deming cycle (also known as the Deming wheel, PDCA cycle, Shewhart cycle) is a four-step process of continuous quality improvement and problem solving. With a strong link to continuous improvement, the cycle may also be used to implement kaizen activities into business processes. The cycle descends from the Shewhart cycle (cf. Figure 1), a three steps scientific process of acquiring knowledge introduced by Shewhart in 1939 and later renamed by the Japanese (Petersen 1999; Russell & Taylor 1998). The Deming cycle descends from the Juran trilogy of "quality planning, quality control, and quality improvement", that explain the interrelationship between these three quality management processes (Petersen 1999).

The Deming cycle consists of four steps and is intended as a flow diagram (cf. Figure 2) for learning and improving the process (Petersen 1999) for achieving true total quality management and sustained profitability (Bosch & Enríquez 2005: 31). The first phase (*plan*) starts with the preparation of the improvement: The process is examined and problems related identified. This involves determining the current state together with measureable goals in order to close the performance gap between the current and expected process. The second phase (*do*) is a sort of a test run where the implementation is done on a test basis in order to estimate the impact. Results are documented for study and analysis in the third phase (*check*). After comparing the results achieved with the targets set during the first phase, the plan is implemented as the fourth and last phase (*act*) taking the improvement process back to the beginning creating a continuous cycle of improvement. (Russell & Taylor 1998.)
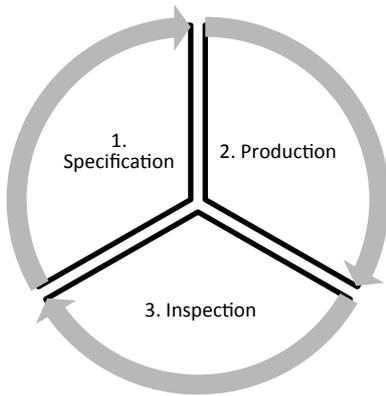
Figure 1. Shewhart Cycle.   Figure 2. Deming Cycle.
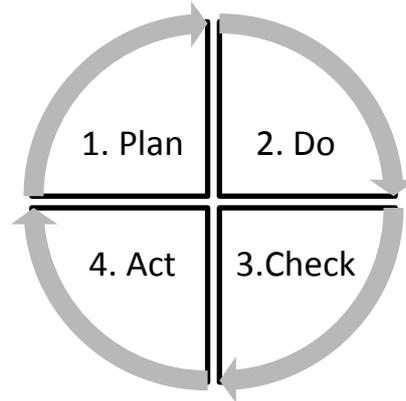
2.2.5. CPI-7
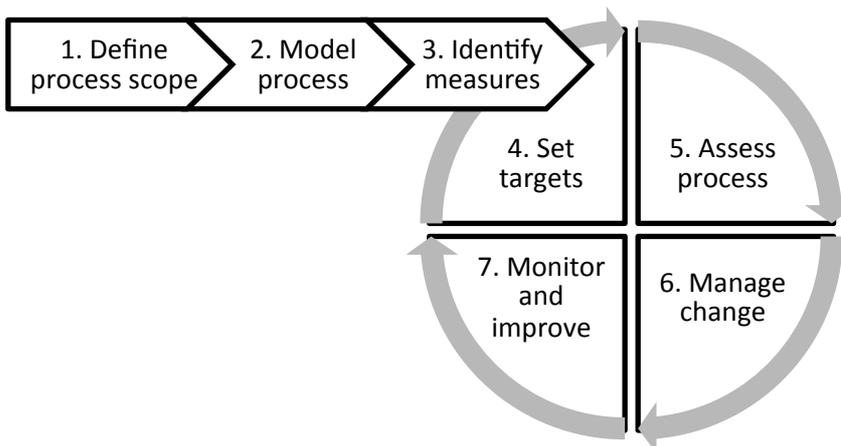
Figure 3. CPI-7 Process Improvement Cycle (Kinnula 2001: 40).

CPI-7 is a structured and systematic multipurpose toolkit to support process management in process development phases (cf. Figure 3). It uses the full potential of the team to design and implement the process in context of customer satisfaction and process efficiency. *Nokia Corporation* developed the tool in the late 1990s for general process improvement purposes (Kinnula 2001). The model adapts to the Deming circle cycle and covers continuous process improvement using 7 steps: 1) Define the process scope, 2) Model the process, 3) Identify measures, 4) Set targets, 5) Assess process, 6) Manage Change, and 7) Monitor and improve. The CPI-7 model may also be seen as an integration of Shewhart and Deming circles: steps 1–3 present Shewhart's model, steps 4–7 Deming's model. Alike, general principles of CPI-7 aim to process simplification in

both global and local level. Complex models are pushed through for use with standard practices. Together, these improvements target for cost efficiency.

2.3. Problem Solving

There is a broad difference between fixing and solving a problem: By fixing a problem, you may end up fixing the same problem over and over again. But by solving the problem, you will get to the root cause and can prevent the problem from happening again (Rambaud 2007: 4). Defined by Knippen & Green (1997: 98), problem solving is teamwork with an aim to analyse and determine the problem together with evaluating and choosing best solutions. In general, problem solving is a task emphasizing a team approach in order to provide a greater number of creative solutions. Most importantly, problems should be solved in advance before they happen – and in case they happen, recurrence must be prevented (Womack *et al*. 1990). In order to prevent the recurrence, problems must be carefully identified: An in-depth analysis of the root cause must be carried out. In other words, instead of fixing the symptoms, the cause needs to be solved in order to enhance productivity (Knippen & Green 1997: 99). Ironically, Womack & Jones (2005: 12) even consider consumption as a continuous process to solve a problem: "most of us consume in order to solve a problem".

2.3.1. Root Cause Analysis

Self-evidently, root cause analysis (*RCA*) is a tool for determining the root cause of a problem. In fact, it is more of an umbrella-term for tools and methods aimed at identifying the root causes or problems or events. Tague (1995: 22) defines "root cause" as the "fundamental, underlying reason for a problem". As mentioned above, compared to the situation of just solving the problem, RCA aims for the latter part of preventing the problem from repeating, where as plain problem solving may be considered a sign of stagnation and lack of ability to improve. Solving the root cause means maximizing the long-term affect with a minimum effort just by working wise, instead of just re-using the reactive fire-fighting skills (i.e. putting out the fire without further investigation). If a problem reoccurrs, RCA (and even problem solving) may be considered failed.

Understanding the problem truly is the most fundamental element on the ability to fix it. Getting to the root cause may require different problem solving techniques such as *8D* (Rambaud 2007), *Fishbone Diagram* (Tague 1995), and/or *5 Whys* (Ayad 2010). However, one must bear in mind that even the best methods have their limitations. Ayad (2010: 556) discovered that methods of problem solving are "insufficient in root cause analysis unless coupled with critical thinking", which he emphasizes a key factor in some extraordinary business successes demonstrated in his study. To highlight the importance of critical thinking, Finlow-Bates (1998: 12) notes that RCA is often used within the hypothesis that only one real root cause exists, although there can be more than one potential root cause and the root cause is actually dependent on the viewpoint (e.g. different parties may see the problem differently).

According to Arnheiter & Greenland (2008: 21), the use of RCA comes to a slight conflict with the common assumption of quick, short-term performance being rewarded. Instead, RCA encourages examining problems in context of long-term performance. In an economic environment, the ultimate objective of problem solving is to increase the overall performance (Ayad 2010). Without proper solving, problems have the tendency of degenerate worse the further they go: a problem found on an early stage of design is much easier (and cheaper) to fix than a problem discovered by the end-customer after the product has already hit the market.

2.3.2. 8D Systematic Problem Solving Method

8D (*8 Disciplines*) is a systematic 8-step problem solving and management tool that incorporates all problem solving relevant aspects into a single structured process. As most well-known problem solving tools 8D aims to identify, correct and eliminate the problem finally resulting in a prime outcome of a standardized practice. This approach reduces wasted effort and makes all work more effective towards resolving the problem. Like many other theories, methods and tools related to logistics, supply chain management and quality, 8D has roots within wartime (U.S. government) and was advanced and popularized by the car industry (Ford Motor Company). (Rambaud 2007.)

Table 1. The 8 Disciplines Systematic Problem Solving Method.

1D Establish a team	5D Develop permanent solution
2D Describe the problem	6D Implement permanent solution
3D Implement temporary solution	7D Prevent recurrence
4D Find root cause	8D Evaluate outcome

The main goal of this method is to streamline problem investigation and management into a single structured and systematic process. Ultimately, 8D fulfils three functions, all of which complement one another (Rambaud 2007):

1. A process for solving problems
2. A standardized method
3. A form of reporting

The problem solving process using 8D starts by either phase 1 (*establish a team*) or phase 2 (*describe the problem*), which may both be carried out in reverse order due to their similarities. The actual problem areas need to be identified by collecting data and analysing the problems discovered jointly with identifying the correct people and resources needed to solve the problem. Similar to flow charts, 8D strives for simplifying complex situations into simple workable elements by describing and visualizing the problem. Once the problem and the resources to solve it have been defined, one might *implement temporary solution* (phase 3) to minimize the effects caused by the problem until the final, corrective solution is ready for implementation. Phase 4 (*find root cause*) is one of the key steps in the process and goes hand-in-hand with root cause analysis. Goal is to identify the true cause of the problem to prevent the same problem from recurring. Once the root cause has been identified, phase 5 (*develop permanent solution*) and phase 6 (*implement permanent solution*) are the most critical phases what comes to actually solving the problem, coupled with phase 7 (*prevent recurrence*) in order to complete the process. However, the last step, phase 8 (*evaluate outcome*) is the one where the organization gets to evaluate and learn about what they have just succeeded in and may actually result in getting back to the beginning, with the same problem or another. (Rambaud 2007.)

According to Rambaud (2007: 3) organizations that adopt problem-solving structures such as 8D have a significant competitive advantage. By using the 8D, Rambaud (2007)

argues that organizations are able to find the root cause and permanent solution more effectively, stop problems from recurring and most importantly, learn by sharing and reusing information. 8D can also be used by both teams and individuals, but is likely to be more effective in teams as it may use the full potential of synergy benefits. Knippen & Green (1997: 98) note that regarding problem solving, "employee commitment is a must" adding, that "if the management's and employees' motivation and satisfaction increase, so will their performance". In addition to individual employees', corporate culture plays a huge role in problem solving (Rambaud 2007: 4), in which the culture must encourage employees to participate and commit to processes of continuous improvement.

2.4. EFQM Model

EFQM (*European Foundation for Quality Management*) is a non-profit membership foundation established on 1988 to aid European organizations in increasing their competitiveness. As a result, the founding members developed a management tool in order to achieve sustainable excellence. The outcome is known as the *EFQM Excellence Model* (referred to as *EFQM Model*), from which the organization is better known for. (EFQM 2010.)

According to Martín-Castilla & Rodríguez-Ruiz (2006: 133), there is clear recognition that "strategic management models are frameworks for achieving sustainable competitive advantage". The EFQM Model itself is a comprehensive, non-prescriptive quality framework consisting of three main components of organizational excellence, complementing one another (EFQM 2010): 1. RADAR logic; 2. Fundamental Concepts of Excellence; 3. EFQM Excellence Model.

The RADAR logic (*Result*, *Approach, Deploy, Assess, and Refine*) is a four-pronged process of planning and estimating organizational performance. Adapted from the Deming cycle, the RADAR logic is used for *developing*, *deploying*, *assessing,* and *refining* approaches in order to achieve results. The fundamental concepts of excellence consist of eight elements defining the prerequisites for achieving sustainable excellence (EFQM 2010):
 • Achieving balanced results
 • Adding value for customer

- Leading with vision, inspiration & integrity
- Managing by processes
- Succeeding through people
- Nurturing creativity & innovation
- Building partnerships
- Taking responsibility for a sustainable future

The EFQM Excellence Model is used for implementing fundamental concepts of excellence and the RADAR logic. In addition, the model may be used to form the basic management structure. But most importantly, the EFQM model enables the reconciliation of different management tools and philosophies. (EFQM 2010.) Martín-Castilla & Rodríguez-Ruiz (2006: 135) define the EFQM Model as a "suitable framework for the governance of organisational knowledge" comprising the elements of *total quality management* (TQM). According to Bou-Llusar, Escrig-Tena, Roca-Puig & Beltrán-Martín (2009: 1), "TQM is an approach to management […] which needs to be put into practice through a specific framework" such as the EFQM model. In other words, EFQM is a structured means by which TQM can be applied. In fact, TQM implementation can be achieved by adopting the EFQM framework.

The EFQM model is illustrated through nine criteria, as seen of Figure 4 which are divided into two groups; *enablers* and the *results* ensued. According to Martín-Castilla & Rodríguez-Ruiz (2006: 138) "enablers are a set of criteria that offer a relevant approach for the achievement of excellence in organisational results". Results are achieved through enablers that lay the foundation for any possible alteration of business. At the same time, the criteria evaluate the organisational orientation towards excellence. The corner stone of the EFQM Model lies on collaboration; it seeks to support organisations and its management by focusing on creating customer value through efficiency, experience, and innovation in order to implement strategies (EFQM 2010; Martín-Castilla & Rodríguez-Ruiz 2006: 137). Learning, creativity, and innovation generate a communication flow towards the enablers, producing an improvement in the results: The cycle of innovation and continuous improvement adapting to the Deming cycle has been formed. (Martín-Castilla & Rodríguez-Ruiz 2006.)
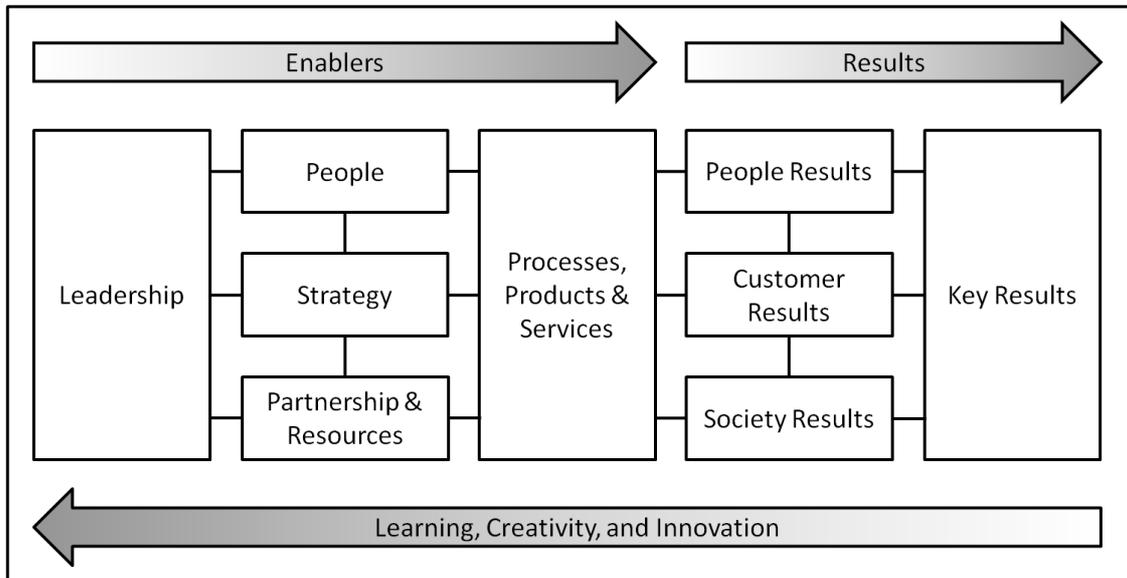
Figure 4. The EFQM-Model of Excellence (EFQM 2010).

Martín-Castilla & Rodríguez-Ruiz (2006) represent that the "EFQM model offers a strategic framework for knowledge management and innovation". The model enables organizations to develop and elicit their own intelligence through learning, resulting to the redesign and transformation of the process. The model can also be used to achieve innovations and more efficient organizational structures. According to Martín-Castilla & Rodríguez-Ruiz (2006: 137, 153) the EFQM model provides the management a systematic structure of thinking that may also be used for reporting, where organisational consciousness is considered as a trigger.

3. COMPLAINT MANAGEMENT

"Everyone in business hates complaints" (Stauss & Seidel 2004: 1).

It is easy enough to drive customers away. The quotation above presents the predominant attitude towards complaints: they take place when something goes wrong, with no one willing to deal with the topic. If a customer fails to express oneself about something that went wrong, the firm stands to lose: an opportunity for the firm to improve has been missed. But if a customer does complain, it should be considered half-victory: customers that are lost are usually the ones that do not even bother to complain (de Matos, Rossi, Veiga & Vieira 2009: 471). In order to retain existing customers, monitoring customer satisfaction is merely not enough (de Matos *et al*. 2009: 462). Instead, customers should be encouraged to complain: the lifetime value of a loyal customer is too valuable to be ignored. Taken on an efficient level, complaint management makes for happy and loyal customers, who actually account for an unusually high proportion of sales and profit growth (Heskett, Jones, Loveman, Sasser Jr. & Schlesinger 2004). (Huppertz 2007.)

It is important both to delight and to avoid disappointing the customers. Long-term strategies are taking place to both retain and expand the current customer base (Hansen 1997). Stauss & Seidel (2004) mention customer-oriented corporate policy as a critical success factor, but complaint management should be more than just a basis for corrective actions. Complaint management provides businesses a cost-effective channel to collect valuable information about customer expectations and needs through problems that customers experience (Barlow & Møller 1996; Stauss & Seidel 2004). In support of complaint management, a systematic process for obtaining this information from the customers is of great value (Fundin & Bergman 2003: 55).

Jones & Sasser Jr. (1996: 57) mention five different ways for gleaning information regarding customer satisfaction and preferences: satisfaction surveys, feedback, market research, customer service, strategic measures. This research is based on the second alternative (*feedback*) in pursuance of *customer service* and *strategic measures*.

3.1. Introduction to Complaint Management

Complaints can arise from a variety of situations such as delivery, product, or service problems. Ineffective complaint management is one of the major flaws among firms. According to Stauss & Seidel (2004: 34), complaints contain specific indications of organizational weaknesses. Teng, Ho & Shumar (2005: 140) note that disagreements and conflicts (on warranty problems) are due to inaccurate classification and insufficient information, which is also true on complaint related issues. Whether an organization is complaint friendly or not will be determined via complaint handling practices and customer willingness to complain (Barlow & Møller 1996: 138). By adjusting the complaint handling policies and processes, firms' signal whether it is easy to complain and is success likely or not: customer's willingness to complain depends on the probability of a positive outcome (Huppertz 2007). Effective complaint management should always result in customer satisfaction, catering also operational and financial improvements (Johnston 2000; Stauss & Seidel 2004). To reach the target, several aspects (e.g. employee satisfaction, customer satisfaction) must be taken into account.

To date, complaint management has not been broadly discussed in the terms of scientific research. Most research has been focusing on complaint behaviour and carried out from the non-western, business-to-consumer point of view (Liu & McClure 2001). According to a study by Stauss & Schoeler (2004), most companies do not actually calculate the benefits of complaint management or measure complaint management profitability at all. Added to this, Barlow & Møller (1996) argue that most companies do not even have a complaint policy.

3.1.1. Definitions

Complaints witness the fact that customers have not been satisfied and contain concrete evidence of existing problems. The complaining process usually starts when someone is told about a problem and asked to solve the cause of the complaint (Hansen, Swan & Powers 1996). The term "complaint" may be defined in several different ways. Barlow & Møller (1996: 11, 20) consider complaints as a statement of customer expectations that have not been met. Stauss & Seidel (2004) remind that complaints, as intentional expressions of customer dissatisfaction, offer firms an opportunity for improvement, and define complaints as follows:

Complaints are articulations of dissatisfaction that are expressed toward firms and/or third-party institutions with the aim of making a provider aware of a behaviour that is subjectively experienced as harmful, receiving compensation for adverse effects suffered, and making a change in the criticized behaviour (Stauss & Seidel 2004: 16–17).

From the case organization's point of view, complaints (i.e. reclamations) may be seen as the operative handling of a situation in case of, for example, transportation damage or quantity mismatch. Complaints offer organizations an opportunity to retain its reputation and customer base by correcting the problem (e.g. Barlow & Møller 1996; Hansen *et al*. 1996; Stauss & Seidel 2004). In addition, complaints provide organizations valuable information regarding customer preferences and, best case scenario, future expectations (e.g. Barlow & Møller 1996; Martín-Castilla & Rodríguez-Ruiz 2006; Vareila-Neira *et al*. 2010). Well utilized, this information may be used to improve the quality of products and services offered making complaints even desirable for the organization (Hansen *et al*. 1996).

Fornell & Wernerfelt (1988: 289) make a clear difference between warranties/guarantees and complaint management that they consider a "more general undertaking". Contrary to warranties/guarantees that represent a limited provision, complaint management provides consumers different levels of compensation on both services and products. Added to this, complaint management leads up to facilitate voicing of complaints with an interaction with quality and continuous improvement. (Fornell & Wernerfelt 1988.)

3.1.2. Complaint Management Objectives

"One of the common mistakes what comes to complaint management is that firms refer to low rates of complaints and high level of satisfaction that is reflected in the corresponding results from customer surveys" (Stauss & Seidel 2004: 2).

Complaint management is not about minimizing the number of complaints, but to get the most out of the feedback submitted by the customer; information that may be utilized in both active and proactive decision making in terms of current and future customers (cf. Fundin & Bergman 2003). Stauss & Seidel (2004) emphasize complaint

management as the core of a customer-oriented corporate strategy, in which the organizations has to take the first step, as well-described by Fornell & Wernerfelt (1988: 296): "Unless the firm encourages complaints and is well equipped to deal with them, it seems reasonable to assume that the segment of customers who complain and remain loyal would be quite low". Added to this, Bosch & Enríquez (2005: 30) highlight the importance of "capturing, analyzing, and translating customer complaints into adequate actions for focuses improvement", which is required to maintain competitiveness within service economy.

From the problem solving point of view, Gruber *et al*. (2010) emphasize the importance of straightforward action to clearly and quickly analyse and address the problem causing the complaint. Complaint management involves monitoring and controlling the whole value chain throughout the process reaching out from the customer to the supplier. In addition, complaint management supports controlling different flows of information; viewing, sharing, and documenting. In optimal case, complaints should evoke companies to pay attention to their own processes and therefore lead to the identification of problems and their corrective actions (Johnston 2010: 63).

As seen on Figure 5, core operation tasks of complaint management have points of resemblance to the Deming Cycle (cf. Figure 2). They involve designing and planning the system jointly by controlling and executing the plans of improvement. Like for every process, complaint management performance needs to be monitored and evaluated regularly in order to achieve the level of sustainability.

Figure 5. Core-Operation Tasks of Complaint Management (Johnston 2000).

3.1.3. Direct and Indirect Complaint Management

Stauss & Seidel (2004: 32) split complaint management into *direct* and *indirect* complaint management based on customer involvement: In *direct* complaint

management, all tasks relate directly to an individual case and actions related to solve the case. *Indirect* complaint management, for one, includes all tasks in which the customer is not directly involved. As seen on Figure 6, *Customer Relationship Management* (CRM) has a strategic impact on complaint management. Both employees and organization resources are required in order to effectively perform direct and indirect complaint handling tasks. (Stauss & Seidel 2004.)
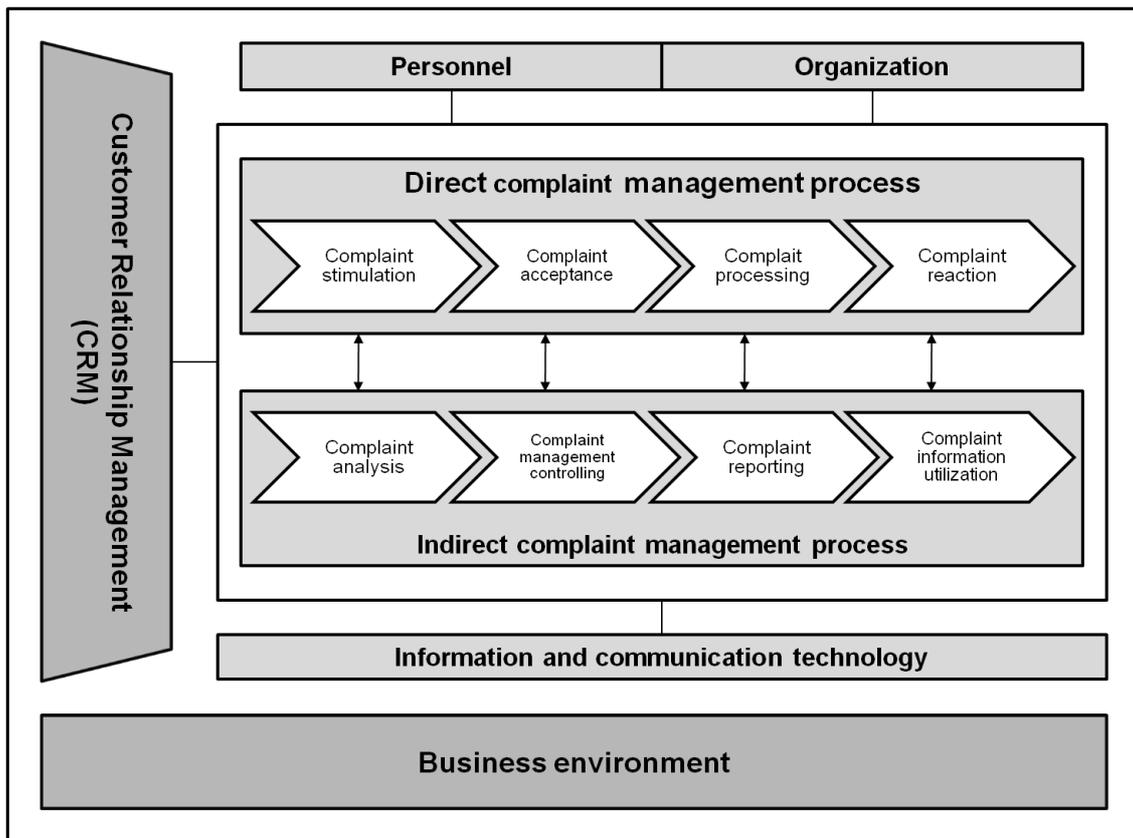
Figure 6. Tasks and Business Environment of Complaint Management (Stauss & Seidel 2004: 35).

As seen on Figure 3.2, the group tasks of direct complaint management are split into four (Stauss & Seidel 2004: 32): complaint stimulation, complaint acceptance, complaint processing, and complaint reaction. *Complaint stimulation* concentrates on assuring customers a well-designed channel to voice their complaints. *Complaint acceptance* pays attention to the complaint input and documentation, which is the key factor of utilizing complaint information by systematic analysis. *Complaint processing* is about the systematic design of complaint settlement. This means identifying and

modelling the actual handling process and defining the categories along with responsibilities related to each task. Once every processing step with its contents is chronologically documented, utilizing complaint data becomes more convenient. *Complaint reaction* defines the fundamental guidelines according to which the firm reacts to customer complaints. (Stauss & Seidel 2004.)

Within these steps, effort shall be put into the active processing of incoming complaints. Therefore, employee empowerment and accessibility must be taken into a level where performing necessary actions is possible. Contents of the document, categorization of those contents, and the form of the documentation are given high priority. In case of written complaints (i.e. case company), intermediate replies and final answers represent the firm and therefore have great influence on the "*moment of truth*" – first and the most important expression that defines how the service process is composed of towards the customer (Grönroos 1988). Hence, responsibilities related must be clearly defined in order for the company to react instantly. (Stauss & Seidel 2004.)

Once the phase of "reaction" is over, the process continues to indirect complaint management, which is invisible to the customer: indirect complaint management includes all tasks in which the customer is not directly involved. *Complaint analysis* involves both qualitative and quantitative analysis that is essential for creating a pattern for different types of complaints. Quantitative analysis is mostly based on complaint volumes, lead-times, and prioritization. Qualitative analysis concentrates more on the solving process prospecting for possible targets of improvement. The role of *complaint management controlling* is to assure the level of quality by monitoring and evaluating the complaint management process and to estimate the cost-benefit effects of the complaint management function. The main objective of *complaint reporting* is to assure that the complaint information is accessible throughout the organization to the various internal target groups. The focus of key performance indicators used depends on the strategic focus of the organization. The main objective of complaint management is to provide substantial contribution to the organization's quality system. In order to take full advantage of the measures of improvement offered, systematic *complaint information utilization* must take place. Naturally, effective utilization requires for all the other phases to support this function. (Stauss & Seidel 2004.)

3.2. Complaint Management as a Strategic Tool

3.2.1. Customer Satisfaction

"Trust and loyalty can, however, be neither forced nor bought; they must be won based on positive experiences" (Stauss & Seidel 2004: 3).

In context of customer satisfaction and lifetime value, customer focus has become top priority. Customer loyalty drives profitability and growth (Heskett *et al*. 1994: 165), which have an important role in improving business operations. The level of customer satisfaction is not adequate indicator to base strategic decisions on. In addition to customer satisfaction surveys, organizations should look for alternative ways to communicate with current, former, and future customers. Long-term strategies are taking place to both retain loyal customers and expand the existing customer base to new customers. With continuous growth important, customer satisfaction is essential for enhancing the long-term relationships. (Hansen 1997.)

According to Stauss & Seidel (2004: 3, 10), complaint management can be seen as the heart of *customer relationship management* (CRM), which they define as the "totality of corporate measures for the systematic initiation, development, maintenance of customer relationships". CRM is also to include customer relationship termination and re-initiation, in which complaint management belongs to. Jones & Sasser Jr. (1996) list three most typical conceptions of customer satisfaction: First, highly satisfied customers may be left unheeded. Second, because of low yield on investing in customer satisfaction, it is not worth the investment. Third, customers with high satisfaction do not justify the organization to focus solely on dissatisfied customers. In context of correlation between customer satisfaction and customer loyalty, these hypotheses stand inadequate. (Jones & Sasser Jr. 1996.)

A positive correlation exists between the significance of customer satisfaction and the level of competition (Jones & Sasser Jr. 1996: 55). In other words, competition generates the customer a freedom of choice by providing substitutive goods, from which to choose from. Barlow & Møller (1996) explain complaint management through a psychological principle called *reciprocity*, which may be clarified by the saying;

"favour for a favour". In order to stand out, Jones & Sasser Jr. (1996: 55) emphasize the concept of added value (cf. Womack *et al*. 1990; Womack & Jones 1996; 2005).

According to Jones & Sasser Jr. (1996: 56) customer satisfaction comprises four elements that are linked together: basic feature of goods, ordinary support services, service recovery, and additional services. On a global level, the interest has lately been clearly focused on additional services rather that to basic goods. Consumption decisions are made based on availability of different services to extend the user experience beyond the initial offering, in which scale advantages play a key factor. Similarly, scale advantages and power are an important variable of organizational relationships. Hansen *et al*. (1997) bring out the concept of *perception of power*, which is usually in larger party's (= more influential) favour. This may be seen in practice, when the biggest vendors may dictate workings, as smaller vendors acquiesce in the proposed arrangement. However according to Hansen (1997), the use of power in buyer/seller relationships has shown to foster merely negative results.

3.2.2. Complaint Behaviour

A low volume of complaints does not indicate customer satisfaction (Stauss & Seidel 2004). Customers that restrain themselves from complaining may conclude that it is not worth the effort of going through the whole process of voicing a complaint (Huppertz 2007: 428) and is therefore dependent on the expectation of the effort (time and/or money) involved (Owens & Hausknecht 1999: 35). Instead, switching supplier because of dissatisfaction caused may feel attractive in context of cost-benefit trade-offs. If interdependence would exist, a service recovery would be favourable to both sides of the contract: concluding collaboration signals a lack of dependency. In addition to switching suppliers, unsatisfied customers may also result in negative word-of-mouth driving potential customers away (Huppertz 2007).

Complaint behaviour – from the viewpoint of both the complainer and the party responsible for handling the complaint – has a great impact on the final result. The research of by de Matos *et al*. (2009) showed that variables such as gender, age, and education do not influence customers' attitude towards complaining: complaint behaviour is conditional on personality and attitude towards complaining. Owens & Hausknecht (1999: 36) note that the outcomes of the complaint process are determent

by response the consumer receives from the organization's complaint handler. While companies have little or no control over consumer complaint behaviour, cost-benefit assessment of pre-complaint consumers is possible (Huppertz 2007: 429). The least a firm can do is to encourage customers to sound their concerns through complaining.

Jones & Sasser Jr. (1996: 54) point out that on a scale from 1 to 5, customer satisfaction is already perceived brilliant at 4 and improving it to 5 is seen as gratuitous work. In other words, the service level below the highest grade is perceived sufficient. However the expected lifetime value of loyal customers tells a different story making effort on each level of satisfaction worth the effort. Influencing the way employees handle customer complaints can increase customer satisfaction. By the same token, Huppertz's (2007) research showed that firms could influence customers' complaint behaviour by altering their own complaint handling processes. This involves adjusting different factors (e.g. willingness to be of service) that have an impact on customer satisfaction and the process of voicing a complaint. The research by Owens & Hausknecht (1999) showed that by improving the complaint handling process that was perceived much of a burden on the consumer, the return rate raised from 22 per cent to 48 per cent (that actually indicates an increase of 118 per cent in terms of receiving information on customer preferences)! Well-utilized, this information may lead to maximized customer satisfaction as the ultimate commitment pursuing for securing customer loyalty and improving financial performance (Jones & Sasser Jr. 1996: 55).

3.2.3. Service Recovery

Complaining customers are among the most loyal customer in the market (Barlow & Møller 1996). And even if they were not, they might become one if the company's complaint handling process surpasses their expectations. In order to succeed, organizations must be aware how customers react to service failures (de Matos *et al*. 2009: 462). In case of a complaint an effective *service recovery* – the process of making right what went wrong – is critical in order to restore customer satisfaction back to the level where it (Barlow & Møller 1996: 73). In order for a service recovery to take place, the company needs to be aware a problem occurred. In other words, companies may not be aware of prevailing problems unless customers complain about them. This means that customers, who switch or just disappear, prevent the company from fixing their problem.

The conceptual model of de Matos *et al.* (2009) examines the main variables of a service recovery. These include failure, recovery, and perceived justice, from which failure may be measured through magnitude and recovery through responsiveness. Their study showed that customers with higher attitude towards complaining were more likely to complain regardless of their level of satisfaction. The presumable complainers also showed a stronger alteration on satisfaction via service recovery. A mutually fair complaint process and a convincing service recovery will increase the possibility of positive word-of-mouth enticing new customers. As a result, the importance of these variables was seen to have a positive correlation with those more likely to complain. (de Matos *et al.* 2009.)

In context, Hirschman (1970: 4, 19) represent that organizations have two alternative routes to find out about their failings: *exit* and *voice* – market (economics) and non-market (politics) forces. The exit option is as earlier described: customers leave without a sound resulting in revenue drop and leaving the management to figure out the question of what went wrong. In the voice option, customers express their dissatisfaction and thereby open up a possibility of service recovery; the organization to solve and fix the problem. (Hirschman 1970.)

The success of a service recovery is dependent both on the frontline employees and the systematic complaint solving process beneath: a service-oriented frontline employee will not do much good if the actual solving process is ineffective – and vice versa. However, Johnston (2000) notes that the cause of customer dissatisfaction is not necessarily the failure itself but the organisation's response to a failure. Handled the right way service recovery may even raise customer satisfaction beyond expectations. Employees may be trained to sense and respond with a style suitable for each customer (Hansen *et al.* 1996; 1997). Homburg & Fürst (2005: 108) note that even satisfaction that has cumulated over time will not matter if a service recovery fails: "ineffective service recovery and an ineffective complaint policy can start a negative chain reaction leading to poorer quality service and products, as well as increased risk in the marketplace" (Barlow & Møller 1996: 33).

3.2.4. Complaint Management Profitability

A complainer presumes that the cost of complaining does not exceed the benefits of complaining (Hansen 1997; Hansen *et al.* 1996; 1997). In addition to improving customer satisfaction, efficient complaint management should minimize potential damage caused by complaints. Just like quality, complaint management success can be measured against customer expectations: complaint management may be considered successful as customer expectations exceed. In addition, complaint management should focus on products of high profit and of high quality (Fornell & Wernerfelt 1988: 288) just like organizations tend to prioritize their most important customers. Regardless, complaint management costs and especially benefits may be hard to define, as worst implications remain only hypothetical. Best-case scenario, complaint management rewards both the company and the customer with additional value: while the customer receives a higher level of service, the company receives valuable feedback as return. (Vareila-Neira *et al.* 2010.)

According to Barlow & Møller (1996: 22), direct complaints that customers channel to businesses are the most cost-effective way to receive information about customer expectations. Other options include, for example, benchmarking and external auditors. de Matos *et al.* (2009: 471) suggest segmenting the customers according to their complaint behaviour in order to maximize the outcome. Effective complaint management may be used to reduce both external and internal failure costs. Systematic analysis of the complaint information may help the firm to point out internal flaws. In addition, complaint information may be for external cost savings by adjusting complaint handling processes according to the complaint statistics. (Stauss & Seidel 2004.)

Stauss & Schoeler (2004) highlight the importance of systematic consideration by developing methods to gather the required cost information in order to determine all relevant cost elements. Even though complaints do provide "cost-free" channel for customers to bring out their concern, both direct and indirect costs are involved (Bosch & Enríquez 2005: 31). It may not always be possible to reduce the direct cost of complaint handling but indirect cost reductions are possible through improvements that prevent future failures, originally brought up by the customer (Johnston 2000: 63). By proper handling of complaints, customer dissatisfaction may actually be transformed into satisfaction (Bitner, Booms & Tetreault 1990). Fornell & Wernerfelt (1988: 288) analysed complaint management rather as a defensive tool, which both satisfied current

customers and restrains them from switching suppliers. Johnston (2000) finds a significant, positive correlation between efficient complaint management and financial performance that may be exploited through service recovery. He also emphasizes the importance of improving operational business processes and satisfying firms own employees in order to reach these goals. Complaint costs are mostly generated during the processing of complaints and by streamlining the process, costs will be cut (Stauss & Seidel 2004). Naturally, cost must be examined in relation to the benefits that can be achieved. Still, it seems that beneficial complaint management is still quite rare among most organizations. Despite the cost, complaints do provide priceless information as a trade-in.
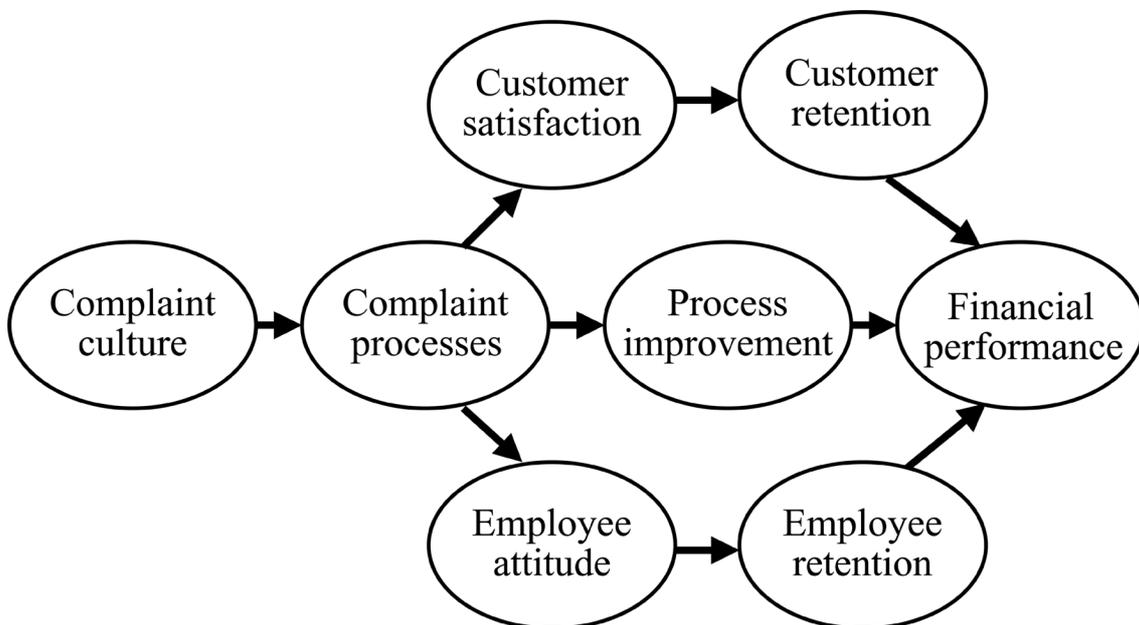
Figure 7. The Conceptual Model of Complaint Management (Johnston 2000: 62).

The above figure (Figure 7; Johnston 2000) illustrates the components of complaint management. Together with a systematic complaint process, both customer and employee satisfaction are required for complaint management to reach the sustainability towards financial performance. Stauss & Seidel (2004: 30) state that profitability and competitiveness are the key factors of complaint management. In order to increase these factors, the global aim of complaint management should be reviewed from three different viewpoints (Stauss & Seidel 2004: 30): 1. Restoring customer satisfaction; 2.

Minimizing the negative effects of customer dissatisfaction; 3. Using the indications of operational weaknesses and of market opportunities that are contained in complaints.

3.3. Elements of Cost-Effective Complaint Handling

Customer behaviour has changed in the course of time. Scott *et al*. (1998) note that generous return policies started to vanish in the 1990s in favour of more restrictive ones due to their cost. Stauss & Seidel (2004: 166) note that complaint management contains both direct and common costs on the grounds of whether they can be assigned to a certain good or function or not, whereas Teng *et al*. (2005) consider accurate cost determination as an ultimate objective of complaint management. As complaint management costs are mostly operative (e.g. complaint processing, human resources), they may be lowered through process identification and determination of cost drivers (cf. *lean*, *value stream mapping*). Interestingly, the study by Fornell & Wernerfelt (1988: 296) showed that "complaint management is more effective the greater the number of competitors and the higher the quality elasticity of demand".

The costs of complaint management improvements are justified as long as they are consistent with organizational goals (cf. Owens & Hausknecht 1999). As cost-awareness is still crucial, Huppertz (2007: 430) proposes three actions to lower the cost and increase the probability of customer complaint voicing by affecting the perception that voicing complaints is easy:
1. Employee empowerment
2. Hassle
3. Accessibility

3.3.1. Employee empowerment

Those responsible for handling complaints represent the frontline of the company by having direct contact with the customer. In context of customer satisfaction, Jones & Sasser Jr. (1996: 61) note that the importance and role of measuring customer satisfaction and loyalty should be highlighted in pursuance of ensuring that the process is objective and logical. The lack of empowerment is visible through, for example,

missing authority to apply remedies (Huppert 2007: 430). Undesirable experiences can results in negative consequences for customers and can cause loss of future potential business. Huppertz (2007: 430) claim that empowerment of employees to handle complaints will especially affect suspicious customers making the firm more approachable and lower the threshold of voicing a complaint.

Martín-Castilla & Rodríguez-Ruiz (2006: 137) consider people as the most valuable asset in an organisation. Barlow & Møller (1996: 176) equal employee empowerment as the "foundation of the company's total quality management and continuous improvement". According to Stauss & Seidel (2004: 1), complaints are often passed down through hierarchy which means management is not even willing to deal with them, although complaint management should be of strategic importance. However in a *lean* organization, responsibility is pushed far down the hierarchy to empower employees in order to increase productivity by offering employees a continuing variety of challenges (Womack *et al.* 1990). Vareila-Neira *et al.* (2010) point out, that employee empowerment requires the authority to act quickly in order to adapt to the customer's needs, as processes of approval tend to become lengthy. In this context, the employee may actually affect their own empowerment if given a chance to voice their ideas and be listened to by participation and having input into the solution Knippen & Green (1997: 98).

Like the system that is used to manage complaints, employees play an important role on enabling the complaint management function. The study by Fundin & Bergman (2003) showed that the standard practice of receiving and solving complaints are substantially of the same kind, and that customer claims are of high priority within the organizations and induce improvements of the product development processes. One organization had also appointed a specific "case manager" with an overall responsibility jointly with a team with responsibility of assigning and transforming the complaint into a useful problem description. One case organization had also introduced a project that aims to improve the product development process, based on customer complaints. (Fundin & Bergman 2003.)

3.3.2. Hassle

According to Huppertz (2007) and Stauss & Seidel (2004), companies may intentionally complicate the complaint process by making it more difficult for customers to voice complaints. In context, Davis, Hagerty & Gerstner (1998) introduced the idea of optimal level of "hassle", irritating inconvenience, which would prove out profitable for the company. Hassle is defined as features that complicate and slow down the process of complaint management. These features include, for example, filling out forms, requiring managers' approval, or applying extra charges. In addition to hassle, restrictions are an alternative way to control excessive returns and complaints. (Davis *et al*. 1998.)

Although the concept was defined from the return and refund point of view, it may be selectively adapted into situations where customer contact is involved. Causing hassle may also be used to channel customers to use particular methods of voicing complaints, because customers will most likely choose the least difficult method (Huppertz 2007). Estimates of disadvantage created by different types of hassle would allow managers to evaluate the trade-offs between different combinations of hassle and price (Davis *et al*. 1998: 457). In other words, different types of hassle should be categorized and measured out just like firms categorize and analyse complaints.

The ratio in which complaint solving tasks are delegated between the firm and the customer is for the firm to decide. The amount of time and effort do perform different tasks is inversely related to the other side's workload, in which company contribution is seen as an investment in customer satisfaction (Huppert 2007: 430). Davis *et al*. (1998: 447) note that "the cost associated with hassles is more difficult to quantify and is therefore likely to be less negatively perceived by consumers" compared to partial or full (monetary) refunds.

On the other hand, Womack & Jones (2005: 129) emphasize "consumer's value of time and sense of hassle" as critical determinants while sorting out their problems. The key here is to find the optimal level of hassle that offers the organization the possibility for cost-effective complaint handling that is enough to keep the customers satisfied. To provide better understanding Womack & Jones (2005) make an example of airport check-in queues: Customer waiting time is considered free of charge (from the carrier's point of view) leading to the question whether to reduce it at the carrier's own expense? No, unless the customers value their time as worthless and vote with their feet.

3.3.3. Accessibility

A complaint may actually originate from lack of efficient communication at some point of the business process (Hansen *et al.* 1997). In context of Huppertz's (2007) idea of lowering costs and increasing complaint probability, accessibility is something that strongly affects the complainer's willingness to complain. Hansen *et al.* (1997: 65) remind that complaint response types may vary all the way from contacting vendor about a problem to warning other buyers about poor vendor performance.

Aforementioned, the research by Owens & Hausknecht (1999) showed that by improving the complaint handling process resulted in increase in percentage of complaint forms returned. Equally, the improved level of accessibility reverberated to an increase in the number of returned customer satisfaction surveys.

The level of service you expect and the level of service you receive will highly affect your future preferences. But in order to receive service, you first need to express your concern. The level of accessibility reveals whether an organization is easy to approach and more importantly whether a complaint is easy to file, in which the best single indicator may be the increase in percentage of complaints voiced resultant of process improvement (Owens & Hausknecht 1999). Contrary to employee empowerment and hassle, accessibility is more of an interface than a separate task among complaint solving (cf. Huppertz 2007). Huppertz (2007: 429) notes that researches have proposed several methods to encourage complaining (e.g. toll-free telephone numbers), but there is no evidence on the influence.

In context, Stauss & Seidel (2004: 30) note that complaints contain indications of organizational weaknesses and market opportunities. Clarifying complex structures and procedures will make communication easier and lower the complainer's threshold of taking action. By the same token, simplified structure will lead to lower costs. Hansen *et al.* (1997) also remind of the possibility of complaint behaviour that may damage the company's reputation. In this case, the costs of complaint processing and problem solving for the company will rise (Stauss & Seidel 2004). Hansen *et al.* (1996) note that communication links between the buyer and the supplier may be improved to increase accessibility.

As a results, the study of Huppertz (2007) manifested that although the actions reduced perceived effort required to complain, they had no influence on customers' complaining intentions, because other than firm controlled effort-related factors influence the customers' choice. In other words, firms can influence the situational variables, but not the personality and attitudinal ones. Regardless, it is up to each firm to decide which of these important factors to invest resources in.

3.4. Customer Complaint Management System (CCMS)

Just as present-day corporate strategy, complaint management should be of customer satisfaction and orientation. Fornell & Wernerfelt (1988: 297) discovered a slight paradox between the complaint volume and the personnel responsible for their handling: The purpose of complaint management activities is to encourage consumers to voice complaints granted that an increase in volume may not be perceived favourable by the personnel. Complaint volumes also have the tendency of increasing after the establishment (or improvement) of complaint management systems. Bosch & Enríquez (2005) summed the significance of complaint management systems felicitously:

> *"A successfully implemented complaint management system can change the perspective of complaint management and transform the process of answering complaints from a trivial activity to a more exciting process-design and learning experience, renovating the spirit of continuous improvement towards service excellence."* Bosch & Enríquez (2005: 30)

Customer Complaint Management System (CCMS) is a common expression of systems for managing complaints. In CCMS's context, Bosch & Enríquez (2005) proposed a model that includes "tools and concepts from total quality management (TQM) and quality functions deployment (QFD)" based on the *Deming cycle* (cf. Chapter 2.2.4.). The model integrates methodologies of, for example, problem solving in order to change the perspective of complaint management and transforming the process into learning process towards service excellence. (Bosch & Enríquez 2005.)

According to its authors implementing CCMS is simple and does not require significant investment (Bosch & Enríquez 2005: 30). As seen on Figure 8, the CCMS model contains seven steps, which are all based on the Deming cycle and traceable to a TQM

methodology such as 8D (cf. Chapter 2.3.2. (Bosch & Enríquez 2005: 32). The steps may also be seen to consist of tasks related to the three operative objectives and main tasks of complaint management; collation, analysis, and utilization.

The first steps involve documenting the voice of the customer and translating it into customer needs and/or problems. After defining the problem, the affected processes are analyzed and the causes determined in order to exploit the customer needs in terms of improving the service. In step 5, *FMEA* stands for *failure mode effect analysis,* which is a framework for guidelines of deployment for the methodologies of problem solving. It serves as a basis for detecting failures and preventing recurrence. To maintain and improve customer loyalty, it is important to give the customer an explanation and let them have the final word. When the process is finished, metrics shall be updated accordingly.
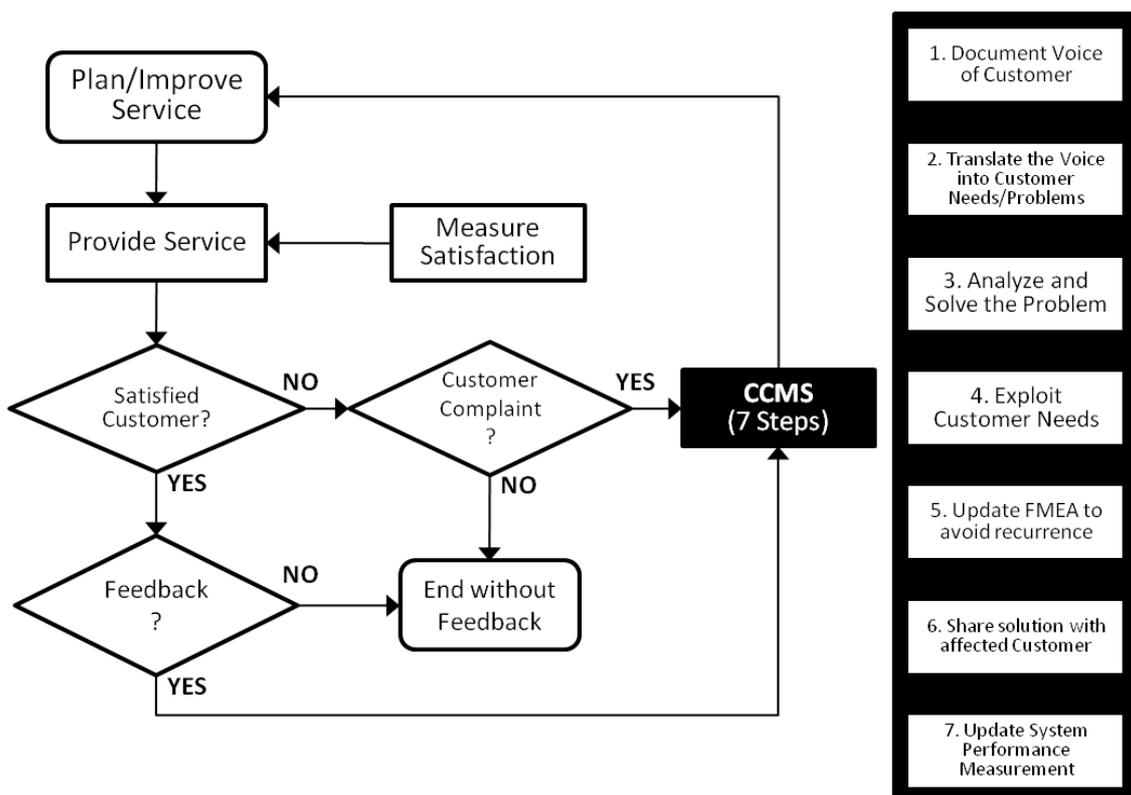

Figure 8. The Model of Customer Complaint Management System (Bosch & Enríquez 2005: 32).

The workflow of improving the process begins with the planning of a new or improving of an existing service of complaint management. As complaint management should be based on customer needs, so should the system in use. Once customer preferences have been taken into account, the current system is analysed from the viewpoint of the customer. Most importantly, the solution is also shared with the affected customer in order to acquire feedback from the actual trigger party of the whole process.

Bosch & Enríquez (2005) point out three indicators that may be used to measure CCMS success:
1. Time to respond to a customer complaint; from receiving complaint to giving an answer to the affected customer.
2. Percentage of closed cases out of complaints received
3. Evaluation of service level
   (Bosch & Enríquez 2005: 32.)

By following the workflow, the model incorporates several key steps of tools and methodologies such as root cause analysis and/or 8D. Interestingly, their model includes both *negative* (customer complaints) and *positive* (customer satisfaction) expressions of feedback differing from prevailing systems of complaint management meant to handle only purely negative feedback. In addition providing an answer to the problems detected, such tools and methodologies provide a better understanding of customer needs and emphasize problem solving rather as a unique learning experience.

4. CASE COMPANY OVERVIEW

4.1. Case Company Introduction

The case company is one of the leading enablers of telecommunications services worldwide, operating in over 150 countries with more than 60,000 employees and with a customer base consisting of over 600 communication service providers. The product portfolio consists of mobile, fixed, and converged network solutions coupled with future technologies. Operational principles rely on cost leadership and customer satisfaction jointly with sustainable business and development.

In financial terms, reported net sales reached 12.7 billion euros in 2010 with a reported operating loss of 0.7 billion euros. In consequence of the economic downturn, the case company announced a retrenchment program in order to boost profitability. Against all odds, the organization targets to grow faster than its competitors. Priorities for 2011 are set upon driving for growth, capturing value, and reinvigorating.

4.2. Case Unit Introduction

The empirical study was conducted in a team of operative purchasing within the case-organization. Operational responsibilities of the case-team cover for example material availability and inventories, operative ordering and forecasting towards suppliers, category management, and inbound logistics project management. From the case-organization's viewpoint, *complaint management* includes the management of complaints both from the customers and towards the suppliers. This research focuses on the latter: delivery-based complaints related to the operative purchasing process (order-delivery process), and the communication interface involved.

Currently, this team follows the operative framework of "*Operations Excellence*". This framework consists of three different components together with enablers enclosed:
- Management System (EFQM)
- Mindset (Service Excellence)
- Operational Thinking (Lean)

5. COMPLAINT HANDLING OVERVIEW

5.1. Introduction to Current Practices

The mode of purchasing and type of delivery used defines the key factors determining the way tasks of complaint handling are performed within each unit. In case of the case-unit, the current business model founded on customer-order driven execution processes, which includes both direct customer deliveries and consolidated deliveries, is considered more customer-oriented compared to, for example, manufacturing operations.

The case company has introduced an internal tool called *COMPL* to improve the handling of delivery-based complaints. The purpose of this tool is to effectively control and monitor the *delivery complaint handling process* in pursuance of improving data management to provide accurate information for management level decision making and key performance indicators related. In addition, complaint data incorporates the basis for proper root cause analysis in order to perform corrective and preventive actions that play an important role in improving customer satisfaction.

Currently, there is an intermediary between the case-team and COMPL; a team of logistics management, which is responsible for coordinating the complaint solving task within the unit. In COMPL, sub-unit level interest groups relevant to complaint solving are assigned as *solvers*. In addition, each unit has a dedicated *coordinator* to coordinate and delegate incoming complaints. Within the case unit, logistics management is set as the owner of the solver role. Because of this, tool utilization is indirect and case-team buyers are not familiar with the actual tool. Per each complaint directed to case-team, the team of logistics management needs to forward the complaint to a case-team buyer (via e-mail) and act as an intermediary between the case-team and COMPL and/or customer team when requesting for additional details.

In comparison to the case-team, the operative purchasing team of manufacturing division handle their inbound logistics based complaints in SAP. In operative purchasing of the logistics division, both solutions (i.e. COMPL and SAP) are put to use depending on the mode of purchase meaning COMPL for customer-based deliveries and SAP for delivery-based deliveries.

5.2. COMPL-tool

5.2.1. Phase of Development

The COMPL tool was taken into use during 2009 as a replacement for its predecessor, which was considered a legacy from previous organization. The decision to replace the previous tool was made based on the high adapting and licensing costs in conjunction with discontinuance of the system platform. During the evaluation of a new solution, SAP was clearly the number one solution for complaint handling, even with its fairly higher costs. This was due to intention of implementing the complaint handling process as a part of the current SAP-based order-delivery process. However by the time of the evaluation, required modules and resources were not available leading to an exceptional approval for adopting a non-preferred platform (COMPL) into use. Accordingly, complaint management will be transferred into SAP as soon as required assets and resources are available. (Manager D 2010; Specialist D 2010; Manager F 2010.)

5.2.2. Process Overview

The COMPL enabled process of delivery complaint handling provides information about the general roles, responsibilities, and key activities within handling of problems related to customer deliveries. Problem types to be handled include, for example, incomplete deliveries, wrong items, and transportation problems. Faults in product and/or system hardware alongside warranty-related issues are handled outside the delivery complaint handling process.

The basic principle of complaint solving (incl. COMPL) is as follows:

Figure 9. Complaint Solving Workflow.

In COMPL, there are three kinds of roles: 1. *Complaint Originator*; 2. *Complaint Coordinator*; 3. *Complaint Solver*. In a typical delivery based complaint, customer team is considered the *Complaint Originator* – a role that involves the generation of complaint. Originator is responsible for providing all required information for the complaint processing and sending back wrong or defect material. At the end of the complaint process, they are also the ones to evaluate and accept the solution provided. The complaint input by customer team is delegated by the *Complaint Coordinator* that is determined by type of delivery, customer country, or unit responsible for solving the complaint. Coordinator acts as the first point of entry for clarifying complaint data and setting time constraints. Coordinator is also responsible for assigning the complaint to the right solver. *Complaint Solver* role ownership is case-specific (e.g. delivery hub, factory, material execution). Solver's duty is to either solve or reject the complaint on the grounds of information provided. Also, a role of *Complaint Process Owner* exists. Process owner refers to the quality organization in charge (e.g. operations' quality organization) and is responsible for defining, monitoring, and improving the complaint solving process. (Case-organization materials 2009.)

The information flow of COMPL has been split into different stages or "check points". Once a complaint is submitted to COMPL by the originator (e.g. customer team) a complaint coordinator will assign it to a complaint solver. The solver will then either solve the complaint by oneself or contact relevant interest groups (e.g. supplier) in order to receive an explanation. Once the problem has been solved, solver will enter the solution into COMPL. Coordinator will either pre-verify or reject the solution, from where the case is either sent to originator (for final verification) or return to solver (for requesting additional information). Once an originator accepts the final solution, coordinator may close the case.

1. Submit (complaint submitted into COMPL)
2. Assign (assigned to the proper solver)
3. Re-assign (re-assigned if necessary)
4. Planned (solver estimate on solving time)
5. Resolved (solver perceives complaint resolved)
6. Pre-Verified (COMPL coordinator pre-verifies/accepts the solution)
7. Verified (originator verifies/accepts the solution, coordinator inserts final acceptance into the tool)
- Rejected (complaints may be rejected during any phase)

5.2.3. Complaint categorization

Systematic documentation is based on well-defined categorization that is implemented according to the most common causes of complaints. The number of categories must be large enough to correspond to most complaints. However, an overly large number of different categories will results in ineffectiveness.

Accordingly, complaints received may be categorized into seven different causes of complaint (adapted from COMPL):

1. Damaged Item
2. Dead-on-Arrival
3. Handling/Packing Problem
4. Late Delivery
5. Quantity Mismatch
6. Wrong/Missing Delivery Documentation
7. Wrong Material
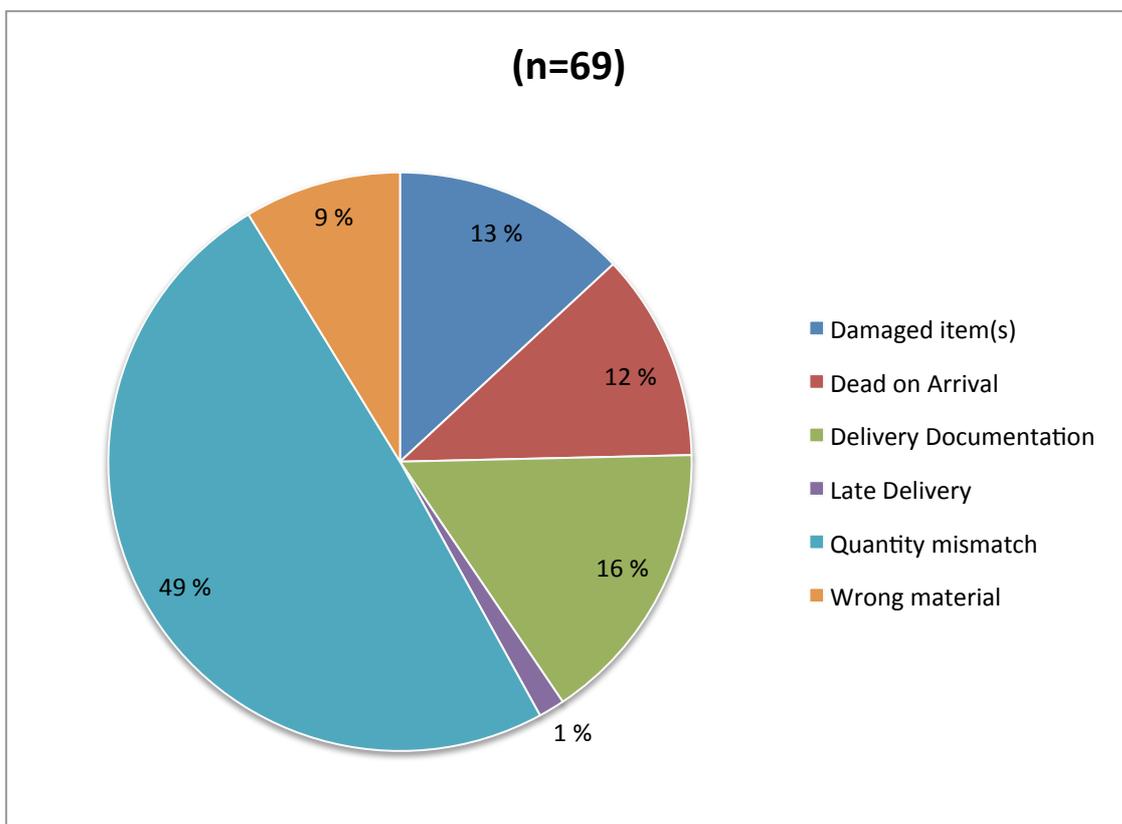
Figure 10. Complaints per Category (P6/2009–P12/2010).

As seen from Figure 10, quantity mismatch (e.g. missing items) is unquestionably the most prevailing fault. However, during the research came out that *quantity mismatch* is often used as a category in case of missing item(s) when quantity is considered "0". Most cases are caused due to missing small parts (e.g. individual cables) that have low financial value. Still, a missing cable might cause significant delays for the customer as installation or the whole delivery might be postponed. Based on the complication of reclamation statistics, more valuable parts are extremely rare to be found missing; such cases are more likely due to wrong type of items. The categorization also shows that the case of "Missing Item(s)" is actually left unheeded. As a consequence, a category for missing material should be created.

5.3. Current Level of Performance

Current level of performance was evaluated by analysing complaint data collected between P6/2009 (the launch of COMPL) and P12/2010. The data was exported from COMPL (18.2.2011) and contains therefore only cases that follow official process practices.

5.3.1. Complaint Volumes

Through quantitative examination, the monthly volume of complaints submitted to the case-unit via COMPL is relatively low (cf. Figure 11). Given the number of operative buyers, monthly complaint-per-buyer rate drops close to zero. Because of the low complaint volume per buyer, the actual solving process tends to become prolonged, as complaints are not perceived high priority. Typically, time is spent waiting someone else to take action. In other words, tasks related to complaint handling are swift to perform, but a process stretched out to include suppliers and customers requires time of waiting in order to receive input from different interest groups. As long as the number of possible solvers remains high in contrast to the low number of complaints, a streamlined workflow is hard to achieve. In addition, the degree of exploitation of COMPL must be enhanced in order to take advantage of its full potential.
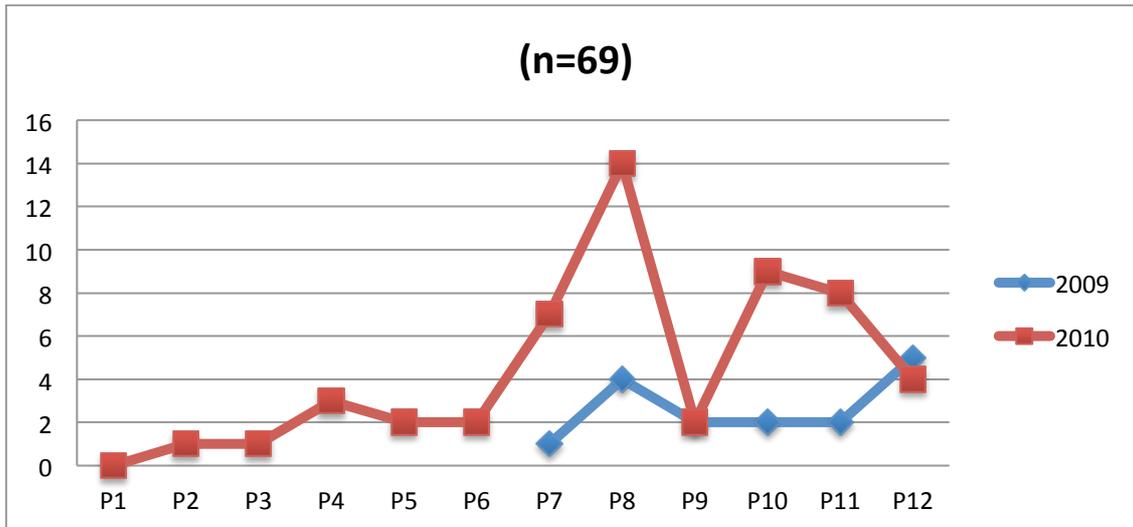
Figure 11. Monthly Volume of Complaints Assigned (N.B. COMPL was introduced during P6/2009).

Employees working in the COMPL solver function could not recall any specific reason for the jump during P8/2010 nor P10–P11/2010.

5.3.2. Process Lead Times

In theory, the average lead-time of the complaint process is relatively easy to define. In practice however, the process suffers from complaints sinking into oblivion. According to several buyers, complaint lead times tend to increase because each complaint is considered as an individual case deviating from the buyer's daily routines. Therefore, it is easily but unintentionally neglected while concentrating on the daily routines. Added to this, complaint handling was perceived low within the work task hierarchy having other tasks easily bypass it.

As seen on Figure 12, lead-times are divided into different phases. Once a complaint is submitted, coordinator will swiftly assign it to the correct solver. In case the complaint is assigned to an incorrect solver, re-assignment tends to be a time-consuming task. Not because it would require resources, but because complaints easily sink into oblivion upon uncertainty. What was noticeable was that 49 per cent of COMPL incidents have to be re-assigned (e.g. assigned to the wrong solver at first). The longest phase visible is the pre-verified-to-verified. At this point, coordinator performs a preliminary

verification of solution, which is then sent to the originator for verification. After the solution is verified for good, coordinator should receive a notice to close the COMPL case. However, after the resolution has already been made available, the process tends to stop there. No harm is done besides lead-time statistics being skewed by this. The sample of Figure 12 included all resolved COMPL cases (excl. 19 rejected and/or unfinished cases).
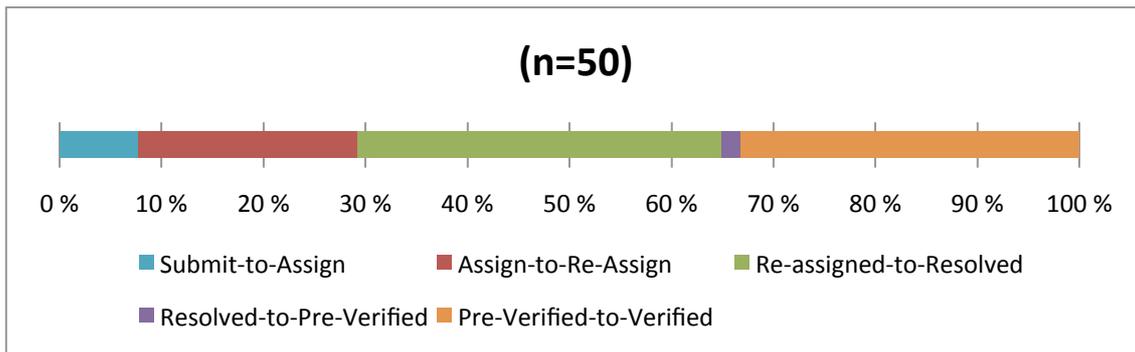
Figure 12. Time-Division Summary of COMPL Lead-Times (see Appendix 3).

Submit-to-Assign took an average of 10 days and Assign-to-Re-Assign 27 days. Once the case had finally reached the solving party (case-unit), resolving took an average of 45 days. Pre-verifying the resolution took an average of 2 days and Pre-Verified-to-Verified an average of 41 days.

5.3.3. Average Solving Time

As seen from Figure 13, 58 per cent of complaints are solved within 60 days, with an average solving time of 43 days once they are submitted to the case-unit. The most obvious reason affecting lead-times was not the workload, but the time waiting for the other party responsible for the next phase to take action. The sample of 50/69 to include 72 per cent of total COMPL assignments is explained by a number of unfinished and rejected complaints included in the sample.

(n=50)

	0-15 days	16-30 days	31-60 days	61-90 days	91-180 days
Quantity	13	10	11	9	7
Percentage	26 %	20 %	22 %	18 %	14 %
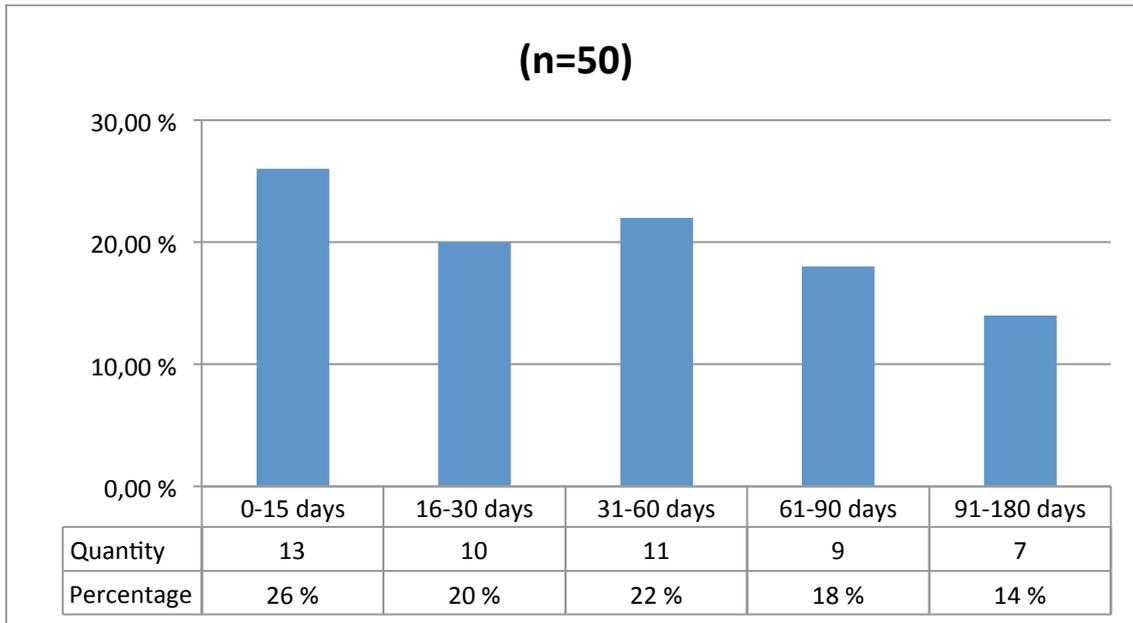
Figure 13. Assigned-to-Resolved; Lead-Time in Days.

5.4. Case Examples

5.4.1. Quantity Mismatch

A customer team from China reported, that 4 pieces of product A were supposed to be delivered bundled with 40 pieces of product B. Once the delivery had arrived, they noticed product B was not bundled at all. Due to the mismatch, project team was in an urgent need of the missing items. As explained above, "quantity mismatch" is being, in a way, misused in case of missing items.

The case was originally input to COMPL on August 23rd. First, it was assigned to the wrong COMPL coordinator. By August 26th the case was assigned to the case-unit. Once we picked up the case on September 2nd, it was planned to be solved by September 9th. According to COMPL logs, the missing cables were delivered on October 15th. Case-unit COMPL coordinator pre-verified the solution on October 25th and the originator verified the case on December 13th.
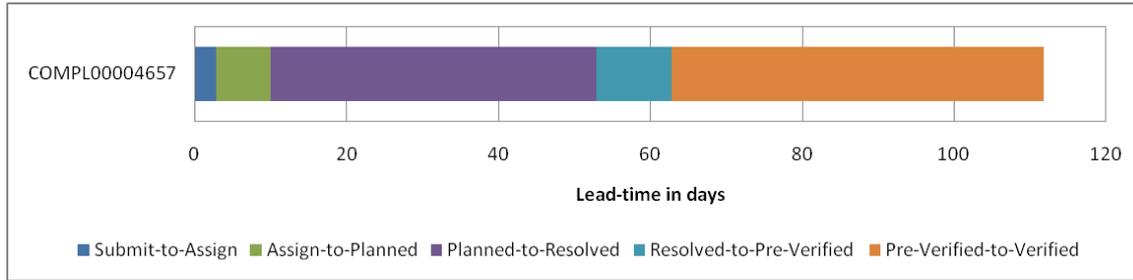
**Figure 14**. Case Example: Quantity Mismatch, Lead-Time in Days.

5.4.2. Transportation Damage

An operative buyer was informed of a shipment containing a wrecked package by the warehouse handling the delivery. In addition to the notice, buyer requested a photo to be attached. In order to check whether customer team (i.e. customer) will accept the shipment as such, buyer informed the logistics coordinator, who passed information to customer team.

Once customer team refused to accept the damaged object, buyer received information via logistics coordinator. In consequence, buyer contacted the supplier: As the object had arrived case company premises as damaged, supplier was considered liable for the damage. The buyer filed the supplier a complaint, which was followed by an e-mail exchange because the supplier was asking more details – one at a time. Lead-time wise, once first-hand notice was received, it took 48 hours to receive further documentation (i.e. photo). Receiving the refusal from the customer team (via *logistics coordinator*, cf. Chapter 6.2.3.) took approximately one week. Hence, first contact with the supplier was made 7 business days after receiving the first-hand information. According to the buyer (Buyer B 2010), logistics coordinator acts as the intermediary between buyer and customer team according to the official process workflow.

In case of visual parcel damage, a question of potential damage to the contents arises. However, exhaustive inspection may once again cause significant delays on deliveries. In addition, there is a matter of interpretation on liability. In such cases, logistical service providers may perform a visual check. The bigger problem relates to the question whether the customer will accept a wrecked package or not. On the other hand, it would become impractical for a new parcel to be sent across the world for

repackaging. To date, according to category specialist (Specialist A 2010), visual inspection has not failed once.

In one sense, this example was a reverse case due to the fact, that the problem didn't origin from the customer's end. Instead, word of complaint was received from our own end. Information from the warehouse was passed on via the daily inbound report to the buyer. An inbound report is used to report deliveries that have reached the global delivery hub. Therefore, an official complaint was not submitted via COMPL. However, the diverged working order does not alter the communication process towards the supplier.

6. CASE STUDY

6.1. Research Methods and Process

The primary objective of this study was to improve the complaint handling process from an operative purchasing team's point of view. This involved an interface solution to improve communications between the buyer and the supplier. In addition, guidelines for implementing an organization-wide complaint management tool were expected in order to enable more accurate reporting and to enhance visibility throughout the process. The research followed the theoretical framework of continuous improvement to be adapted into practices of complaint management discussed in the previous chapters.

The research was based on both qualitative and quantitative material. Qualitative material consisted mainly of focused interviews (see Chapter 6.2.) and discussions. At first, relevant background information was gathered by interviewing employee's currently/formerly involved in the process (and development) of complaint handling in order to acquire understanding of current processes and practices. Based on the interviews and given materials, a general overview was acquired and process flow charts adjusted accordingly.

Quantitative material consisted of statistical complaint data that is stored in the COMPL tool. Analysing preceding complaints discovered complaint process lead-time, which was divided into components; from the point a complaint is submitted (to COMPL) to the point the case is verified and closed. In addition, statistical data was used to categorize complaints and provide an overview of monthly complaint volumes.

From a strategic point of view, the most critical aspect of this research was to choose the complaint handling solution to be used. The choice would lead the way for the interface and documentation solutions to be considered. In addition, supplier interface was considered extremely important from the customer satisfaction's viewpoint. By interviewing the employees, the goal was to identify the present state of complaint management in pursuance of benchmarking the processes to corresponding material execution units in context of working methods and level of performance. The purpose of this study was to improve a process by taking the most out of tools and resources

available, in other words, finding the ideal solution rather than developing a completely new approach. Hence, the use of qualitative methods as a main approach was justified.

6.2. Research Interviews

Interviews were carried out in the form of *focused interviews (teemahaastattelu)*. Focused interview is an appliance of *half-structured interview*, in which the interview is partly scripted to focus on certain characteristics, but not constrained to a specific course of events. The interviewer preparatory familiarizes oneself with the topic (i.e. parts, structures, and/or processes) by generating an overview with hypotheses, which are then compared to the subjective experiences the interviewee has been exposed to. (Hirsjärvi & Hurme 2001; Merton, Fiske & Kendall 1990.)

At an early stage of the research, buyers, logistics coordinators, specialists, and managers at different levels were interviewed for relevant background information in order to gain better understanding of the current process and prevailing complaint handling practices. Managerial interviews had an important role in the development process from a strategic point of view. Additionally, interviewees were asked to point out the main flaws of the process, which led to few proposals of improvement. The interviews took place either face-to-face, via telephone (conference), or via e-mail.

6.2.1. Buyer interviews

A *buyer* is responsible for the procurement data management to ensure material availability of all needed hardware to secure handover readiness. Buyers' tasks also involve reducing total costs and lead times through co-operation with cross-functional category team in addition to providing purchasing support for the order creation process. Each buyer within the case-team is responsible for purchasing items relevant to his/hers business region, regardless of the supplier. In addition, buyer is responsible for handling complaints relative to his/hers region. At the same time, buyers are responsible for the supplier interface and the continuous development of the function to enable the growing (customer-specific) product configurations and software deliveries with their procurement processes and performance.

Due to relatively low volumes of complaints, complaint handling, as a task, was not seen overly time-consuming on a monthly basis (Buyer A 2010). Regardless of time-consumption, it emerged from the interviews that the actual drawback was the negative mental impression, which is also widely acknowledged among literature (cf. Barlow & Møller 1996; Stauss & Seidel 2004). If anything, the negative impression was rather caused due to the rareness of incoming complaints. According to Buyer A (2010), each complaint is considered as an individual case deviating from the buyer's daily routines. Therefore, it is easily but unintentionally omitted while concentrating on the daily routines. Added to this, complaint handling was perceived low within the work task hierarchy having other tasks easily bypass it.

The lack of not having a standardized communication template followed by the need of having to create a new document each time was considered as a major flaw by several buyers. A standardized fill-in form to elicit information was seen as an enhancement of the process, but congruence in the communication between the buyer and the supplier (e.g. an e-mail template) was also desired. Despite, buyers impugned the additional value brought by a standardized form versus the current practice of free form e-mail communication. Regardless of using standardized forms and templates in context of voicing a claim towards the supplier, repetitive e-mail communication bouncing e-mails back and forth was seen as a gratuitous work: one buyer (Buyer B 2010) raised a question whether suppliers had buyers to perform extra work by requesting supplier-relevant information they self had access to (e.g. original purchase price of damaged item). One must note that the supplier will most likely file an internal investigation and document the complaint on their behalf.

According to Buyer B (2010), the contents of a complaint should include clear references to the faulty product and/or order. In case of shipment damage, digital pictures may be attached to illustrate the damage. Other noteworthy aspects such as seals and/or tilt indicators (an indicator exposing whether the cabinet shipping container has been tilted to an angle that can cause equipment damage) may also provide necessary information.

Only few buyers were even slightly familiar with the COMPL, mainly with the user interface. On the grounds to the remote experience they had, the buyers found the current interface heavy and tangled. In order for an efficient implementation, clear

instructions and relevant training were seen as a must. Time-wise, COMPL given deadlines were seen as effective means to do one's share on time.

During the interviews, came out an idea of merging complaint handling responsibilities to a single task that most buyers took as a positive development step – that no one willing to cover for. As areas of purchasing are divided into geographic regions, would complaint solving related to someone else's purchases feel like stepping into somebody's shoes (Buyer A 2010)? Still, concentration of complaint handling tasks into the hands of a single person was seen positively.

In addition, improving the use of "buffer items" was raised as an additional target of improvement. In this case, *buffer* refers to items that have not been delivered or have been returned and are currently stored at case company premises tying up capital. Buyer A (2010) raised a question whether standardized complaint handling practices could also lead to more efficient re-use of buffer items? Concentrating tasks to the employee responsible for warehouse inventory and buffer was also suggested.

Buyer C (2010) highlighted the role of customer teams in the reclamation process. Accordingly, there has been uncertainty of actions required, especially in the North America region. In addition, a high turnover of workers due to different employment culture has hindered persistence of business processes (e.g. complaint handling).

6.2.2. Category Specialist Interviews

Category specialists are responsible for driving collaboration and development of the logistics processes with main suppliers. In addition, their tasks include logistical supplier management and performance controlling along with order escalations. Most category specialists have a buyer background. In context of this research, category specialists were interviewed in order to develop complaint practices from the major supplier's viewpoints. Specialists were also asked to comment on questions that came up during buyer interviews.

Category specialists regularly provide suppliers with main proposals and concerns to improve collaboration (Specialist A 2010). In context of concerns, complaint management has lately been a hot topic. An intense need to improve the complaint

management process was also discovered. Category specialists made a clear division between customer-based (e.g. dead-on-arrival) and delivery-based (e.g. transportation damage) related complaints. Category specialists had broad knowledge on delivery-based complaints as there had lately been several issues concerning transportation damage. Specialist A (2011) estimated that the volume of delivery-based complaints would in fact be greater than the volume of customer-based complaints registered in COMPL. Category specialists were also more interested on enabling more efficient reporting functions based on statistical complaint information.

The use of a general claim form, which would rationalize the supplier communication, was found an eligible option (Specialist B 2010). However, a structured complaint form would be a workable solution only if the customer team would provide the buyer with all necessary details in the first place (i.e. COMPL case contains information required). The key factor of collecting data is to receive the exact information of each and every case in the same form enabling efficient means of re-processing it. Specialist A (2010) noted means measurement should be focused on customer satisfaction rather than lead-time. In addition, the proposed workflow of transportation damage would require a structured form of its own to enable efficient data collecting and handling. (Specialist B 2010.)

Regarding the complaint task centralization, Specialist B (2010) saw much of the information required to solve a complaint to be buyer specific, especially in complex project-related purchases. Therefore, buyer specific participation in complaint management related tasks remain the same regardless of who takes the coordination responsibility. Given the limitations, entrusting the coordination task to an entrusted employee, who would also provide support on complaint management, was encouraged. Specialist A (2011) also noted that SAP-based complaint handling could be given greater importance, as SAP is not considered a 3rd party solution (cf. COMPL).

6.2.3. Logistics Coordinator Interviews

Two logistics coordinators were interviewed to provide a better understanding of their role and tasks related among complaint management, where the logistics coordinator acts as the intermediary between buyer and customer team according to the official process workflow. In addition, the possibility of reduce buffer stocks via more efficient

complaint management was discussed. Logistics coordinators ensure proper order handling for OEM products to meet customer teams' expectations. Currently, some logistics coordinators and buyer tasks are about to be merged leaving the responsibility of complaint management for operative buyers to deal with.

Currently, all customer-based complaints are voiced through customer team via COMPL. In addition to the COMPL input, customer teams were said to usually notify the logistics coordinator/buyer via e-mail to inform them about the complaint. Despite the low complaint volumes, according to Logistics Coordinator A (2010) most incoming complaints are based on single geographic region.

Complaint management, as a task, is already centralized on the logistics coordinator's side. What comes to the question of complaint handling task centralization, all logistics coordinator's found it possible as long as personal contact is preserved in the supplier interface by the buyer responsible for each area (Logistics Coordinator A 2010). The coordination tasks of delivery related returns were lately centralized to a single employee. Accordingly, centralization has contributed in context of efficiency. In context of the current situation regarding complaint management, returns were perceived to involve similar characteristics when responsibilities still were dispersed. And as return coordination was made a designated responsibility after entrusting the task to a specific employee, it did not have a negative effect on motivation. However centralizing tasks requires the management to give a thought to how the responsibility is hyped up. (Logistics Manager A 2010.)

Aforementioned, one Buyer A (2010) raised question whether standardized complaint handling practices could contribute to more efficient re-use of buffer items. According to Logistics Manager A (2010) buffer stock consists of single items or even full orders that have been ordered but then cancelled for a reason or another. In real terms, cancelled orders are a result of risk exposure (e.g. willingness to take the risk of pre-ordering the upcoming goods). The complication of re-use is that most orders are configured order specific. Therefore, completing an order by grabbing a single part from the buffer stock is uncertain. As a process, checking each sales order against buffer stock was seen as an uphill process. Due to the buyer side pressure of creating purchase orders on time, buffer stock re-use is left aside, alike complaint handling. (Logistics Manager A 2010).

6.2.4. Managerial and Specialist Interviews

In addition to interviewing buyers, category specialists, and logistics coordinators, managers and specialists at different positions were interviewed. These focused interviews discussed mainly the suitability of different complaint management systems and the use of complaint data in management level decision-making. In addition, action guidelines and ways of implementing qualitative theories into current practices were discussed.

The question how to handle supplier based complaints altogether coupled with the demands of a suitable complaint management system was brought up. One quality manager (Manager G 2010) stated that a first-class system of complaint management would allow sharing the complaints immediately, to trace the solving process, to store all the data, and to automate reporting functions. As the research scope was rather upon improving the current process by finding an ideal solution, rather than developing a completely new system, the research leaned on existing systems (i.e. COMPL and SAP). The head of the case-unit (Manager B 2010) considered COMPL more effective on their kind of business, in which business processes are considered more customer-oriented (cf. other units of operative purchasing). In addition, COMPL was an obvious choice due to its status as an official, organization-wide complaint handling solution for customer-based complaints. Given the available resources (not forgetting the belt-tightening due to the economic downturn), transferring and piloting a forthcoming complaint management system on one's own was not to be reckoned with.

According to a Supplier Development Manager (Manager C 2010), supplier level complaint data is usually not utilized on management level decision making as such due to its operative kind. However, complaint data is used as one source on the biannual supplier performance evaluation. In addition, complaint solving affects key performance indicators (*KPI's*) such as *"Number of Complaints"* and *"Inbound On Time Delivery"* that are available and reported to management on monthly basis. Together with the direct impact on lead-time and customer feedback, complaint handling has an indirect impact on the general process overview managers' base their decisions on. (Manager C 2010.) In addition, complaint data could be used in negotiations for supplier agreements in order to minimize the risk of delivery quality not matching expectations (Buyer E 2010).

Regarding problem solving, a development manager (Manager A 2010) saw complaints as individual cases wherein categorizing complaints according to their root cause would provide management a pattern of common types of complaints. 8D was not seen to be implemented as such, but likewise lean, to provide a mental mindset how to solve problems. In addition, 8D would come into question of continuous problems. Improving the complaint process in general was seen as an opportunity to implement sustainable process improvement. (Manager A 2010.)

One quality program manager (Manager H 2010) noted that top management's interest on continuous improvement is clear, as *lean* has been taken cognizance of in the case company's biannual short-term plan. Once lean has been adapted in manufacturing operations, it will soon appear in the business process environment. In addition to continuous improvement, the case organization has a strong strive for implementing the mindset learned during the corporate training program of service excellence, which took place last year within the case-organization. The program pursued customer satisfaction and loyalty in order to enable and improve profitability and build a sustainable competitive advantage. In order to improve business outcome, the goal is to put qualitative tools into action and exploit the training in context of communicating the objectives to the employees in terms they are familiar with (Specialist D 2010). Transforming prevailing practices may prove out hard, but is attainable through decent management and control of change. The biggest challenge is the management commitment, which is essential to drive the change.

What comes to entrusting the tasks of complaint management to a single employee, entrusting of complaint handling tasks would prove to be difficult due to the complex structure of project related orders (Specialist F 2010). And even if the tasks would be centralized, the person responsible for the order would still need to be involved because of order-specific information (Manager B 2010). The same project manager (Specialist F 2010) also presented that the case-unit could possibly benefit from having a separate role for both teams; operative purchasing and logistics management in COMPL (currently the case-unit has only one solver role). Despite the fact that the purchasing team is responsible for solving most of the complaints, logistics management is responsible for complaints related to pre-implemented deliveries in all locations.

7. RESEARCH FINDINGS AND DISCUSSION

7.1. Theoretical Findings

Continuous improvement is an endless cycle of improving products, services, or processes, with a strong link to *quality* – a concept that is under continuous evolution and referred to as *excellence* (Martín-Castilla & Rodríguez-Ruiz 2006). As customer-oriented corporate policy has become a critical success factor, customer satisfaction is being incorporated directly into the business strategy. The current trend towards boosting profitability by treading a fine line between quality improvements and cost reductions is crucial in maintaining the level of competitiveness. As customer loyalty is a key factor that must be taken cognizance of, companies must strive to come up with the goods – not the other way around.

Value is one of the key elements of process improvement, in which the customer defines value in the terms of a specific product or service. Set in order, value-creating tasks form a *value stream* – a set of individual value activities and tasks defined as all the necessary steps for a product to reach the end customer. Most methodologies of continuous improvement are based on a four-step flow diagram, the *Deming cycle*. With a strong link to continuous improvement, the cycle may also be used to implement kaizen activities, such as problem solving and qualitative improvements, into business processes. However, very few methodologies and/or frameworks are meant to be implemented as such. Instead, they should be evolved inside adjusting to an existing framework (Manager H 2010).

As a philosophy of continuous improvement, *lean* aims to increase the overall performance in terms of value, which is generated through customer value added by eliminating the surrounding *waste* (i.e. material surplus and lost input). Lean plays a key role in improving the overall competitiveness and emphasizes the role of effective process management. However one must remember that customer focus is about living up to the customer expectations, and that lean does not presume that customer demands are fulfilled immediately, but focuses rather on customer expectations. Lean may be easiest to perceive in a conventional production environment, but observations promote the fact that lean principles are possible to introduce in any process activity (e.g. Womack & Jones 1996; 2005). A method of *value stream mapping* is used to remove

waste and discover value in the midst of an extensive process chain. Methodologies such as *8D* and/or *root cause analysis* provide means for in-depth problem solving, where as strategic management models, such as *EFQM*, provide frameworks for measuring and achieving sustainable, competitive advantage.

Scientific research has provided us with different methodologies and frameworks making it easier to adapt and implement different means of improvement. Although they may appear complex at first, adopting them is also helpful for understanding the complexity of businesses. Gruber *et al.* (2010) noticed the lack of research in the field of complaint behaviour and management in the business-to-business context. In addition, Liu & McClure (2001) noted that most research on consumer complaint behaviour has been carried from a non-western point of view. Given the fact that most companies do not even have a complaint policy (Barlow & Møller 1996), taking full advantage of this unique opportunity is still in its infancy. And even if a policy exists, taking full advantage over the valuable information customer provide is rare.

A complaint takes place when something goes wrong and customer expectations are not met. As put by Barlow & Møller (1996: 20), complaints define what the customer actually wants. Complaints contain valuable information regarding customer satisfaction and expectations making *complaint management* more than just a system for customer care, but a working process to handle customer feedback as a means for improvement. The way complaint management is carried out within the organization plays an important role in customer satisfaction and loyalty. The study by Gruber *et al.* (2010) showed that taking *quick action* followed by *understanding problem* and *openness* were considered the most important attributes of complaint management. Teng *et al.* (2005) name inaccurate classification and insufficient information as main sources of disagreements and conflicts, but difference of opinion may also arise due to cross-cultural differences (Liu & McClure 2001); Wittenberg (1994: 12) presents that it is *kaizen* that differs the Japanese approach to management from its Western counterpart.

The significance of communications (customer and supplier) as strategic networking activity regarding both continuous improvement and complaint management is brought up in several contexts (e.g. Hansen *et al.* 1996; Womack *et al.* 1995). Efficient communication will evidently lead to higher level of service perceived by the customer while the company receives valuable feedback that it may use to improve its products

and services in return. As complaint management as a process tends to cross organizational boundaries, there is much more to lose than just the direct customer: the reputation of a company failing to live up to one's expectations may have an effect to other interest groups, as well. However from a business-to-business point of view, the importance of front-line employees stressed by the business-to-customer marketing literature is less of significance. The research by Gruber *et al.* (2010) also showed that for large organizations *maintaining supplier relationships* outstripped *customer relationships* in terms of value.

The research by (Bosch & Enríquez 2005) brought up the eligible features of any system of complaint management: systematic complaint management requires both a good and simple system of complaint management supported by good and pragmatic tools and/or methods (e.g. 8D, RCA). In case a firm happens to have a system of complaint management, they tend to lack in terms of simplicity. Interestingly, their proposal of a *Customer Complaint Management System* (CCMS) was perceived suitable both for *negative* (customer complaints) and *positive* (customer satisfaction) feedback. In general, complaint management emphasizes organizational learning from the issues gained from complaints transforming a complaint into a unique learning experience of getting to know the customer better. In order to perform the task efficiently, complaint management requires the management's full attention.

The way of expressing complaints towards the company should be kept as direct as possible. The research by Owens & Hausknecht (1999) showed that by improving accessibility (i.e. ease of voicing complaints) resulted not only an increase in percentage of complaint forms returned, but also an increase in the number of customer satisfaction surveys returned. Hansen *et al.* (1997) summarised complaint behaviour intention styles by comparison between different response style groups. Accordingly, complainers that took direct action – just complained, nothing else – were considered most loyal. They also scored highest on communication quality and had the lowest level of cancelled orders. Complainers practicing other complaint behaviour (i.e. complaining to others, media, or switched suppliers) scored lower on mutual dependence, which is considered fundamental on good buyer-seller relations. Stauss & Seidel (2004) and Hansen (1997) both warn that this kind of *indirect complaining* may engage complaint responses that become more time and cost-oriented for the firm and damage its reputation.

Davis *et al*. (1998) defined "*the optimal return policy*" as a combination of both price and *hassle* within refund. Hassle is defined as features, such as fill-out forms and manager approvals that intentionally complicate and slow down the process of complaint management. The concept of hassle comes into a slight conflict with the idea of minimizing consumer's time consumption and level of hassle in context of customer perceived value; this bring us to the question of whether an organization should focus on maximizing *profit* instead of *customer satisfaction*. Accordingly, the type and level of hassle should be adjusted relative to the customer-side transactions costs, where the easiness (or difficultness) of voicing a complaint is up to the firm to decide. By the same token, having suppliers perform certain work tasks (e.g. documentation) on behalf of the company is eligible.

As Internet and information technology have provided us tools to ease complaint handling, collected data must be available for access and utilization immediately regardless of location. Whatever the case may be, complaints and their solutions must be stored for later use. The systematic documentation of complaint information requires well-defined categorization and is the key factor of effective complaint management. Both quantitative and qualitative analyses are essential tools of analysing complaints: Quantitative analysis is based on monitoring, distributing and prioritizing complaint volumes. Qualitative analysis, on the other hand, is based on systematic causal analysis. Quantitative analysis may support the decision-making, but qualitative analysis is often the basis of which suggestions for improvement are made on. (Stauss & Seidel 2004.) Although advanced database structures are effective on assigning complaints to the appropriate unit within organizations, they still remain unacceptably slow solving acute problems. The slowness and difficultness of such systems will also lower the utilization rate incurring past-process complaints that are not compiled into statistics. Stauss & Seidel (2004: 33) also point out, that "the process of documentation may also be at least partially transferred to the customers" by asking them to fill out forms to describe the problem and provide the relevant information.

Preventing recurrence is a critical task and requires a brief analysis of the every situation, in which the objectives and boundaries of problem solving need to be defined. Finlow-Bates (1998) links root cause analysis to profitability by saying that "finding a cost-effective solution is a crucial part of defining the cause as being a root cause". In other words, it is not worth solving a root cause that is not worth improving. The analysis could also become problematic relative to the study: what comes to the root

cause, the supplier might be unwilling to deal with what the case company may consider as the root cause. In addition, there might be several potential root causes whose removal would require a long-term solution and final root cause cannot be determined until the problem and solution has been examined from the financial point of view. In addition providing an answer to the problems detected, tools methodologies such as root cause analysis and/or 8D provide a better understanding of customer needs and emphasize problem solving as a process of learning.

Interestingly, the study by Fornell & Wernerfelt (1988: 296) showed that complaint management is more effective the greater the number of competitors (and the higher the quality elasticity of demand). This statement questions the significance of complaint management within the present telecommunications sector, where market share of wireless infrastructure is basically divided between couple of vendors. The significance may also be questioned through the concept of perception of power (Hansen *et al.* 1997) as most vendors have scale advantages over their suppliers and customers. However, the customer-oriented market leaves the customer of substance despite the scale advantage. In the end, it's the customer that pays the bill.

Additional costs of complaint management are justified as long as they are consistent with organizational goals. Complaint management is a cost-benefit trade-off for organizations that must continually balance the costs of increased service with customer compensation and effort. As customer satisfaction is currently a top priority within the case organization, means for improvement of complaint management practices become justified. In terms of profitability, organizations should learn to focus their complaint management activities products of high profit and of high quality in tandem with their most important customers.

Both successful continuous improvement and successful complaint management share the dependency of human resources. Next to customer satisfaction, the importance of employee satisfaction is clearly brought up in several contexts (e.g. Jagersma 2009; Wittenberg 1994). In order to maximize profitability, employees must be highly motivated to perform their work tasks: improvements need to involve the people in touch with the tasks or processes being improved. According to Knippen & Green (1997: 98), increases in management's and employees' motivation and satisfaction will increase their performance. In order to benefit from complaint management, customer satisfaction must be taken as a top priority by establishing a *complaint culture* (cf.

Johnston 2000). In addition to employee engagement, management must be committed to the culture of continuous improvement.

7.2. Empirical Findings

The first step was to get familiar with the current process practices and people working in the midst of it. In the beginning, complaint handling policies among peer groups (i.e. other teams of operative purchasing) were examined in order to create an overview of the prevailing complaint handling practices: Complaint management was based on either on COMPL, SAP, or a combination of both. The other team had also been suffering from the lack of a standardized communication process interface resulting in insufficient reporting. While COMPL being the official complaint handling solution for customer-based complaints, one must take cognisance of the difference between operation environments: alike lean, very few processes may be transferred into different operating environments as such. In context of this research, guidelines to focus on COMPL were given on the grounds of background research and prevailing process principles by Manager B (2010).

Process understanding was supplemented by interviewing buyers, specialists, and managers at different levels. Finally, improvements proposed were discussed within focus groups in order to gather feedback and ensure process compatibility. Managers and specialists at different levels paid clearly more interest on the topic relative to individual buyers making employee empowerment more challenging. On the other hand interest could be greater, if there would be a dedicated employee responsible for the complaint management task. From a complaint coordinator's point of view (Logistics Coordinator B 2011), processes of complaint management have three minor challenges to face: 1) reach specific time limits, 2) correctness of information when registered into the system, and 3) finding the right person responsible for handling the reclamation.

The low volume of complaints per buyer came out during the interviews and was also indicated through complaint statistics (cf. Figure 11); in fact, the monthly complaint-per-buyer rate is close to zero. In context of low volume, entrusting the complaint handling function to a single person would become justified; the person entrusted must be highly motivated to perform and continuously improve the tasks, in which case employee satisfaction and empowerment must be taken into account.

In order to entrust the complaint handling function to a single employee, a process operator should be nominated. The role of a process operator is also required to provide technical support (cf. SAP key user). Due to small volumes, the betting is that the same person could take over all tasks related. However, several employees' noted that entrusting of complaint handling tasks would prove to be difficult due to the complex structure of project related orders and the order-specific information involved. In addition, several buyers expressed their concern about preserving the personal contact they currently have with customer teams' operating in each buyer's area of responsibility.

Regardless of using standardized forms and templates in context of voicing a claim towards the supplier, repetitive e-mail communication bouncing e-mails back and forth was seen as a gratuitous work. This issue could be avoided (or at least cut down) by using a structured form to request the mandatory information within supplier communication. Accordingly, a structured complaint form would be a workable solution only if the customer team would provide the buyer with all necessary details in the first place (i.e. COMPL case contains information required). Failing that, the process will result in the aforementioned repetitive e-mail bouncing.

Current insufficient means of documentation hinder the utilization of complaint information for reporting and analysis purposes. The documentation of the contents of a complaint may be and often is "outsourced" to the customer (cf. Stauss & Seidel 2004: 67–72). By the same token, one buyer raised a question whether suppliers had buyers to perform extra work by requesting supplier-owned information they self had access to (e.g. original purchase price of damaged item).

Still, an unknown proportion of complaints are still handled past official processes. Due to the demands of the finance & control department, orders with missing items reported cannot be delivered without an official reclaim reference narrowing down the possibilities of past-process complaint solving (Logistics Coordinator B 2010). Another prevailing type of past-process complaint management relate to delivery escalations: advanced complaint management systems remain unacceptably slow solving acute problems (cf. Fundin & Bergman 2003) such as providing substitutive goods for defective ones. Added to this, Specialist A (2011) estimated that the volume of delivery-based complaints would be even greater than the volume of customer-based complaints,

which are handled through COMPL. In conclusion, most customer-based complaints are handled through COMPL granted that a great number of other kinds of complaints are not compiled within statistics.

7.3. Managerial Implications

Traditional management attention is focused on short-term metrics that drive the business, as it is short-term performance that is often rewarded (Arnheiter & Greenland 2008). In contrast, management decisions should be based in the long-term rather than short-term as process stability requires commitment to continuous improvement. Customer satisfaction is often highlighted as a strategic target but is not, as such, a valid indicator of success. The organization should focus on both customers whose satisfaction is *criminal* as well as those *unbelievable* – in terms of the service excellence training that took place within the case organization last year. In other words, customers that score higher in terms of customer satisfaction do not justify the organization to focus solely on dissatisfied customers. High service level is a win-win situation that benefits both the customer as well as the employee.

Management should really pay attention to how complaint management is marketed to the employees responsible. Empirical findings retell the story of literature on complaints: they are perceived low within work task hierarchy due to the negative impressions they reflect. One of the obvious reasons was their rareness. The empirical study showed a slight lack of motivation caused by high operative workload resulting in lack of time what comes to complaint solving. The negative association evoked by the term "complaint" came clearly out during the interviews. From a buyer's point of view, the new process may seem gratuitous at first, but process harmonization is definitely in the interests of the organization. Some buyers also questioned whether a new complaint handling process would actually reduce the workload, but instead end up complicating daily routines. In terms of lessons learned, the person responsible for return coordination (Logistics Manager A 2010) perceived the current situation of complaint management to involve characteristics similar to the situation when return order responsibilities were about to be centralized due to incoherence. As return coordination was made a designated responsibility and entrusted to a single employee, the task itself was perceived not have a negative effect on motivation. In proportion to complaint management, the importance of how management markets the task was also brought up.

From the management's point of view, complaint management consists of process management, knowledge management, and customer relationship management. Complaints provide the management an opportunity to remedy both individual and repeated problems (Huppertz 2007). It is the management to pick up the baton for evolving a culture that creates the tolerant attitude towards complaints and customer satisfaction. Another matter is whether focus is really put into customer satisfaction: Leonard & McAdam (2002) noticed that focusing on the customer from a qualitative perspective is quite rare among organizations. In order to match customer satisfaction with strategic objectives, organization must clearly define their most important customers and take action to increase correlation between the business and the customer; complaint management being such an action.

As loyal customers account for an unusually high proportion of sales and profit growth (Heskett *et al.* 2004), complaint management should be seen as a long-term solution on both retaining and expanding the current customer base (Hansen 1997). In strive for financial performance the cost of complaint management should be adjusted according to its benefits. Finding the optimal level requires proper definition of costs associated on returns. By obtaining the costs related to each type of complaint, estimates could provide managers data relevant to decision making. Although the value of customer satisfaction is not an easy matter, a complaint of no value is profitless. In order to reduce the company side transaction costs, it is profitable to set certain levels for complaints of certain significance (i.e. the maximum value of a substitutive product that may be shipped without approval). In addition to identifying different types of complaint responses, Hansen *et al.* (1996; 1997) proposed that extensive knowledge about complaint behaviour characteristics (i.e. supplier behaviour) would encourage and stimulate more beneficial response styles on behalf of the organization.

Due to the low rate of claims, complaint handling, as a task, should be kept in the hands of dedicated employee for the task to reach an efficient level. Exploiting COMPL better requires familiarizing the buyers to with tool through training sessions and appointing a key-user to coordinate and maintain the process and provide technical in-depth support. At the same time, the same person would provide buyers support regarding complaint handling tasks. However due to buyers' order-specific knowledge that is crucial for complaint handling, buyer specific know-how is mandatory leaving out the option of the coordinator solving all complaints. To maximize performance, any user should be able

to input data to any COMPL (currently just originator/coordinator/solver involved). Whether the current solver role of logistics management's team should be supplemented with a role for the team of operative purchasing, is to be decided. Because of low volume of complaints, it is to be considered whether separate roles would actually simplify the process or only creates an extra decision (for the COMPL coordinator) to make. Also, training on how to export reports from COMPL would benefit the organization – in other functions than operative purchasing, as well. Reporting features should be enhanced to include a mandatory field for SAP vendor code enabling supplier-level examination. In order to avoid liability issues causing significant delays in reclamation processes, clear terms should already be agreed with the vendor during negotiations for an agreement.

Now that employees have taken the corporate program of service excellence, the fundamentals of superior service should also be introduced into process practices. In terms of service excellence, current level of complaint management in terms of performance may be considered basic, while given the importance, it should be not less than desired. As a distinct indicator of service level and customer satisfaction, complaint management has just what it takes: service recovery is a critical element of customer satisfaction in which the organization's response may be perceived a moment-of-truth (cf. Grönroos 1988). Figure 15 provides better understanding how the organization can benefit from the training in context of complaint management. As employees have already been familiarized with the idea and terminology of service excellence, the terminology may be used in reverse to familiarize employees with the concepts and terminology of complaint management.

Given the resources and options available, the case-team is commend to follow the operations model in which customer team based complaints are handled via COMPL and delivery-based via SAP. Although a solution of two systems is not to be considered optimal, one must be aware that both systems serve different matters. And given the decision for complaint management to become SAP-based at some point, this could also be considered half-victory. To harmonize the communication process towards the supplier, means of communication shall remain identical regardless of the system used. Both COMPL and SAP provide reporting functions, which should be taken advantage of – failing that, statistical data acquisition is of no value.
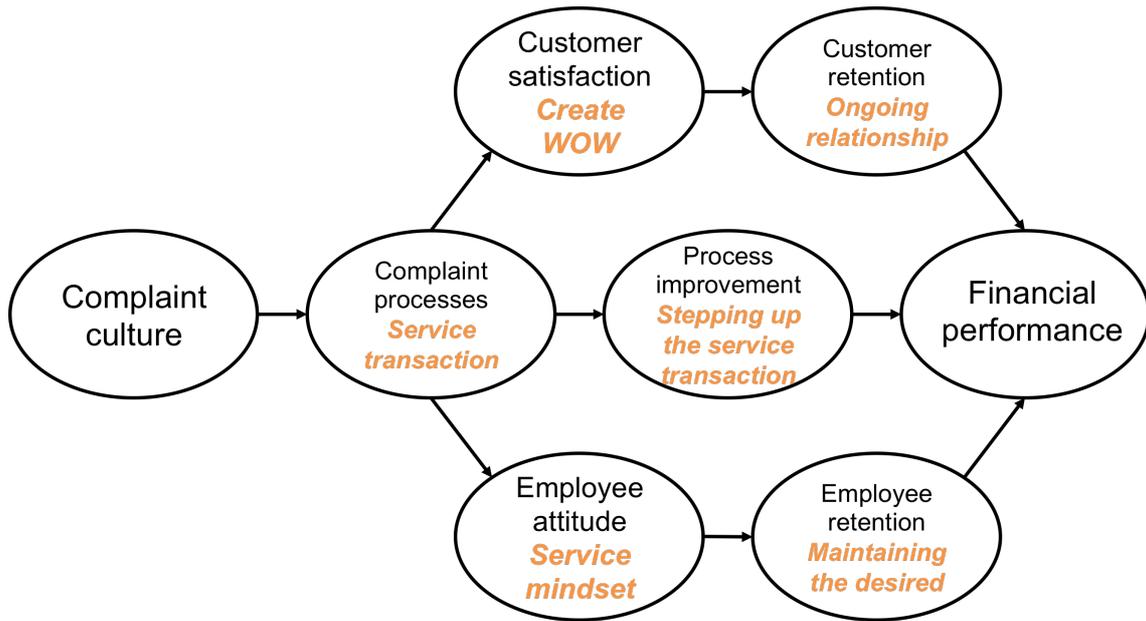
Figure 15. Conceptual Model of Complaint Management in terms of service excellence (adapted from Johnston 2000).

7.4. Quantitative Analysis on Complaint Statistics

Quantitative analysis of complaint statistics was performed on sample data of all case-unit assigned complaints between the launch of COMPL (P7/2009) and P12/2010. COMPL data was an obvious choice of examination due to its official status. Few unofficial complaint statistics were also examined, but their reliability was to be questioned and no remarkable deviation was discovered. The number of past-process complaints (i.e. handled outside COMPL) was not given even a rough estimate. However, the COMPL process owner reckoned that most customer-based complaints are handled through COMPL with only few countries following behind (Manager F 2010).

The number of complaints received during the reference period was 69 (n=69). Quantitative analysis on complaint statistics showed that on average the case-unit received 5,8 complaints per month with *quantity mismatch* being the most prevailing cause of complaints with a share of 49 per cent (n=34). However, proper examination

showed that quantity mismatch was often referred to in case of missing items. This got us pay attention to the fact that a category for *missing material* does not actually exists.

Lead-time was examined from a sample of 50 cases (n=50) including all resolved cases within the case-unit (excl. 19 rejected and/or unfinished cases). In context of lead-time, 68 per cent of complaints are solved within 60 days, with an average solving time of 43 days (guideline value being 14 days) once they are submitted to the case-unit. Added to this, lead-time examination revealed that once submitted, complaints are assigned to the correct solver rather swiftly. The statistics showed that 49 per cent of all cases (n=69) were re-assigned at least once before reaching the appropriate solver. However when a complaint is assigned to wrong solver at the first place, the process of re-assigning, requiring the 1st solver to re-assign/reject the case, tends to become prolonged. After the case is resolved, the complaint coordinator does the pre-verification swiftly, but inserting the final solution into COMPL (after originator's acceptance) is in the slow lane. However one must remember that at this point, originator is already aware that the case has been solved and final verification is more of a formal stage to close the complaint.

The necessity of input regarding the estimated solving time (*planned*) was questioned because the field is set to be optional and therefore of low concern. Once an estimate is set, the originator will receive information regarding it and using this option would help to keep the originator up-to-date. When mandatory, it could also be used to measure whether solving time forecasts are realistic.

7.5. Workflow Proposal for Transportation Damage

Incidents of transportation damage are currently handled exclusive of COMPL making them a relevant target for improvement. Compared to customer-based complaints, transportation damage, for example, is reported by the delivery hub (i.e. logistics service provider) before the customer team is even aware of the problem. Currently, complaint management at both manufacturing and logistics divisions relies completely or partly on the *SAP Quality Notification tool*. As COMPL is considered mandatory in accordance with the customer-based complaint management process, the workings of logistics division, where COMPL is used for customer-based complaints and SAP for hub inbound transportation damage, is considered more eligible for case-team.

Creating a reverse workflow into COMPL (delivery-based, where the buyer would act as an originator) was discussed within an interest group of COMPL process owners and process specialists. Given the limitations of COMPL, performing the changes necessary proved out quite tricky resulting in search of alternative options. SAP quality notification tool would provide for a complaint management solution that functions under the same enterprise resource planning system (i.e. SAP) that integrates information management across the entire organization. The advantage of SAP lies in uniformity: creating a complaint based on order information that already exists in the same system and interlinking the complaint with it. In addition, SAP provides an option for a structured PDF-output that would be used in contact with the supplier jointly with automated reporting functions.

As a workflow, the trigger for the complaint solving process is damaged cargo arriving to the delivery hub. Once the damage is discovered, the logistics service provider will inform the buyer responsible for the purchase order involved. Once the buyer receives information regarding transportation damage, he/she creates a complaint into SAP and sends the information as PDF (SAP export function) to the supplier jointly with a fill-out form requesting information and/or root cause analysis/8D (case-specifically). At the same time, buyer informs the customer team via e-mail for them to decide whether to accept the damaged shipment. Current options include accepting the order, or denying and re-ordering, directly or after an on-site inspection at the hub.

What comes to the decision of implementation, business owner approval is required to restore the access rights (that are due to be removed) and reinstate the SAP quality notification tool. Added to this, matters such as instructions, processes, roles, and responsibilities need to be considered. The local SAP key-user is able to arrange training for the quality notification tool.

8. CONCLUSION AND FURTHER STUDY

The fundamental premise of qualitative improvements is the path to dynamic culture of sustainable excellence, which should be maintained on a continuous basis. Top management's leadership and commitment that leads to employee satisfaction energize the spirit of improvement towards total customer satisfaction. In context of added value, the role of process management becomes emphasized as process practices are streamlined to funnel the whole value stream towards the customer. Businesses should always be based on the company's response to the market by offering customers value in response to their needs – not the other way around.

Customers that are lost are usually the ones that do not even bother to complain denying the organization a second chance: even the best complaint management solution is worthless if customers fail to voice complaints. The current trend is towards profitability and cost reductions via higher level of customer satisfaction, where eligible complaint management is crucial. As a source of improvement, complaints provide organizations a cost-effective channel of gleaning valuable information regarding customer satisfaction and future expectations. In context of organizational learning, complaints offer unique learning experiences and the possibility to invert the cash flow into financial performance. Still, the fundamental element of complaint management is the spirit of improvement rather than the actual tool(s) used.

The purpose of this study was to improve the process of complaint management by taking the most out of tools and resources available; finding an ideal solution, rather than developing a completely new system. The research problem "*How to manage the reclamation process in a supplier network?*" aroused from the need to standardize the complaint management process, in which the company-owned COMPL tool was assumed a key factor. At first, complaint management performance was evaluated in comparison against process practices of two teams alike. As a consequence, current level of performance was perceived poor resulting in consideration of alternative complaint management solutions. No individual reason was discovered, but generally problems were due to current process practices, which were perceived inconsistent and unsystematic resulting in uncertainty and lack of motivation. Also, the conceptual model of complaint management (Johnston 2000) presenting *complaint culture* as a starting point towards *financial performance* aroused the question whether such a culture even exists. The comparison showed that each team had organized their essential

process practices rather alike with the exception of diverse complaint management systems utilized.

The significance of complaint management systems (e.g. COMPL) lies in a well-structured, systematic process. More importantly, they stand as proof of statistical collection of data. In conjunction with root cause analysis, complaint management systems present the critical path to identify and resolve both critical and repeat cases in order to better serve the needs of customers. The *Customer Complaint Management System* (CCMS) proposed by Bosch & Enríquez (2005) represents well the objective and elements of complaint management by integrating methodologies of quality thinking (e.g. TQM) and problem solving (e.g. 8D) into complaint management and emphasizing the process as a unique learning experience. Coupled with operational philosophies and frameworks of implementation, complaint management adjusts to the elements of sustainable competitive advantage and organizational excellence.

COMPL is an obvious choice for customer-based complaints due to its official status as an organization-wide complaint management solution. Despite clear advantages of SAP as a complaint management solution, the decision to keep to COMPL was mainly based on organization-given guidelines. As COMPL has its own limitations, it does require additional system(s) to cover other types of complaints, which otherwise are left unheeded. Therefore the implementation of *SAP Quality Notification Tool* is advisable concerning delivery-based complaints: COMPL and SAP build up for a combination that serves best the needs of both *customer-based* (i.e. customer team) and *delivery-based* (i.e. logistics service provider) complaints. However as the actual problem lies rather in utilizing the feedback gathered than the actual gathering process, utilization rate must be enhanced regardless of the system.

As a result of this study, the complaint management processes were examined from a statistical point of view in context of time and volume. The main objectives of this research were attained: a structured complaint form was developed in order to improve and standardize the complaint management process towards suppliers. Preconditions to provide visibility throughout the process by more accurate reporting were also given in the form of promoting COMPL implementation. The importance of complaint management was also brought up in terms of the corporate training program of service excellence. With the benefit of hindsight, customer-based and delivery-based complaints should have been inspected separately from the beginning. Still, the research

contrived to raise awareness about the importance of complaint management within the case organization.

The findings are consistent with previous research and literature and may be applied as such to improve complaint management. The empirical study presented supports the theoretical hypothesis that organizations do collect complaint data, but are unable to take full advantage of it. In order to answer the research question, few things need to be taken into consideration: First, this study was conducted from only one team's point of view. Secondly, this study focused purely on internal process aspects rather than customer expectations. Although the main principles of complaint management remain the same, each business has its own characteristics in which complaint management is forced to adapt to. Therefore only general findings that were consistent with previous research apply externally.

This study raises few proposals for further study. Previous research has left aside, to our knowledge, the industrial buyer's role as an intermediary complaint solver between the customer and the supplier. As costs are essential among complaint management, similar research could also be done from the invoicing point of view. To better understand the requirements of complaint management systems, an accurate requirement specification would provide guidelines for substitutive solutions. Additionally, an extensive value stream mapping would help to identify the actual costs of complaint management.

The key to complaint management lies within data acquisition, but more importantly utilization. Optimal complaint management commences from an organizational complaint culture that encourages customers to express their concerns directly. Efficient information sharing, supplier collaboration and automation will make thing easier. Although COMPL itself is rather adaptable and fulfils these objectives, the restricted interface may be considered a limitation. As COMPL was designed to serve best the customer's interests, it does not adapt well to internal complaints (e.g. transportation damage). Another drawback is the tools interface not reaching out to the external parties. Once inbound side of the process is settled, one must focus on efficiency through employee motivation and empowerment. In order to maximize complaint management profitability, the type and level of activities related to complaint management must be optimized relative to the desired level of service and transactions costs.

REFERENCES

Arnheiter, Edward D. & Jean E. Greenland (2008). Looking for a root cause: a comparative analysis. *The TQM Journal* 20:1, 18-30.

Ayad, Amine (2010). Critical thinking and business process improvement. *Journal of Management Development* 29:6, 556-564.

Barlow, Janelle & Claus Møller (1996). *A Complaint is a Gift*. San Francisco etc.: Berrett-Koehler Publishers. ISBN 1-881052-81-8.

Bitner, Mary J., Bernard H. Booms & Mary S. Tetreault (1990). The Service Encounter: Diagnosing Favorable and Unfavorable Incidents. *Journal of Marketing* 54, 71-84.

Bosch, Verónica González & Francisco Tamayo Enríquez (2005). TQM and QFD: exploiting a customer complaint management system. *International Journal of Quality & Reliability Management* 22: 1, 30-37.

Bou-Llusar, J. C., A. B. Escrig-Tena, V. Roca-Puig & I. Beltrán-Martín (2009). An empirical assessment of the EFQM Excellence Model: Evaluation as a TQM framework relative to the MBNQA Model. *Journal of Operations Management* 27: 1, 1-22.

Davis, Scott, Michael Harty & Eitan Gerstner (1998). Return Policies and the Optimal Level of "Hassle". *Journal of Economics and Business* 50, 445-460.

De Matos, Augusto Celso, Carlos Alberto Vargas Rossi, Ricardo Teixeira Veiga & Valter Afonso Vieira (2009). Consumer reaction to service failure and recovery: the moderating role of attitude toward complaining. *Journal of Services Marketing* 23: 7, 462–475.

EFQM (2010). *EFQM Excellence Model*. Laatukeskus, Espoo. ISBN 978-90-5236-526-8.

Finlow-Bates, Terry (1998). The Root Cause Myth. *The TQM Magazine* 10:1, 10-15.

Finlow-Bates, Terry, Bert Visser & Christine Finlow-Bates (2000). An integrated approact to problem solving: linking K-T, TQM and RCA to TPM. *The TQM Magazine* 12:4, 284–289.

Fundin, Anders P. & Bo L. S. Bergman (2003). Exploring the customer feedback process. *Measuring Business Excellence* 7: 2, 55–65.

Fornell, Claes & Birger Wernerfelt (1988). A Model for Customer Complaint Management. *Marketing Science* 7: 3, 287–298.

Goldsby, Thomas J. & Robert Martichenko (2005). *Lean Six Sigma Logistics*. Florida etc.: J. Ross Publishing, Inc. ISBN 1-932159-36-3.

Gruber, T., S. C. Henneberg, B. Ashnai, P. Naudé & A. Reppel (2010). Complaint resolution management expectations in an asymmetric business-to-business context. *Journal of Business & Industrial Marketing* 25: 5, 360–371.

Grönroos, Christian (1988). Service Quality: The six criteria of good perceived service quality. *Review of Business* 9: 10–13.

Hansen, Scott W. (1997). Power as a predictor of industrial complaining styles in a buyer/seller relationship: the buyer's perspective. *Journal of Business & Industrial Marketing* 12: 2, 134–148.

Hansen, Scott W., John E. Swan & Thomas L. Powers (1996). Encouraging "Friendly" Complaint Behavior in Industrial Markets. *Industrial Marketing Managment* 25, 271–281.

Hansen, Scott W., John E. Swan & Thomas L. Powers (1997). Vendor Relationships As Predictors of Organizational Buyer Complaint Response Styles. *Journal of Business Research* 40, 65–77.

Heskett, J., T. Jones, G. Loveman, W. Sasser, Jr., & L. Schlesinger (1994). Putting the Service-Profit Chain to Work. *Harvard Business Review* March-April, 164-174.

Hirschman, Albert O. (1970). *Exit, Voice, and Loyalty*. Cambridge etc.: Harward University Press. ISBN 0-674-27660-4.

Hirsjärvi, Sirkka & Helena Hurme (2001). *Tutkimushaastattelu*. Helsinki: Yliopistopaino. ISBN 951-570-458-8.

Homburg, C. & A. Fürst (2005). How organizational complaint handling drives customer loyalty: an analysis of the mechanistic and the organic approach. *Journal of Marketing* 69: 3, 95–114.

Huppertz, John W. (2007). Firms' complaint handling policies and consumer complaint voicing. *Journal of Consumer Marketing* 24: 7, 428-437.

Jagersma, Pieter K. (2009). Success beyond success: the "golden triangle" of continuous performance improvement. *Business Strategy Series* 10:5, 239-247.

Johnston, Robert (2000). Linking complaint management to profit. *International Journal of Service Industry Management* 12: 1, 60-69.

Jones, Thomas O. & W. Earl Sasser, Jr. (1996). Miksi yritys menettää tyytyväisiä asiakkaita? *Yritystalous* 3, 53–64.

Kinnula, Atte (2001). *Software Process Engineering Systems: Models and Industry Cases*. University of Oulu. ISBN 951-42-6507-6.

Knippen, Jay T. & Thad B. Green (1997). Problem solving. *Journal of Workplace Learning* 9: 3, 98-99.

Lambert, Douglas M, Martha C. Cooper & Janus D. Pagh (1998). Supply Chain Management: Implementation Issues and Research Opportunities. *The International Journal of Logistics Management* 9: 2, 1-19.

Leonard, Denis & Rodney McAdam (2002). The strategic impact and implementation of TQM. *The TQM Magazine* 14: 1, 51-60.

Liu, Raymond R. & Peter McClure (2001). Recognizing cross-cultural differences in consumer complaint behaviour and intentions: an empirical examination. *Journal of Consumer Marketing* 18: 1, 54-74.

Martín-Castilla, Juan Ignacio & Oscar Rodríguez-Ruiz (2008). EFQM model: knowledge governance and competitive advantage. *Journal of Intellectual Capital* 9: 1, 133-156.

Merton, Robert K., Marjorie Fiske & Particia L. Kendall (1990). *The Focused Interview*. New York etc.: The Free Press. ISBN 0-02-920985-4.

Ohno, Taiichi (1988). *Toyota Production System; Beyond Large-scale Production*. Cambridge etc.: Productivity Press. ISBN 0-915299-14-3.

Owens, Deborah L. & Douglas R. Hausknecht (1999). The Effect of Simplifying the Complaint Process: A Field Experiment with the Better Business Bureau. *Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behaviour* 12, 35-43.

Petersen, Peter B. (1999). Total Quality Management and the Deming Approach to Quality Management. *Journal of Management History* 5: 8, 468-488.

Porter, Michael E. (2004). *Competitive Advantage*. United States of America etc.: Free Press. ISBN 0-7432-6087-2.

Puputti, Mikko (1998). *Erään metallialan konsernin liiketoimintayksikön asiakaspalautejärjestelmän kehittäminen benchmarking-menetelmällä*. Master's Thesis. Vaasa: University of Vaasa, Faculty of Technology.

Rambaud, Laurie (2007). *8D Structured Problem Solving*. United States of America etc.: PHRED Solutions. ISBN 978-0-9790553-0-0.

Russell, Roberta S. & Bernard W. Taylor III (1998). *Operations Management: Focusing on Quality and Competitiveness*. 2. ed. New Jersey etc.: Prentice Hall, Inc. ISBN 0-13-849936-5.

Stauss, Bernd & Andreas Schoeler (2004). Complaint management profitability: what do complaint managers know? *Managing Service Quality* 14:2/3, 147-156.

Stauss, Bernd & Wolfgang Seidel (2004). *Complaint Management: The Heart of CRM*. United States of America: Thomson. ISBN 0-324-20264-4.

Tague, Nancy R. (1995). *The Quality Toolbox*. Wisconsin etc.: American Society for Quality. ISBN 0-87389-314-X.

Teng, Gary S., Michael S. Ho & Debra Shumar (2005). Enhancing supply chain operations through effective classification of warranty returns. *International Journal of Quality & Reliability Management* 22: 2, 137–148.

Vareila-Neira, Concepcion, Rodolfo Vazguez-Casielles & Victor Iglesias (2010). Explaining Customer Satisfaction with Complaint Handling. *International Journal of Bank Marketing* 28: 2, 88-112.

Wittenberg, G. (1994). Kaizen – The Many Ways of Getting Better. *Assembly Automation* 14: 4, 12-17.

Womack, James P. & Daniel T. Jones (2005). *Lean Solutions: How Companies and Customers Can Create Value and Wealth Together*. New York etc.: Free Press. ISBN 0-7432-7778-3.

Womack, James P. & Daniel T. Jones (1996). *Lean thinking: Banish waste and create wealth in your corporation*. New York etc.: Simon & Schuster Inc. ISBN 0-684-81035-2.

Womack, James P., Daniel T. Jones & Daniel Roos (1990). *The Machine that Changed The World*. New York etc.: MacMillian Publishing Company. ISBN 0-89256-350-8.

Åhlström, P. & C. Karlsson (1996). Change processes towards lean production: the role of the management accounting system. *International Journal of Operations & Production Management* 16:11, 42–56.

INTERVIEWS AND DISCUSSIONS

Buyer A, Case-Team; 19.10.2010.
Buyer B, Case-Team; 22.9.2010.
Buyer C, Case-Team; 20.10.2010.
Buyer D, Case-Team; 5.10.2010.
Buyer E, Logistics Division 10.9.2010.
Buyer F, Manufacturing Division 5.10.2010.

Logistics Coordinator A, Case-Unit; 2.11.2010.
Logistics Coordinator B, Logistics Division; 3.9.2010.
Logistics Manager A, Case-Unit; 20.10.2010; 15.1.2011.
Logistics Manager B, Case-Unit; 27.9.2010; 15.12.2010.

Manager A, Business Excellence; 10.11.2010; 10.12.2010.
Manager B, Case-Unit; 4.10.2010.
Manager C, Procurement; 22.9.2010; 1.11.2010; 22.12.2010.
Manager D, Quality; 11.10.2010; 13.10.2010.
Manager E, Case-Team; 20.9.2010; 29.12.2010.
Manager F, Project; 5.10.2010.
Manager G, Quality; 4.10.2010.
Manager H, Quality; 3.10.2010.

Specialist A, Category; 20.9.2010; 28.2.2011.
Specialist B, Category; 3.9.2010; 30.11.2010; 15.1.2011.
Specialist C, Category; 19.10.2010.
Specialist D, Quality; 10.9.2010; 20.9.2010; 8.10.2010; 28.2.2011.
Specialist E, Application; 7.9.2010; 14.1.2011.
Specialist F, Project Management; 10.12.2010.

APPENDIX

Quality Claim

Date : 1st March 2011

Handled by: Jaakko Kervinen
COMPL ID: COMPL123456

Dear Recipient,

We hereby inform you that the shipment as per details below arrived in damaged condition. We are holding you fully responsible, and hereby file a claim to cover our loss.

Order Reference

Vendor (SAP vendor code):	
Sales Order #:	
Purchase Order #:	
Tracking # / Shipment ID	
Supplier Order Reference:	
Supplier Delivery Note Reference:	

Material description

Material:	
End User Receiving Date:	
Installation Starting Date:	
Rejected Quantity:	
Returned Quantity:	

Observations/Problem Description
  1. Product faults – 10 PCS

Failed/Rejected material is returned and your written response is expexted by the latest: 1st April 2011

We reserve the right to revert to the matter and are awaiting your confirmation from the receipt of this letter.

Amount of claim: **USD 5000,00**

Attachments:
  1. Digital image of damage

Appendix 1. Proposal for Quality Claim Form.

Notice of Quality Notification

Date : 1st March 2011

Dear Recipient,

We regret to inform you that the shipment as per details below has arrived the consolidation point in damaged condition. We are awaiting you to provide further instructions on how to proceed from this point. An SAP quality notification has been filed and the supplier has been notified.

Order Reference

|	
Handled by:	
SAP Claim #:	
Vendor (SAP vendor code):	
Sales Order #:	
Purchase Order #:	
Material Code:	
Tracking # / Shipment ID	

Observations/Problem Description:
1. 5 x 5 cm hole in packing material, lower left corner (see attachment).

**Attachments:**
1. Digital picture of damage

Appendix 2. Proposal for Quality Notification Form.
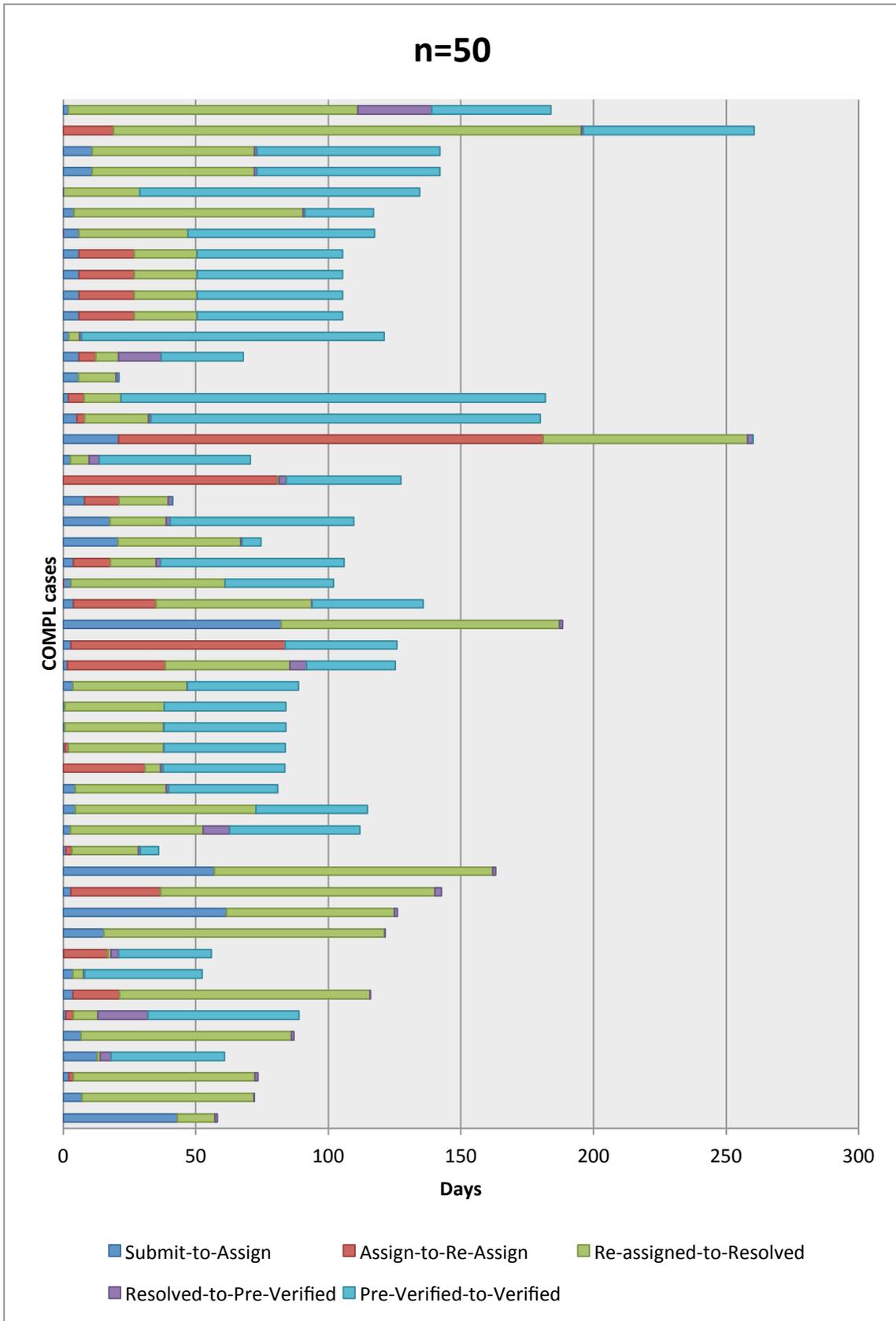
Appendix 3. COMPL Lead-Time Distribution, Submit-to-Verified.
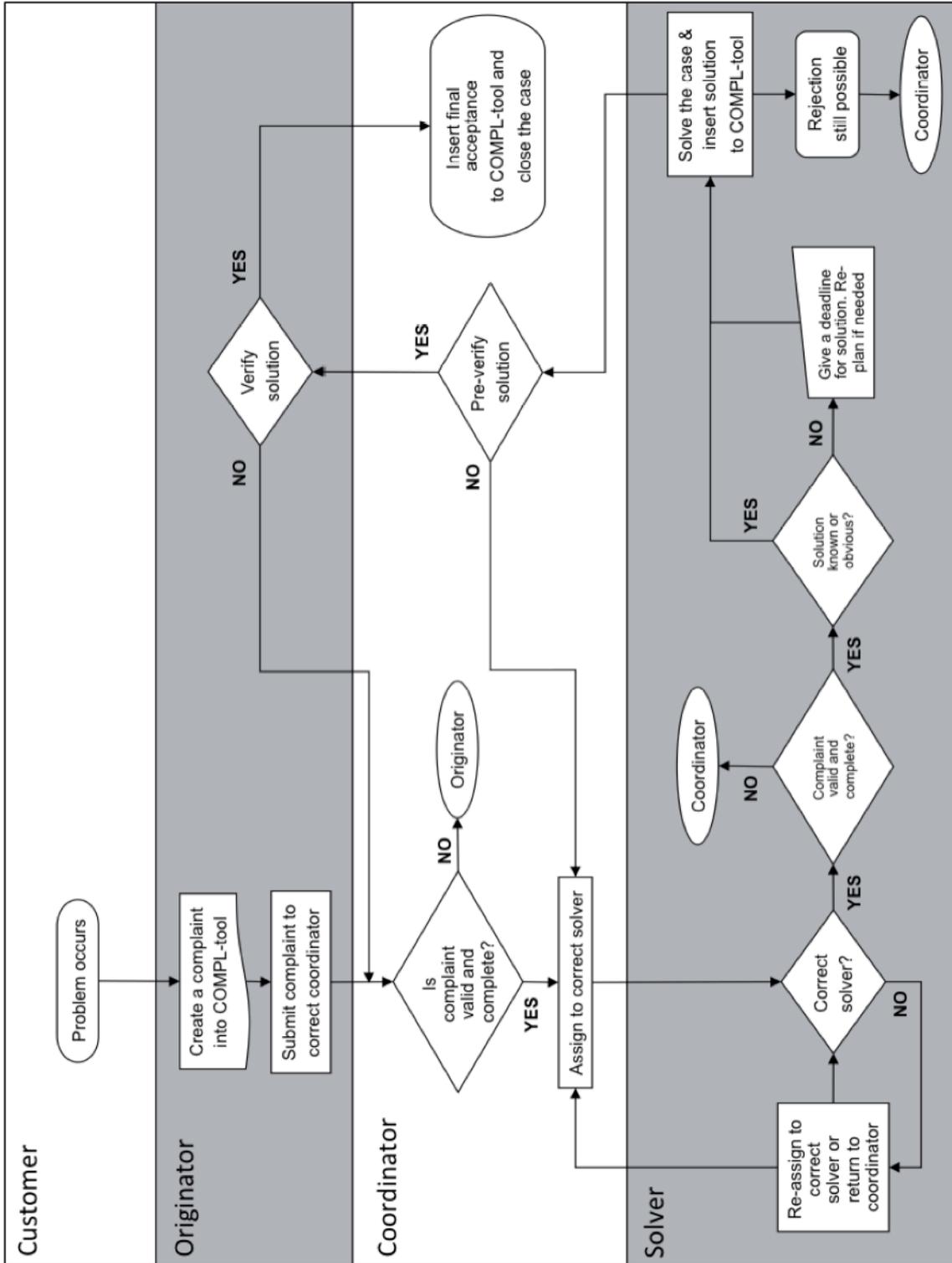
Appendix 4. Complaint Management Workflow; COMPL.
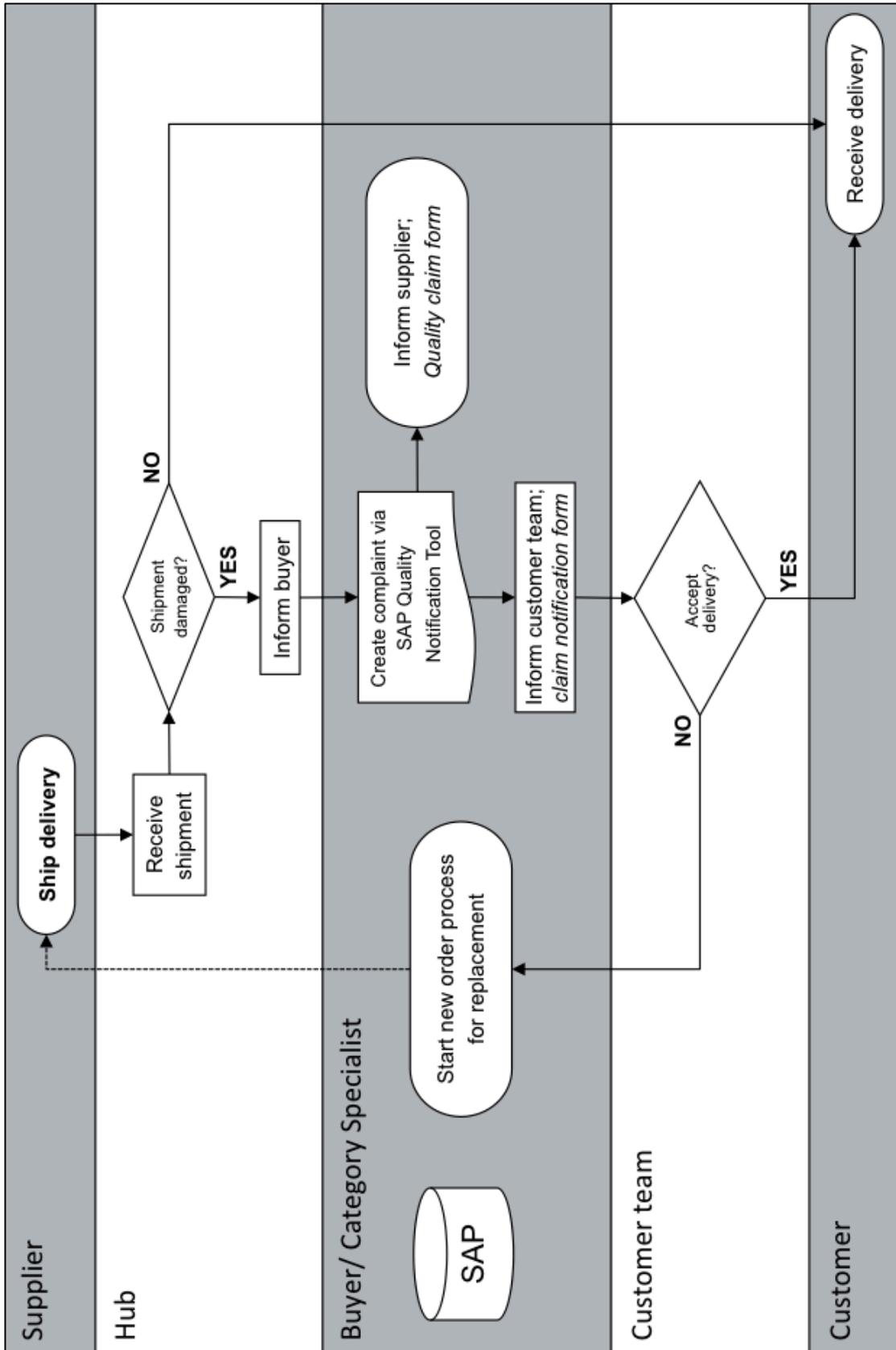
Appendix 5. Workflow for Transportation Damage; SAP.
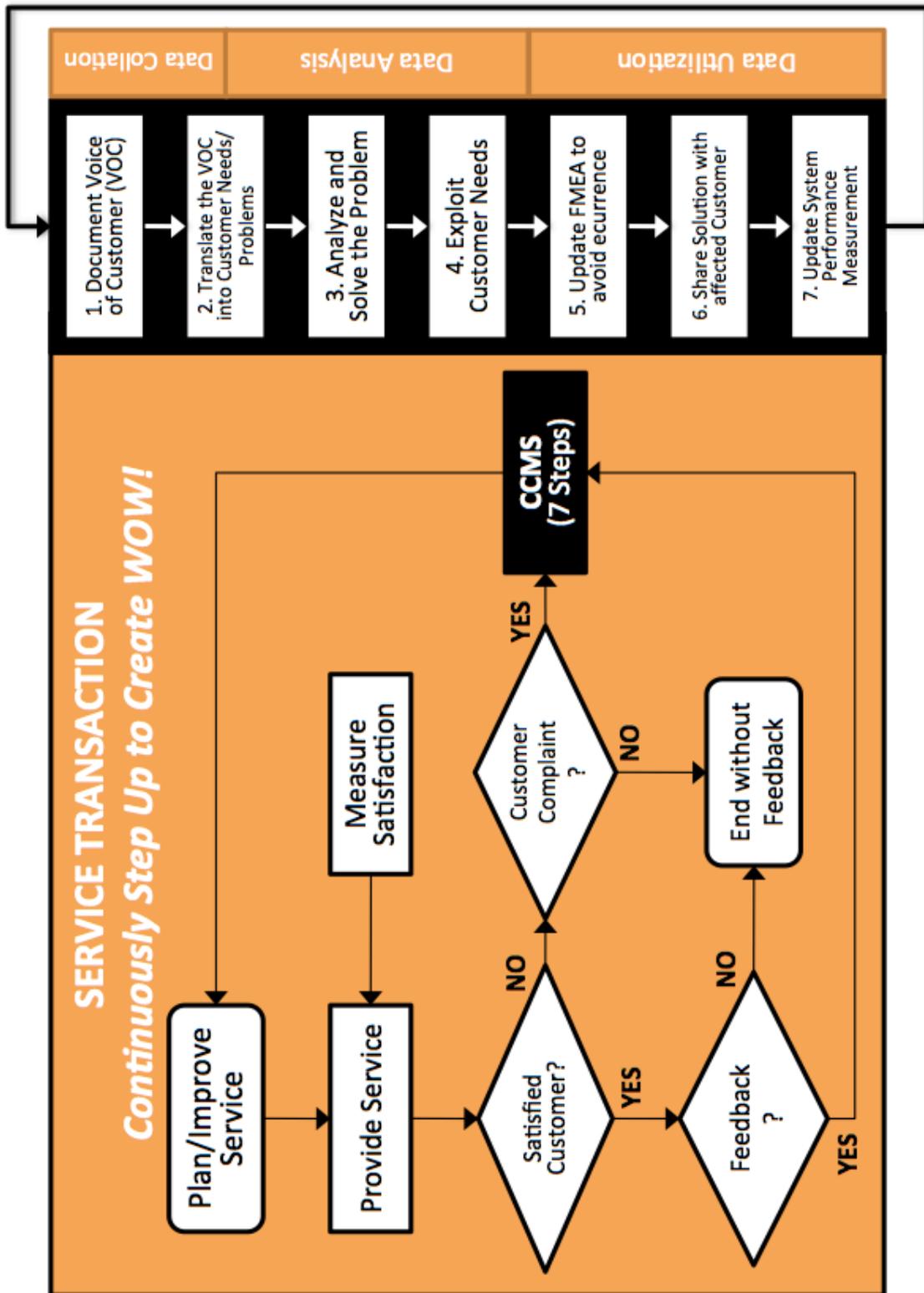
Appendix 6. Customer Complaint Management System (CCMS) Model in terms of service excellence (adapted from Bosch & Enríquez 2005: 32).