CHALMERS

Turning Customer Feedback into a Product Improvement Resource

A Case Study at a Medium sized Mechanical Company

Master of Science Thesis

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Göteborg, Sweden, 2012

Report No. E2012:019

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ABSTRACT

A good customer feedback process is seen as a key contributor for quality improvements, new product success rate and corporate profitability. Still many companies struggle or fail in the process; they collect data, but do not turn it into a product improvement resource. In literature there is much emphasizes on customer focus but not much hands on instruction on how to utilize customer's feedback. The purpose of this thesis is to elaborate on different practices for obtaining and analyzing customer feedback. The focus is on customer complaint handling, how it can be used for improvement work and what the biggest problems are in doing so.

Through literature review and a case study at a medium sized mechanical company a study on complaint handling and customer feedback system was conducted. The findings suggest that the biggest problems in using complaint data for improvements are concerned with costs being visible and immediate while benefits are long-term and indirect, customers, who experience problems, often do not complain and companies tend to behave in a defensive way towards complaints. At the case company, it was found that management support and communication between different departments needed to be more comprehensive. A structured process for handling feedback from customers was not in place and classification system for incoming claims and comments was unsuitable and hindering further analysis.

Complaint data needs to be supplemented by other sources of customer feedback and a strategy for the complaint handling should be in place. A customer feedback process has to start with clear objectives. The feedback sources have to be chosen with the objectives in mind, internal reference databases such as sales figures, complaints and comments from customers should be exhausted for economic reasons and supplemented by other research methods as needed. Data from all sources has to be analyzed together and root causes need to be found. When biggest issues have been revealed, it is important to communicate findings in an effective way. A culture of knowledge sharing has to be in place at the organization for this to be possible.

Keywords: Complaint management, customer feedback, knowledge management, voice of customer, quality management, customer feedback system, complaint system, complaint handling.

ACKNOWLEDGEMENTS

We would like to express our gratitude to all of our interviewees at the company, for their kind attitude and patience, as well as valuable inputs to our thesis. Special thanks to our company tutor, for valuable inputs and for entrusting us with the topic. Last but not least we would like to thank Ida Gremyr, our supervisor at Chalmers, for guiding us through the world of academic writing.

Göteborg, June 2012

Hallbera Eiríksdóttir and Guðrún Álfheiður Thorarensen

Contents

1 Introduction

Quality management has become a big thing over the last few decades, spreading its wings through all kinds of industries (Sousa & Voss, 2002). Three of the main principles in Quality management are focus on costumer, continuous improvement and teamwork (Dean & Bowen, 1994). Focusing on customer implies finding out and understanding what the needs, wants and expectations of the customer are and then trying to live up to those needs. There are believes that company‘s long term success depends on the customer satisfaction (Dean & Bowen, 1994) and that the company should focus on making the customer happy. Products and services are therefore designed with that in mind. What is considered great or good at one time can be looked upon as a basic need or an outdated need in the next period (Matzler, Hinterhuber, Bailom, & Sauerwein, 1996; Nilson-Witell & Fundin, 2005). Bergman and Klefsjö (2010) acknowledge that the basic rule of continuous improvement states that it is always possible to improve products, processes and methodologies while using fewer resources, achieve higher quality at lower costs. To reach a good level of cooperation, aiming for improvements, it is good to have teamwork practices where cross-functional groups are gathered in decision making, where the solutions should benefit all involved (Dean & Bowen, 1994).

In order to understand the customers’ needs, wants and expectations, companies have to find ways of capturing *the voice of the customer* (VOC). The VOC process is a key contributor to a long-term corporate profitability by facilitating quality improvement, eliminating wasted efforts, and saving money (Goodman, et al., 1996). Flint (2002) states there being ample evidence that the existence and use of formal VOC processes feeding the front end of product development, improves new product success rates. Even though the VOC process has proven to provide many advantages many companies struggle, or even fail, in the process. Goodman, DePalma, and Broetzmann (1996, p.35) stated that “the problem with the VOC process is not how the data are collected, but rather how the data are used or not used”.

In order of optimizing the voice of the customer process or customer feedback process, it has to be built from multiple data sources, chosen by taking into account suitability and objectives with the process (Goodman, DePalma, & Broetzmann, 1996; Naumann & Giel, 1995). Naumann & Giel (1995) state that since identifying customer drive attributes can be time-consuming, internal sources of attributes might become exhausted. Internal data such as customer complaints and sales figures should be used to clarify the issues to be addressed in depth interviews and focus groups (Naumann & Giel, 1995). Complaints from customers are a way of receiving feedback and therefore necessary for putting improvement plans into action (Zairi, 2000).

Effective complaint handling has according to Adamson (1993) two major benefits: the analysis of complaints and problems will increase the chance of ‘doing it right the first time’, i.e. the first time for new products. Further, if the individual problem is resolved to the consumer’s satisfaction and loyalty will increase. Complaints and other feedback that the organization receives has to be classified, presented in a clear way and analyzed in terms of finding root causes (Tarp Institute, 1986; Goodman, DePalma, & Broetzmann, 1996). When data has been analyzed and root causes have been found, distribution of findings within the company is essential for achieving improvements (Tarp Institute, 1986). The findings from the VOC process should feed the front end of the product development process (Flint, 2002). For the findings to be effective, according to Garvin (1993), it is not enough to have the right tools, when using systematic problem-solving; the employees must have the right mind-set,

for the tools to work. If the employees have reached the right mind set the company might be able to become a learning organization. Garvin (1993, p.80) defines learning organization as "an organization skilled at creating, acquiring, and transferring knowledge, and at modifying its behavior to reflect new knowledge and insights".

Within literature much emphasizes is on customer focus, but not much hand on instruction how to utilize customer's feedback. The purpose of this thesis is to elaborate on practices for obtaining and analyzing customer feedback to use for improvement work in the product development process, with focus on complaints. To be able to guide the research clearly towards its purpose, three research questions were formulated:

- What are the biggest problems in using complaint data for improvements?
- What should customer complaint system contain to be of use to product development?
- What are managerial implications for companies that want to use customer complaint systems for improvement work?

A case study was conducted at a medium sized mechanical company to examine this purpose further. The company has chosen to be anonymous and will therefore be referred to as 'the company' in this thesis.

2 Methodology

This chapter contains a discussion of the research process and the research methods used during this study. The research design chosen was a case study.

2.1 Research process

To get a clear picture of the subject, the work started with a pre-study of the organization and the topic by conducting unstructured and semi-structured interviews with employees at the company and supervisor at Chalmers. A review of relevant literature was conducted both before and after the period when most of the data collection at the company took place. The analysis and recommendations were done by correlating empirical data with literature and best practices, by conducting an affinity diagram, and by collecting different views and suggestions from interviewees. The different steps and research methods are shown in Figure 1.

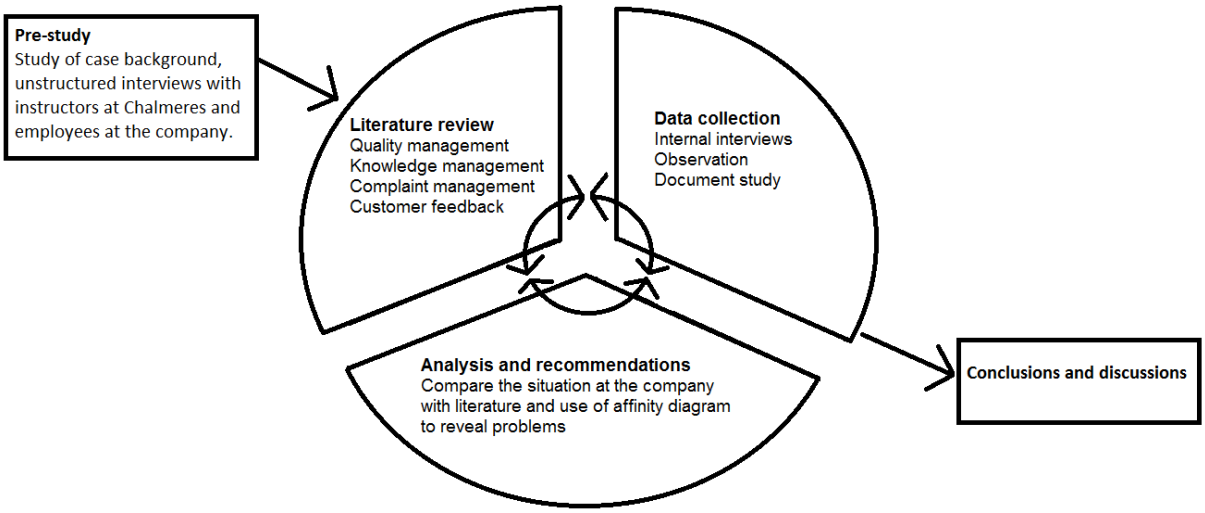

Figure 1: An overview of the process and research methods used in this master thesis.

2.2 Qualitative case study research

According to Bryman and Bell (2011) one approach in a qualitative case study is to focus on a single case, where the case can be for example an organization, a location of an organization or a single person. In most cases the subject is a single organization or a single location of an organization. A case study is different from other research studies mainly because it focuses on a special situation or a system and investigates it intensely (Bryman & Bell, 2011). This is the case in this report, a single organization was investigated thoroughly and the focus was mainly on their complaint handling process.

Case studies have been used in many research situations to increase knowledge of the subject, as stated by Yin (2009), irrespective of whether the research subject is an individual, an organization or a group. Case studies have been used in research for example in psychological, political and sociological sciences and are in most cases used for understanding complex social phenomena. Since the case study allows the researchers to retain a social setting in its reality, they can investigate group behavior, organizational processes, organizational culture and other similar situations. (Yin, 2009) Case studies have high internal validity since many research methods can be used and triangulated (Bryman & Bell, 2011), as was done in this study.

Bryman and Bell (2011) associate cases with qualitative research since they are connected to participant observation and semi-structured interviews. Those methods give deep and detailed

analysis of the situation. They can however be used in quantitative research as well (Bryman & Bell, 2011). In this case, only qualitative methods were used. Quantitative methods were not used since the data gathered was not numerical and did therefore not suit quantitative methodology. As Bryman and Bell (2011) suggest, the goal is to concentrate on this one case and gain deep understanding of it.

As Yin (2009) states, case studies are used when *a)* 'how' or 'why' questions are asked, *b)* the investigator has no or little control over events, and *c)* the focus is on a modern phenomenon in a real-life situation. Those requirements separate case studies from other forms of research. All of those requirements exist in this current case. The research questions are asked with 'how', the authors have almost no control over what happens and are focusing on a contemporary phenomenon within a company. When the subject in matter cannot be controlled by the researchers the case study becomes similar to a historical review but it adds extra sources to the research, mainly the fact that the researchers have direct contact both through interviews and observation. (Yin, 2009)

2.3 Literature review

When doing a research, the first step according to Gillham (2010) should be to look at what is known and has been done before in that field, what is missing and where to search for new evidence to develop a new theory or to test an existing one.

Bryman and Bell (2011) suggest when searching for literature in research it should be kept in mind that the research should be replicable and therefore the literature search as well. In this research the search words used were in the beginning: "robust design", "FMEA", "improvement engineering", "QFD" and "software usability" but as the research developed and the project became more specific the focus in the literature search was on "complaint management", "knowledge management", "quality management", "customer feedback", "warranty system", "complaint system", "defect codes" and "voice of the customer". The search was done through Chalmers library database, Summon, and Google Scholar. The authors also used cited work in the articles they found to search for other articles.

2.4 Unstructured and Semi-structured interviews

According to Bryman and Bell (2011) qualitative interviews are in most cases either unstructured or semi-structured. Which type is chosen can be affected by multiple factors. In this case study, interviews were conducted with eleven employees at the company, both unstructured and semi-structured. The first interviews were unstructured while the scope and attributes of the case were being studied. During the study, when more knowledge had been collected, the interviews became more structured. The interviewees were people within the organization, from quality department, sales and marketing, product development and upper management.

Bryman and Bell (2011) define an unstructured interview as more like a conversation, rather than an interview, between the interviewers and the interviewee where there might only be one question and the interviewee is allowed to speak freely. The interviewer responds to the conversation with relevant comments to follow up. The unstructured interviews were mixed with the researchers observation on the interviewees' normal work process related to the subject. The authors for example visited the inspection area where products from complaints are tested. The unstructured interviews varied from one hour up to four hours in length.

According to Bryman and Bell (2011) a semi-structured interview is a bit more planned and the interviewer has prepared an interview guide with questions on the research topic and relevant to the interviewees expertise. Since it is only semi-structured there is no prerequisite

to ask the questions in a particular order if the interview develops to other directions. Interviewers can add questions they see fit to help them understand the subject better. The semi-structured interviews were audio recorded and transcribed, or notes taken, as soon as possible. Most of the semi-structured interviews lasted for one hour but few expanded little over that limit. The questions varied a little from interviewees depending on their occupation. Questions asked were for example:

- What is your role within the company?
- How is the cooperation between departments?
- What happens when the company receives a complaint?
- How does the company collect and handle feedback?
- What information would you like to get out of a complaint system?

Choosing the interviewees was a convenience sampling since the authors chose, in cooperation with the supervisor at the company, people which they would like to talk to in reference to the case. There can be both positive and negative effects from using convenience sampling. Bryman and Bell (2011, p.190) state one of the cons that "it is impossible to generalize the findings, because we do not know of what population this sample is representative." The sample is therefore not reflective of experts in general but a sample from employees within a medium sized company which is the case subject of this research. The sample is a mix of employees from different departments, with different backgrounds and educations. Most of the semi-structured interviews were conducted at meeting rooms in the company but some were done at the interviewees' office or workspace.

2.5 Document study

During this research organizational documents from the company were studied, both from printed material, organizational database and web pages. This was done to gain understanding of the company and their product, as well as understanding processes within the company, both the one that was being investigated and other related processes.

2.6 Affinity diagram

After gathering data within the company, an affinity diagram was conducted with help from two employees at the company and a doctoral student at Chalmers, from the Division of Quality Science. This process was facilitated by a senior lecturer/researcher from Chalmers, Division of Quality Science. The process took almost three hours to complete.

Mitoneau (1998), as cited by Ghiculescu, Marinescu, Ghiculescu and Gonczi (2010), describes an affinity diagram, known as KJ Shiba method, as intuitive and creative approach to a problem. Ghiculescu, Marinescu, Ghiculescu and Gonczi (2010) suggest that an affinity diagram is used if the problem in question is a threat to some hardly controlled phenomena, if the company is stuck on a problem and should find new perspectives, or if the problem is complicated and does not require a fast solution. This requires a background research on the problem.

According to Mitoneau (1998), as cited by Ghiculescu, Marinescu, Ghiculescu and Gonczi (2010), an affinity diagram should be most successful if six to eight persons participate in developing it. For the process to become successful Ghiculescu, Marinescu, Ghiculescu and Gonczi (2010) present important features to have in mind while going through the process: work silently; react fast and spontaneously; and to manage divergences simply, for example if members cannot agree on an idea it can be duplicated.

There are 10 steps in the process of making an Affinity Diagram (Alänge, 2009). The first one should be to formulate a question to guide the participants in approaching the problem. Due to lack of time, the question was formulated in forehand by the master students working on the thesis. The question was "What is the biggest problem in using complaint data for improvements?" Step number two was also skipped. The 10 steps can be seen in Table 1.

Table 1: The 10 steps of making an affinity diagram, as adapted from Alänge (2009).

Step 1:	Formulating question. The question should be formulated in this form: "What was (is) the biggest problem in…"
Step 2:	Warm-up. The participants spend around five minutes talking about the question and what they think.
Step 3:	Collecting data. Participants write down their answers to the overall question on yellow post-its. It should be a full sentence and based on facts. This should be done in complete silence and participants are not allowed to work in groups during this step.
Step 4:	Clarifying the meaning. In this step, the participants go over each post-it together and see if they can understand what it says. If there is something unclear, the author has to explain what he/she meant by this statement. If everyone agrees on the meaning, the post-it is put on the right side of the wall-table.
Step 5:	Grouping. Here the participants start grouping together post-it notes that they think are related. This is done in silence as well as collecting data. Each participant moves a post-it to a place they think is appropriate but another participant can disagree and move it to another place. Groups should be formulated of 2-3 post-it notes. There can also be "lone-wolfs" where a post-it note stands alone. If needed, participants can add something they feel is missing from the table.
Step 6:	Higher level grouping. Headings are found for each group and written on pink post-it notes to put on top of the yellow post-it notes that are already on the board. Heading should be descriptive of the group and what the meaning of the yellow post-it notes is. When headings have been put in place then there is time for 2nd level grouping. This is same procedure as before but now the headings are grouped together. It is common to have 3-5 main groups after the 2nd level grouping. New headings are found for those groups.
Step 7:	Show connection. Here a cause-and-effect between the groups is discussed. There can only be an arrow in one direction between two groups and in rare occasions there might be contradictions between some groups.
Step 8:	Final layout. In this step the whole picture is organized. It is good to have the connections in mind and try not to have arrows crossing each other. The yellow post-it notes are laid out under their headings and each group circled with a black pen and then the big groups are circled with a green pen.
Step 9:	Evaluation. This step is to evaluate the importance of each issue in relation to the overall question. The participants get three voting stickers and vote all at the same time by putting stickers of different colors (representing 1-3 points) on to the 2nd level headings.
Step 10:	Concluding sentence. To summarize the results the next step is to make a sentence that includes the priorities from the voting and relationships between the areas. The participants then sign the sheet to show who did the job.

2.7 Reliability and validity

Bryman (2004, p.543) defines reliability as "the degree to which a measure of a concept is stable" and validity as "a concern with the integrity of the conclusions that are generated from a piece of research" (Bryman, 2004, p.545). Further, reliability and validity can both be divided into two categories, internal and external. According to Bryman and Bell (2011) a case study has limited external validity since its results are hard to generalize to other situations beyond the case in question. However it can have a high internal reliability and internal validity. With high internal reliability it is meant that it is more than one observer. They agree on what is seen and heard. Internal validity is when the observation of the researchers and theoretical ideas are aligned. (Bryman & Bell, 2011) This particular case has more than one observer and it is possible to fit together the theoretical ideas and the observation made by the authors.

Bryman (2004, p.30) states that credibility "parallels internal validity – i.e. how believable are the findings". When credibility is mentioned the term triangulation follows. With triangulation more than one research method is used in the study. Triangulation can also mean multiple observers but mainly multiple methods (Bryman & Bell, 2011). In this case, both apply. Methods that were used are literature review, interviews, document study and conducted an affinity diagram.

What can be questionable is that most documents about the company come directly from the company itself. However, these documents were only used to obtain information to understand the company's situation in the market and how they present themselves out in the world.

What can be of influence in this study is the fact that the researchers are Icelandic and the research is done in Sweden. Most of the interviews were done in Swedish and even though the researchers have a good understanding in Swedish there might be some difficulties in communication. Welch and Piekkari's (2006) research on multi language interviewing revealed a difference when the interview language was decided. Some researchers approach the interviewees in the same language as they will use in the interview and in many cases the interviewees assume, without it being noted, that the interview will be in the language they are addressed in first contact. In this study the interviewees assumed that the interviews would be in Swedish unless the researchers specifically stated otherwise. This may be due to the fact that the researchers spoke Swedish in informal situations at the company.

3 Theoretical framework

The theoretical framework encompasses quality management literature, knowledge management literature and literature concerning customer feedback and complaint management. The focus is on complaints and how they can be used for improvements. Complaints are one source of customer feedback and need to be looked at in correlation with other sources of information from customers. In order to be able to continuously improve from past experience and having customer focus, which are two of the main principles of quality management, company's need to be good at transferring and managing knowledge between organizational units. The structure of the theoretical framework can be seen in Figure 2.

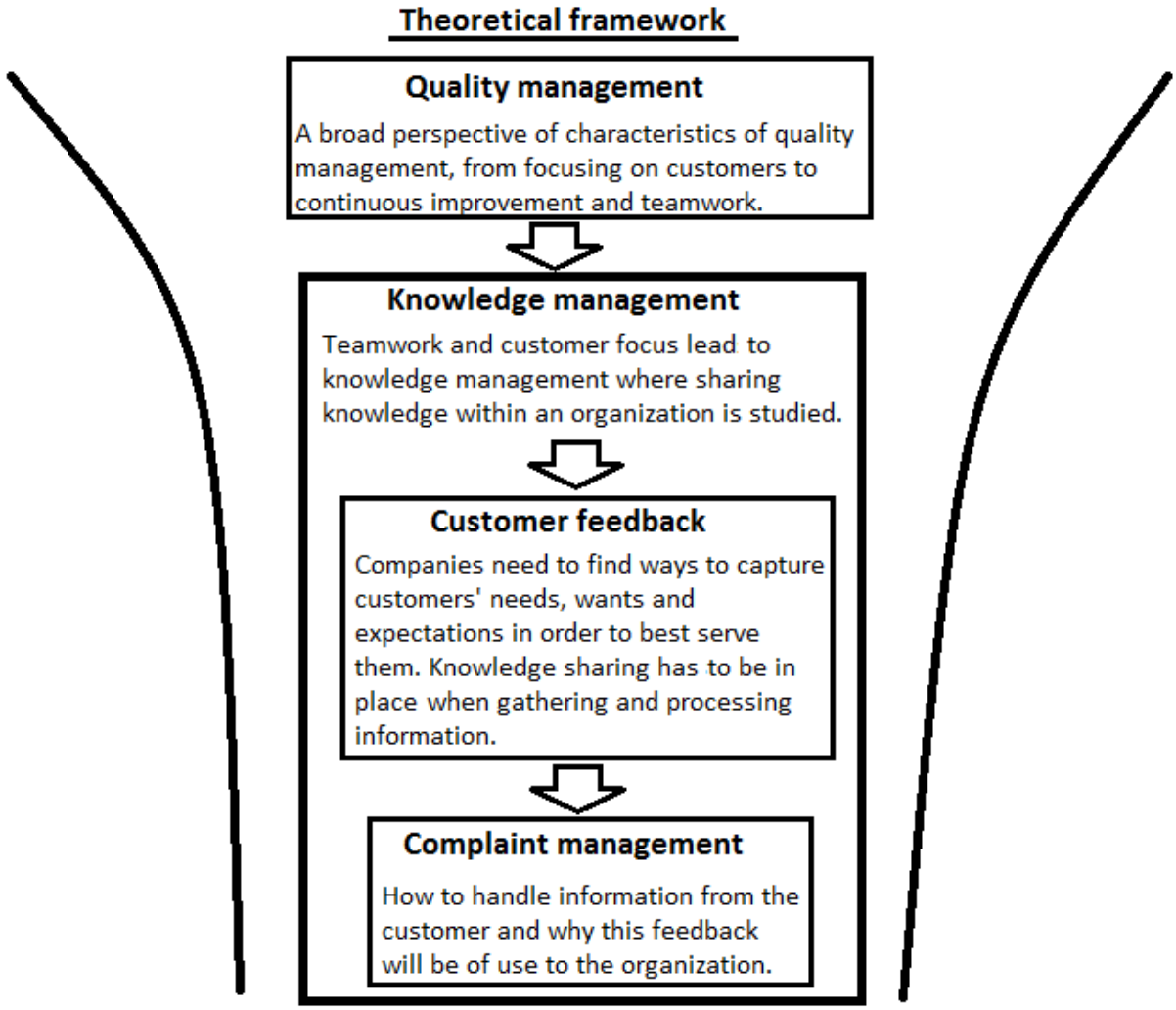

Figure 2: The structure of the Theoretical Framework

3.1 Quality management

This chapter contains description of quality management in general, a short explanation on what it is, and how it can be used.

There are several corner stones within quality management (QM) but experts have not been on agreement on all of them. Those that most agreed upon, according to Eklund (2000), are leadership support, continuous improvement, participation, process orientation, and decision

making based on facts. This list is however missing the customers focus which Dean and Bowen (1994) and Bergman and Klefsjö (2010) state is the most important principle in quality management.

Sousa and Voss (2002, p.92) bring up the question: "Is there such a thing as QM? ", as there have been different definitions on quality management. However there have been agreements of principles between early adopters and philosophers which give a good idea that there is such a thing as quality management.

Total quality has been seen by Dean and Bowen (1994, p.392) as "a philosophy or an approach to management that can be characterized by its principles, practices and techniques". The three main principles they mention are customer focus, continuous improvement, and teamwork (Dean & Bowen, 1994). What has been written about quality management has in main parts focused on these principles.

Garvin (1984) presents two main routes where improved quality can lead to increased profits, the manufacturing route and the market route. The market route suggests that improvements in product quality lead to increased sales and larger market shares or higher prices and less elastic demand. The manufacturing route produces improved internal process quality, fewer defects, scrap and rework, and should result in improved operational performance and when finalized, a better business performance. Improved product quality can also result in lower warranty and product liability, with lower service cost (Garvin, 1984).

3.1.1 Focus on customer

Dean and Bowen (1994) state that customer focus is the most important quality principle since quality management aims to satisfy the customer's needs. They believe that company's long term success depends on the customer satisfaction and the company should focus on making the customer happy. Products and services are therefore designed with that in mind. Products with high quality are also expected to create higher customer loyalty (Garvin, 1988). Practices to contact customers can for example be to gather information about his believes and needs and spread that information around the company (Dean & Bowen, 1994).

Eklund (2000) argues that with a long-term perspective come three important stakeholders: customers, employers and employees. The customer should be the first priority and customer satisfaction can only be obtained if all processes and work activities function well through all stages of the organization all the way to the customer. This is both relevant to internal and external customers. Regarding external customers, Flint (2006) states that it is the customers who create the value for a company and they should be listened to. Bergman and Klefsjö (2010) agree and come to the conclusion that quality has to be valued by the customers, according to their needs and expectations. This leads to the fact that quality is defined by the competition on the market. Organizations should have that in mind when designing products and find out what the customers want and try to fulfill those expectations. However, this is not easy and in many cases the customers themselves do not know what they want until they have it and may have difficulties even expressing what they want. The Kano model (see section 3.1.4) can give a good idea on what customers want as well as what they do not want (Nilson-Witell & Fundin, 2005). Surveys or customer relations management (CRM) programs that obtain previous purchasing can be another way to observe the customers' behavior and discover their needs (Bergman & Klefsjö, 2010).

A company is also built of a chain of internal customers and each employee has to pass their quality work on to the next. When the company's processes are of high quality, it should be possible to achieve effective operations and long-term profitability. (Eklund, 2000) Quality improvement aims at providing employees with better opportunities to do a good job and feel

happy with their performance. Satisfied internal customer is a good way to satisfied external customers. (Bergman & Klefsjö, 2010)

3.1.2 Continuous improvement

According to Dean and Bowen (1994) continuous improvement is the second principle and forces the organization to keep coming up with new and improved methods from what they have now, both in terms of technical and administrative processes.

Garvin (1988) states that organizations realized in one point that greater quality could produce higher profits and also realized that the competitors would not aim to be as good as the best, but better. With that in mind, it is important to realize that if an organization stops improving, soon it stops being good (Bergman & Klefsjö, 2010). Therefore, according to Garvin (1988), the quality-target has become a moving target where the goal is trying to do better than before and exceed other players on the market. To succeed in this project the entire organization has to be activated and committed to the goal and it has to start with the management's approval and involvement. Some companies have even noticed that the employee's dedication did not start until the high level managers were actively involved (Garvin, 1988). Eklund (2000) states managers having to acknowledge quality being profitable. Quality improvements can lead to better productivity and lower costs by doing things right from the beginning and remove causes of bad quality (Eklund, 2000). Measured cost due to defects can vary from 10-30% of the sales and in many cases defects can incur other costs as well (Bergman & Klefsjö, 2010).

Bergman and Klefsjö (2010) acknowledge that the basic rule of continuous improvement states that it is always possible to improve products, processes and methodologies while using fewer resources, achieve higher quality at lower costs. This must be a win-win to benefit both employees, customers and the company and the main aim should be to do it right the first time and, not less important, to do the right things. A useful tool for continuous improvement is for example the PDCA-cycle (Plan-Do-Check-Act); see Figure 3 (Eklund, 2000).

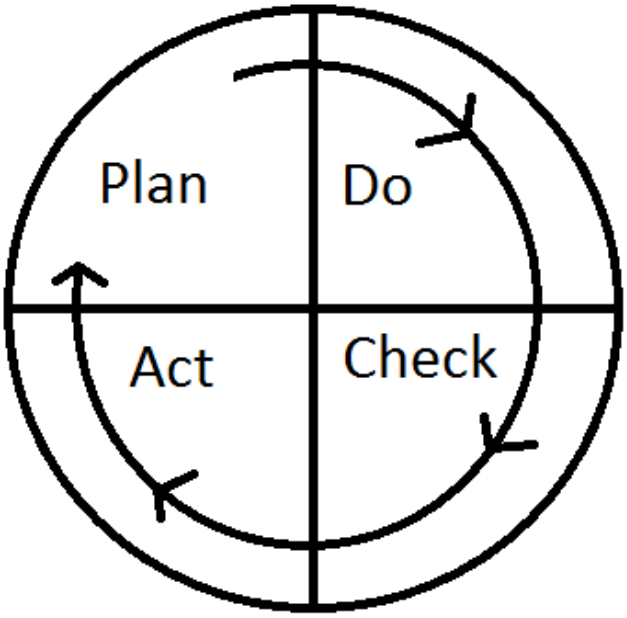

Figure 3: PDCA cycle, adapted from Bergman and Klefsjö (2010).

3.1.3 Team work

Another principle mentioned by Dean and Bowen (1994) is teamwork and with that they mean collaboration between different parts of the organization, between managers and employees on the floor, between different departments etc. To reach a good level of cooperation it is good to have teamwork practices where cross-functional groups are gathered in decision making, where the solutions should benefit all involved. (Dean & Bowen, 1994)

Eklund (2000) states it being important to recognize problems within the company and make them visible. When more people are aware of the problems it is more likely that a solution will be found. The forces that drive this can be the challenge to create a solution or the elimination of the problem. Forming of a team for solving problems can therefore be feasible. Cooney and Sohal (2004) agree with this and include that the type of the team is not important and companies use all sorts of teamwork types, for example functional and cross-functional teams, permanent and temporary teams, voluntary and compulsory teams. All of those examples were found in Cooney's and Shoal's study (2004) in various combinations and no special format was more common or more successful than other. When looking for the solution it is important not to criticize people and find scapegoats. This can result in hidden errors since employees will avoid criticism (Eklund, 2000). Complementary, Bergman and Klefsjö (2010) talk about how employees who are given the responsibility and a chance to do a good job feel a professional pride and are more likely to be committed to the job. This contributes to improved products and quality in all processes. The employees will also feel more appreciated and become more active in decision-making and improvement work.

3.1.4 Quality dimensions and Kano model

One of the fundamentals to quality management is to satisfy the customer (Dean & Bowen, 1994). With quality dimensions, the company can decide where to compete in quality. By using the Kano model the management can see whether or not those dimensions were the right choice since the Kano model gives suggestions of which are important to the customer satisfaction. (Garvin, 1984)

Quality dimensions

Gavin (1984, 1988) categorizes quality in eight dimensions, described in Table 2.

Table 2: Gavin's (1984, 1988) quality attributes.

Quality attributes	Description
1. Performance	Primary operating characteristics of a product.
2. Features	Secondary features that supplement the products' basic performance.
3. Reliability	The probability of a products' function/failure within a specified period of time.
4. Conformance	The degree which the design and operating features of a product meet pre-established standards.
5. Durability	Measures products' life.
6. Serviceability	The possibility of repair when something breaks and how long time it will take to repair it.
7. Aesthetics	How a product looks, feels, sounds, tastes or smells.
8. Perceived quality	When consumers assume that product is quality because of previous experience. Product image and advertising play a big role here.

According to Garvin (1988) some dimensions can be linked and high performance in one might only be reached at the expense of another. However, other dimensions can also move together, meaning when a high achievement is gained in one the other automatically has high performance as well. Some of these dimensions are measureable while others are based on consumers' feelings or products' reputation. They define quality from different points of view and this is one of the reasons why quality is so hard to define in one specific way.

Garvin (1988) states that the quality dimensions can be useful when companies are comparing their products with competitors. If the same criteria is used for a similar product from each company it should be possible to see which is ranked higher in overall quality, though there might be some insignificance regarding some categories since they are measured by the customers' feelings. It is also difficult for companies to be best in all eight dimensions and, as mentioned above, high quality in one dimension might only be reached by minimizing quality in another. These tradeoffs are recommended by Garvin (1984, 1988) which suggests that companies focus on few dimensions rather than trying to be best at everything. Sousa and Voss (2002) recognize the multi-dimensional nature of quality. Further, they state that an organization will only achieve competitive advantage through quality if the markets' opinion on what quality dimensions are important and how the company performs within those dimensions, are aligned.

Kano model

According to Garvin (1988), there must be a detailed market research on the quality dimensions to determine which dimensions are most important to the customer. The Kano model is a tool to use in market research, to find out what customers are looking for in the product. The Kano model was developed by Noriaki Kano in 1984 and contains types of product requirements which customers find necessary or appealing (Matzler, et al., 1996). According to Löfgren and Witell (2005), these product requirements are categorized into five categories; must-be requirements, one-dimensional requirements, attractive requirements, indifferent requirements and reverse requirements. In Table 3 the product requirements are described as well as noted if they are spoken or unspoken needs. Spoken needs are the requirements that the customer states he wants to be included, or not included, in the product. When needs are unspoken the customer either expects them to be included in the product or does not know that he wants it (Witell & Löfgren, 2007). For example a customer who wants to buy a car may specify that he wants the car to have automatic shift but he does not mention that he wants the car to have a steering wheel since he expects it to be there.

Table 3: Product requirements, adapted from Löfgren and Witell (2005) and Yang (2005)

Requirements	Description	Spoken	Unspoken
Must-be	The basic requirements and if those needs are not meet the customer will not be satisfied but if they are present they do not add anything extra to the customer satisfaction.		X
One-dimensional	Requirements that the customers state they require, an extra feature that would make them happier with the product.	X	
Attractive	Attributes that the customer does not expect or ask for. If they are not present it does not lead to any dissatisfaction but if they are present the customer might choose this product over other compatible.		X
Indifferent	Attributes that do not add anything to the product, in either good or bad way.		X
Reverse	If this attribute is present the customer will not buy the product.	X	X

Figure 4 contains the Kano model. Product attributes are displayed with regards to the degree of alignment related to impact on customer satisfaction.

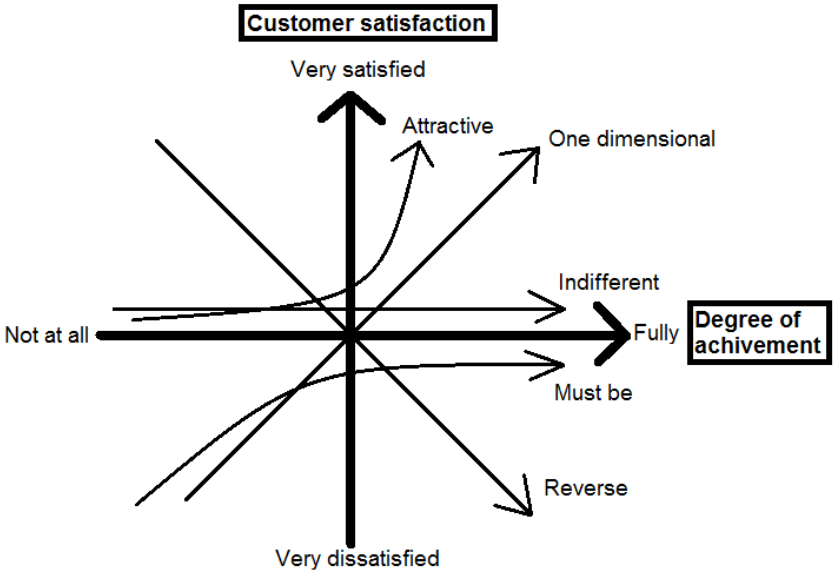

Figure 4: Kano model of attractive quality adapted from Löfgren & Witell (2005)

Nilson-Witell and Fundin (2005) discussed dynamics in the attributes. How an attractive attribute could become a must-be requirement with time. They mention example with remote controls, how they were an attractive requirements when buying a television in 1983 but had become a must-be attribute in 1998. The most common dynamic order of the attributes is Indifferent – Attractive – One dimensional – Must-be (Nilson-Witell & Fundin, 2005)

3.2 Knowledge management

This chapter of knowledge management includes methods and practices on how knowledge can be transferred within company, between employees and departments. Being good at sharing knowledge is valuable for a company that wants to listen to their customers and fulfill their needs with continuous improvement.

3.2.1 Learning organization

Garvin (1993, p.80) defines learning organization as "an organization skilled at creating, acquiring, and transferring knowledge, and at modifying its behavior to reflect new knowledge and insights" and they should be skilled at five building blocks:

1. Systematic problem solving
2. Experimentation with new approaches
3. Learning from their own experience and past history
4. Learning from the experiences and best practices of others
5. Transferring knowledge quickly and efficiently throughout the organization.

According to Garvin (1993) it is not enough to have the right tools, when using systematic problem-solving, the employees must have the right mind-set for the tools to work. In this case close enough is not good enough and employees must realize that for the organization to become successful. Experimentation is motivated by opportunity, while problem-solving is motivated by current difficulties, and is good for testing new knowledge. The third point, learning from experience, suggests that companies must review their own successes and failures, record them systematically and make assessable to employees. Since there is not only one company that makes mistakes or succeeds, all companies should look at others and learn from them (Garvin, 1993). Maidique and Zirger (1985) also suggest learning by failure where a new product can result from an older attempt that did not succeed. This can also be relevant to failure in organizational development since failures help to identify weak links in the organization as well as encourage stronger parts against the failures. Maidique and Zirger (1985) state that failures are the best teachers the organization gets and their lesson should be easy to learn from. It is much harder to learn from your successes.

The final block suggests that to become successful, companies must spread knowledge fast around the organization since ideas spread maximum impact when shared with others (Garvin, 1993). This is also the view of Sveiby (2001) which defines knowledge as a capacity-to-act (which may or may not be conscious). A capacity-to-act can only be shown in action and each individual has its own capacity-to-act and can re-create it through experience. For managers, the dynamic properties of knowledge are most important and the individual competence can be used as a fair synonym to a capacity-to-act as well as improvement work at the company. With this in mind managers should start strategy creation with the competence of people. People are social creatures that need other people to thrive, both in personal life as in business, and ultimately create culture of their own in the workplace. This culture is most often made of external and internal structure made of events linked together. People in an organization can use their competence to create value in mainly two directions, externally or internally (Sveiby, 2001).

The external structure features relationships with customers and suppliers and the outer image of the organization. If used right, those relationships can result in trademarks and brand names. This can be both positive and negative depending on the reputation and how well the company solves customers' problems (Sveiby, 2001). The internal structure involves everything within an organization, for example models, concepts and administrative systems.

Within the internal structure is also the company's culture, its spirit and all informal communication between employees. This spirit should be able to stay within the company even if influential employees leave, both within internal and external structure (Sveiby, 2001). Sveiby (2001) mentions a third competence, individual competence, which includes the competence of those employees who have contact with the customers or work within the business idea.

Senge (1999) states that learning organizations should be continuously learning. This should be a part of the organizational life and can only be achieved if all parts of the organization are involved. For an organization to become a successful learning organization Garvin (1993) suggests it can start by taking few simple steps. The first one is to foster an environment that is conductive to learning. Time must be given to evaluate, discuss, analyze and think about strategic plans. Management must be fully evolved and support the employees time to learn and the skill to learn must be trained, for example with brainstorming sessions, problem solving and other core learning skills. Next step is to open up boundaries and stimulate the exchange of ideas. This can be done by conferences, meetings and project teams. When those steps are in place, management can create learning forums which can be established with special goal in mind and examine the company's portfolio. The organization should encourage the employees to commit to learning (Garvin, 1993).

Organizational knowledge transfer

Sveiby (2001) compares knowledge transfer and transfer of tangible goods and states that there is one main difference. When goods are transferred between people there is almost always some lost in value, for example if one person gives another their book the first person does not have the book anymore. Knowledge however grows since when knowledge is shared it does not leave the person who is sharing. Both individuals gain something off the knowledge transfer. The knowledge value chain becomes a network and it grows with each transfer on tacit and explicit knowledge between individuals (see section 3.2.3). From an organizational point of view the knowledge has doubled and competence of both individuals has doubled. How this transfer happens is the key to the value creation and communication is accentual (Sveiby, 2001). Knowledge transfer is more likely to be successful if the right incentives are offered. If employees know that their learning will be used and evaluated it is more likely that they will share and adapt knowledge (Garvin, 1993).

Sveiby (2001) acknowledges nine basic knowledge transfers that create value for the organization. These transfers are presented in Figure 5.

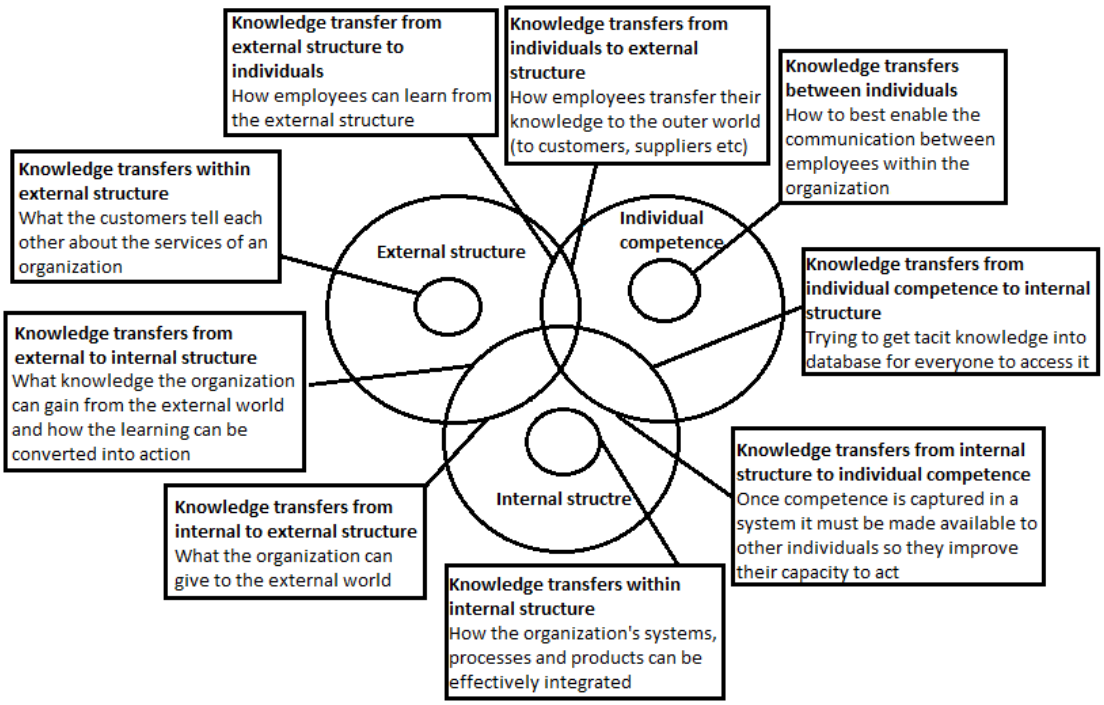

Figure 5: Knowledge transfers that create value for the organization, adapted from Sveiby (2001).

Those nine knowledge transfers exist in most organizations, but in most cases they are not coordinated or strategized because of lack of management support. In many cases the organization also has legacy systems and cultures that block the leverage. In those cases, for individuals, knowledge shared could be opportunity lost if it results in lost career opportunities, extra work and no recognition. If the organization's culture is highly competitive, investment in an IT system for knowledge sharing is a waste of money, individuals will not share the important things so the system becomes useless. Based on this, Sveiby (2001) argues that a knowledge-based strategy formulation should begin with competence of the people.

3.2.2 Tacit and explicit knowledge

According to Grant (2009) knowledge can be divided into two categories, tacit knowledge and explicit knowledge. Explicit knowledge is a 'know-what'-knowledge where facts and theories are included. Tacit knowledge however is a 'know-how'-knowledge where activities, like riding a bike, are included (Grant, 2009).

The idea of tacit knowledge first came from Michael Polanyi, as cited by Nonaka (1991), and he states that tacit knowledge implies that we know more than we can tell. An example of a tacit knowledge is that a person can easily recognize another person by their face but to write down a description of that same face will be much more difficult.

Grant (2009) explains that the difference between tacit and explicit knowledge is mainly how it is transferred between individuals. Explicit knowledge can be written down in one place and someone else can read it and easily understand, for example reports or other facts or statements. Tacit knowledge cannot be codified and can only be learned through practice, for example driving a car or finger placement on a computer keyboard. Transferring of tacit knowledge is time consuming, uncertain and expensive. (Grant, 2009) If organizations can manage tacit knowledge, they might gain a great competitive advantage in spreading the tacit know-how knowledge around the company. Companies have been trying to find a way to do this for a long time. (Lubit, 2001)

3.3 Customer Feedback

This chapter seeks to define and discuss the importance of listening to customers and having what they value in focus. Methods and techniques for capturing the voice of the customers are also listed.

3.3.1 The voice of the customer

Putting the customer in focus, by collecting information about him/her, analyzing the information and putting them in use for good of the company and the costumer, is described under many different names in quality, marketing and management literature. Some examples are customer feedback system (Sampson, 1999); customer satisfaction measurement program (Naumann & Giel, 1995) and voice of the customer process (Goodman, et al., 1996). Naumann & Giel (1995, p.12) describe this process as a "formal mechanism for soliciting ideas for improvement and innovation from customers", "a mechanism for acquiring, analyzing and utilizing customer driven input to the organizational learning process", and an "absolutely essential element of determining if good customer value is being created and delivered".

The voice of the customer (VOC) is a term used for describing what customers' value. It is intended to tell an organization what kind of products, or services, the customer is willing to pay the organization for providing, what delights them, what is most important to them and what are their minimum requirements (McCarty, et al., 2005). The VOC process is a key contributor to a long-term corporate profitability by facilitating quality improvement, eliminating wasted efforts, and saving money (Goodman, et al., 1996). Flint (2002) states there being ample evidence that the existence and use of formal VOC processes feeding the front end of product development, improves new product success rates.

Even though the VOC process has proven to provide many advantages many companies struggle or fail in the process. Goodman et al. (1996, p.35) stated that "the problem with the VOC process is not how the data are collected, but rather how the data are used or not used". They further state that most companies are spending high amounts when collecting customer feedback but that they seldom analyze it or use it for decision making. Blank (2007) states, that for new product development, most companies are focusing too much on activities inside a company's own building while they should be outside gathering input from customers. Omission, or apathy, in analyzing and putting data into use, is most often the problems with customer feedback. There is also the risk for companies to listen to carefully to existing customers and develop technologies that only appeal to them instead of listening to and observe a new set of customers who are ready for radical innovations (Christensen, 1997).

3.3.2 Capturing the Voice of the Customer

A successful VOC process should be built from multiple data sources (Goodman, et al., 1996) and the sources used should be chosen by taking into account the suitability and the objectives with the process (Naumann & Giel, 1995). There are many different options available.

Naumann & Giel (1995) distinguish between internal and external sources of information, see Table 4.

Table 4: Internal and external sources of customer information (Naumann & Giel, 1995).

Internal sources being:	**External sources being:**
• *Warranties and guarantees* • *Customer complaints* • *Customer service records (questions from customers and etc.)* • *Customer contact personnel (who gain information from direct contact with customers)* • *Managers (who gain information through trade journals, professional conferences and etc.)*	• *Depth Interviews with average customers* • *Focus groups*

The internal sources identify a good portion of attributes important to customers but since self-analysis often paints a rosy, and not necessarily accurate picture, some external sources are needed for eliminating the self-attribution bias (Naumann & Giel, 1995).

McCarty et.al (2005) divide sources of VOC information into reference databases, listening posts and research methods. Reference databases may be internal or external by their definition. Listening posts are anywhere in the business where an employee is in contact with the customer and research methods include surveys, interviews, focus groups and observational methods. Sampson (1999), talks about active and passive feedback from customers where active solicitation involves direct, personal appeal for feedback, such as telephone and surveys. Passive solicitation does not involve a direct personal appeal but largely requires that customers initiate the feedback. Passive feedback channels are not as costly as the active ones but have the risk of having a response bias since customers with extreme opinions are more likely to respond than those who are simply satisfied. For new-product ideas the voice of the customer can be a great source (Cooper & Dreher, 2010). Popular methods used for capturing the voice of the customer are for example (Cooper & Dreher, 2010):

- Customer advisory board or panel
- Ethnographic research or "camping out" (observation of customers using product)
- Customer visit teams who employ in-depth interviews
- Lead-user analysis (group workshop of particularly innovative customers or users)
- The customer or user designs (invited to help design the next new product)
- Customer brainstorming (a group of users employed formal brainstorming sessions)
- Community of enthusiasts (the company forms a community of enthusiasts who discuss the product category, often on the Internet)

The sources of information can be many more than listed here; some examples identified by other authors are analyst teams (Goodman, et al., 1996) and history of customer behavior (McCarty, et al., 2005). The following Table 5 lists down VOC methods, suggested by different authors for example McCarty's et al (2005) and Sampson (1999).

Table 5: Different methods for capturing the Voice of the Customer (adapted from McCarty, Daniels, Bremer, & Gupta, 2005 and Sampson, 1999).

Reference databases	
Internal	***External***
Warranties and guarantees	Customer advisory board or panel
Customer complaints	The customer or user designs
Customer service records	Customer brainstorming
History of customer behavior	Community of enthusiasts
	Lead-user analysis
	Analyst teams
Listening posts	
Customer contact personnel (who gain information from direct contact with customers)	
Managers (who gain information through trade journals, professional conferences and etc.)	
Research methods	
Active	***Passive***
Surveys (through mail, telephone or face to face)	Comment cards
Interviews	Online customer response forms
Focus groups	Ethnographic research or "camping out"

Naumann & Giel (1995) state that since identifying customer drive attributes can be time-consuming, internal sources of attributes might become exhausted. Internal data such as customer complaints and sales figures should be used to clarify the issues to be addressed in depth interviews and focus groups (Naumann & Giel, 1995).

3.4 Complaint management

In this part we want to narrow the voice of the customer process down to complaint management, describing possible benefits and hinder the importance of having a conscious strategy for complaint handling towards customers.

3.4.1 Benefits of effective complaint management

According to The Concise Oxford English Dictionary (2008) to complain is to "*express dissatisfaction or annoyance*" (Anon., 2008) and claim is "*a demand for something considered one's due*" (Anon., 2008) or "*a request for compensation under the terms of an insurance policy*" (Anon., 2008). Complaints are one form of capturing feedback from customers and a tool for preventing complacency and harnessing internal competencies for optimizing products and service. Complaints can further be a useful way of measuring performance and serve as an exercise for getting nearer to customers (Zairi, 2000). The benefits of an effective complaint handling can be many. Effective complaint handling has according to Adamson (1993) two major benefits: the analysis of complaints and problems will increase the chance of 'doing it right the first time' and if the individual problem is resolved to the consumer's satisfaction, loyalty will increase. Gilly & Hansen (1985) talk

about the benefits of consumer satisfaction, company/brand loyalty, favorable word-of-mouth publicity and decreased litigation. The phenomenon of customer loyalty is though being debated upon. Reinartz and Kumar (2002) studied customer loyalty within four companies and came to an opposite outcome. They found the relationship between customer loyalty and profit to be weak, even non-existing. In addition they also state that loyal customers are not cheaper to serve. They expect the company to give them more discounts or treat them in some way better because of their previous business with the company.

Word of mouth is normally used to describe advice from other consumers (East, et al., 2007) and can be both positive and negative. A report from TARP (1986) states that negative word of mouth, from customers who are dissatisfied, is twice as frequent as positive word of mouth from satisfied customers. East, Hammond, & Wright (2007) came to another conclusion and found positive word of mouth to be more common than negative word of mouth, simply because satisfied customers are more frequent than dissatisfied. Individuals who distribute many positive advices also distribute many negative advices and they also noted that certain categories create more word-of moth activities than others. Those categories which receive high levels of positive word of mouth also receive high levels of negative word of mouth, and this occurrence is positively related to market share. Brands in high-commitment/low-choice sectors are more sensitive to negative word of mouth while positive word of mouth may be a predictor for business growth in low-commitment/high-choice industries (East, et al., 2007). The greater the commitment or investment, the more certain people want to be with purchasing and seek advice from others (Samson, 2006). With increased use of internet and social media, companies have to be even more aware of the effects of word of mouth (Brown, 1997). A positive status on social network site from a satisfied customer can reach hundreds of people in seconds. One bad review on a travel site after a hotel visit could be read by everyone later searching for information about the particular hotel.

3.4.2 Challenges with complaint handling

As with other types of customer feedback, the problems with complaints are not concerned with collecting the data but rather in how it is managed and used within the organization (Goodman, DePalma, & Broetzmann, 1996; Zairi, 2000). Despite the benefits that firms could achieve there are many factors hindering successful execution of complaint-handling. Some of the obstacles deal with issues such as cost being visible and immediate, while the benefits are long-term and indirect. Further, managers often seem to doubt customer honesty when voicing a complaint (Berry, 1996 as cited in González Bosch & Tamayo Enríquez, 2005).

Since complaints enable the organization to reestablish customer loyalty, prevent liability claims and gather feedback, it is more advantageous to maximize the number of complaining customers rather than trying to minimize the number of complaints (Fornell & Wernerfelt, 1988). Many studies on complaint and customer behavior have tended to confirm the fact that a large percentage of consumers who experience problems do not complain (Day & Ash, 1979; Tarp Institute, 1986; Stephens & Gwinner, 1998). The reasons for not complaining can be that people think that it might not be worth the trouble, no one at the company cares or that the customers cannot find channel for complaining (Tarp Institute, 1986). Some people are embarrassed over "making a mistake" and others will assume that you're doing your best, but your competitors can do better (Flott, 2001). Gruber, Szmigin and Voss (2009) did a research on attributes that customers want the company representative to have when they complain. Companies with focus on customers should aim for their employees to satisfy the customers' needs. The most important attributes, according to this study, are to 'take someone seriously' and 'listen actively'. Also important was employee's friendliness towards the customer. (Gruber, et al., 2009)

Zairi (2000) notes that, to be of use complaints have to be looked at in a constructive, positive and professional perspective. This can be difficult to achieve within organizations. Fornell and Westbrook (1984) found organizational willingness to listen to customer complaints to decrease as the level of consumer complaints increases and refer to this relation as a vicious circle. They further noted that high proportions of consumer complaints contribute to isolation of the consumer affairs function and to limitation of its activities and results. Homburg & Fürst (2007, p.526) explain why so many companies fail in managing complaints by introducing the construct of defensive organizational behavior. They argue that "individuals in organizations perceive complaints as a source of threat to self-esteem, reputation, autonomy, resources, or job security. Thus, to protect themselves against this threat, they exhibit different types of defensive behavior towards complaints".

3.4.3 Strategy for complaint management

In order to be successful at complaint handling, companies have to decide what they are expecting to get out of the complaint handling process and formulate a strategy dependent upon what kind of company they are and in what kind of market they are doing business. Gilly and Hansen (1985) talk about the importance of making conscious economic decisions when developing complaint-handling as a part of the organizational strategic plan. They define complaint-handling as a part of the company's total product offering and suggest three different strategies: over benefitting, equity approach and under benefitting. According to equity theory, a person compares his or her inputs into the situation and outcomes from the situation. Inequity exists when the perceived ratios of inputs and outcomes for a person are unequal (Adams, 1963).

As Gilly and Hansen (1985) state the over benefitting approach represents a strategy where the complainant is better off after the complaint has been resolved than prior to the purchase of the product. This strategy is used by companies that view customers as an investment. Equity theory predicts that over benefitting the complainant will let him or her feel the need to adopt behavior beneficial to the company. The firm attempts to maintain and hopefully increase profits through customer purchases and favorable word-of-mouth publicity in the future. This strategy may reduce the risk of litigation or third party intervention (Gilly & Hansen, 1985).

Equity approach represents a strategy where the complainant is prevented from losing anything and is left in a position comparable to the pre-problem condition. The intent of this strategy is to keep the complaining customer from initiating litigation against the company or complaining to a third-party organization. The hope is also to prevent unfavorable word-of-mouth activity and keep the complainant as a customer. Gilly and Hansen (1985) see this strategy most appropriate when customers are seen as potential litigants.

Under benefitting approach, according to Gilly and Hansen (1985), is a strategy used where the aim is to minimize the expenditures of the company's resources and where each customer is viewed as of little significant. This means either ignoring complaints or simply responding with an apology (Gilly & Hansen, 1985).

Research on complaint handling strategies have been more in favor of the over-benefitting approach. See for example Fornell & Wernerfelt (1988) who recommend firms to compensate generously and Lapidus & Pinkerton (1995) who showed in their study that a high outcome policy is most effective in complaint handling. Fornell & Wernerfelt (1988) claim that complaint management (where over benefitting strategy is practiced) is more effective with more competitors and higher quality of elasticity of demand.

In the process of selecting a complaint-handling strategy, Gilly & Hansen (1985) recommend firms to consider the following four potential consequences: 1) The effect on complainant primary demand, 2) the effect on secondary demand; that includes demand from other consumers (resulting from word-of-mouth) and demand from channel members, 3) potential expense of litigation or third-party Intervention and 4) effect on complaint-handling costs.

Gilly and Hansen (1985) state that the complaining customer can react to a complaint-handling strategy by reducing, increasing or maintaining the same purchasing level all depending on the complainant's satisfaction. It should though be noted that the effect of dissatisfaction on repurchase behavior will vary from company to company, dependent upon how available alternative choices are. In a monopoly situation a complainant may be forced to maintain purchasing from the company. In some cases like with prescript medicine for example, there is no opportunity to increase the purchasing amount.

As stated by Gilly and Hansen (1985) a customer who is dissatisfied is likely to share their experience with others and in that way affect the secondary demand. A negative word-of-mouth publicity could result in a decrease in demand from other consumers than the complainants. On the other hand, favorable word-of-mouth publicity could generate increase in demand. In the cases when no word-of-mouth publicity is generated and of products that people rarely talk about, such as personal-hygiene products, there would most likely be no effect on this type of secondary demand. (Gilly & Hansen, 1985)

Severity and frequency of problems has to be considered when the risk of lawsuits is estimated. With the over benefiting approach the likelihood of lawsuits would be lower and with the under benefitting approach it would be higher. All strategies except when complaints are ignored involve some processing cost. The over benefitting approach could involve substantial cost, largely depending on actual cost of firm‘s variables. The cost of an extra hotel night would involve little actual cost but a new car replacing a defective car would be quite expensive (Gilly & Hansen, 1985).

The potential consequences discussed above are dependent on different specific factors at each firm. Gilly and Hansen (1985) describe the following factors listed in Table 6 to be the most relevant and that those should all be considered in relation with consequences when choosing the right complaint-handling strategy.

Table 6: Factors affecting choice of complaint handling strategy (Gilly & Hansen, 1985).

Factors	**Possible consequences**
Product Mix Breadth	Consumers might generalize their satisfaction or dissatisfaction to other products the company sells. Firms with a broad product mix risk to lose more or gain more than a firm with few products.
Family brand policy	Satisfaction or dissatisfaction might be generated on other brand family products but less likely on individually branded items.
Frequency of purchase	The more frequently purchasing takes place, the greater effect on the complainant's pleasure or anger.
Product growth rate	When high, the higher the potential yield from an over benefiting strategy.
Reference group visibility	Connected with word-of mouth consequences. Consumers are more likely to talk about companies with high visibility and effects on secondary demand are greater.
Product risk severity	A major influence on potential cost and likelihood of litigation. This factor also has an impact on the magnitude of claims.
Product cost characteristics	Variable and fixed costs. A low variable cost would reduce the cost of practicing over benefiting or equity complaint-handling strategy.
Complaint frequency	Higher amount of complaints mean greater economies of scale and greater possible payoff from over benefitting or equity complaint-handling strategy. If complaints are frequent and handled with under benefitting strategy the risk of litigations are higher.
Channel support	Ideally all channel members should share the same complaint-handling strategy.
Firm growth strategy	A firm aiming for strong growth should be more favorably disposed towards over benefitting strategy.
Product positioning	A product positioned based on quality is more likely to profit from an over benefitting strategy where such an approach is consistent with consumers' expectations. A product positioned based on price would appear to be more consistent with an under benefiting approach.

3.4.4 Warranties

A warranty is a "limited provision which usually states that a product, if covered, will be brought to working order at the expense of the seller" (Fornell & Wernerfelt, 1988, p.289). Warranties have mainly been discussed within the economy literature. With a warranty, the customer is prevented from losing anything and is left in a position comparable to the pre-problem condition. A warranty can therefore be compared to the equity approach strategy (Gilly & Hansen, 1985) but are in addition a form of insurance and give signals of reliability (Spence, 1977). Warranty should be given where firms have good information about the quality of its product (Spence, 1977) and in markets where consumers are risk averse.

A warranty provides the producer with an incentive to improve product quality. If the compensation is less than complete, the consumer has also incentives to maintain the product (Heal, 1977). Spence (1977) points out that where there is insurance involved, there is the potential problem of moral hazard, and consumers can affect the probability of product failure.

3.5 Complaint handling mechanism

This chapter lists the different steps that are needed when complaints are received from customers until they have been documented at the company and the customer has gotten a resolution of his complaint.

Much of the literature in the area of complaint handling is built on seminal work of The Tarp Institute (Grønhaug & Gilly, 1991; de Ruyter & Brack, 1993; Fundin A. , 2005). Tarp (1986) gives detailed guidelines on how best to handle complaints. Even though the technology, with increased use of computers, has evolved since 1986, the steps in the guide are still relevant. Tarp (1986) identified six key sets of functions that must be performed in order for consumer complaints to be handled properly. These functions are divided into two groups: Operations functions and support functions see Figure 6.

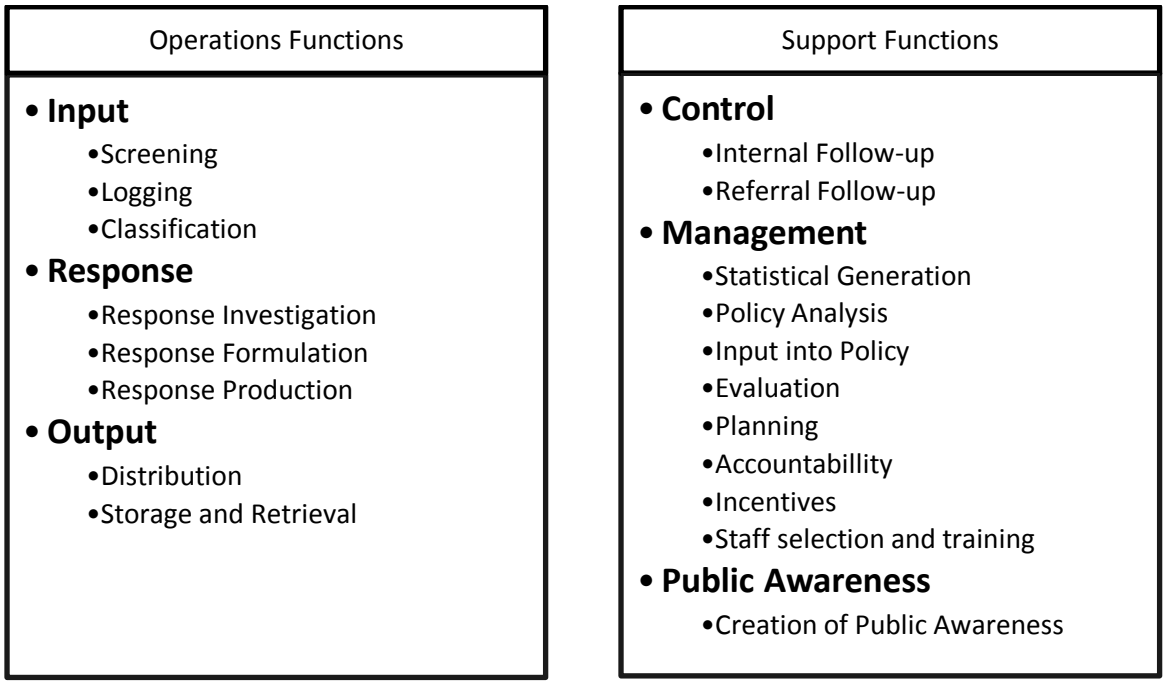

Figure 6: Two groups of six key functions that must be performed in order for consumer complaints to be handled properly (Tarp Institute, 1986). A more detailed description of each step can be found in Appendix A.

The operations functions are the steps taken in order to response to complaints. The support functions ensure that consumers know where to send their claims and those complaints are handled according to procedures. The following subchapters describe the operations functions. The support functions will be discussed in next part of the theoretical framework, in correlation with how to internally handle customer feedback.

3.5.1 Input

Screening is the sorting of complaints from the general communication flow and the directing of those complaints to the one who is in charge (Tarp Institute, 1986). In this thesis the authors will name the unit that is in charge of processing complaints, as *complaint handling office*. Tarp (1986) states that transferring of complaints between units, should be done in as few steps as possible to minimize the risk of lost information. When a complaint has reached the complaint handling office all necessary information should be logged in a database to describe the status and data elements of each complaint. When designing the logging procedures, the range of data elements have to be decided upon having in mind how it will be used for statistical reporting and policy analysis. Unnecessarily detailed logging does often not provide better data and is a common pitfall. (Tarp Institute, 1986)

Classification is the coding of complaints according to predesigned descriptive schemes that can constitute a database to be used in statistical generation and analysis (Tarp Institute, 1986). Anton and de Ruyter, (1991, as cited in de Ruyter & Brack, 1993), divide complaint data into coded and non-coded data. Non-coded data is unique to the individual complainant such as information concerning the complainant, date of incident and customers' commentary. Coded data are factors that can be grouped together such as product type, point of purchase and reason for problem.

Hansen et al (1999) talk more generally about two different knowledge management strategies, codification and personalization. The two strategies have very different approaches. Codification stores codified knowledge in a database. Employees can go through the database looking for previous experiences, or cases that the company has worked with, and therefore re-use ideas from before. This is common in companies that sell standard products. With personalization the knowledge transfer is person-to-person and knowledge is shared but not documented. There is more emphasis on experts' experiences and the key is communication. Companies have to choose a strategy which fits their overall strategy and culture. Most companies mix those two methods together but have a one that is predominant (80%) and one in a supporting role (20%). Trying to excel at both strategies involves high risk of failing at both. (Hansen, et al., 1999) Fundin and Elg (2006) found out that it is important to use codification as a complement to personalized information or vice versa to receive an appropriate picture of problems that cause customer dissatisfaction. Geographical distances hinder personalized information transfer and in those cases, codified systems can be of great help (Fundin & Elg, 2006).

It is, according to Tarp (1986), a common problem to confuse among problem codes, root cause codes and disposition codes. The actual root causes of problems and consumer perceptions of the problem are two different things, still both need to be captured.

3.5.2 Response

When the complaint has reached the complaint handling office, an investigation has to be made to identify the issues that define the consumer's problem (Tarp Institute, 1986). When the complaint handler has decided how to resolve the problem by following company policies, he or she can respond to the customer.

3.5.3 Output

Distribution means sending out the final response to the consumer and a copy to other interested parties. How, and for how long, files and products are stored has to be decided upon with the cost of storage vs. the detail and ease of accessibility required in supporting other functions. (Tarp Institute, 1986) Homburg & Fürst (2007) conducted a study that shows that not only is it important to solve complaints successfully, but also to give customers the impression that their complaints stimulate improvement and learning processes within the company. This can, for example, be achieved through systematic feedback to complainants sometime after their complaint has been resolved, thereby informing about improvements.

3.6 Customer feedback system

This chapter describes how complaints from customers should be looked at and analyzed jointly with other sources of customer feedback.

Adamson (1993) states it being acknowledged that complaint data by itself is not sufficient for keeping customer loyalty. It must be supplemented by using other sources of information such as survey data and quality reports. Goodman, DePalma, & Broetzmann (1996) state the same thing, that if the VOC process is to be successful, it should be built from multiple data sources. Johnston and Mehra (2002) emphasize that customer complaints should not be the only source of information to help drive improvements and that employees can be an important source of ideas. The employee's suggestions should be systematically logged and treated as customer complaints. Naumann & Giel (1995) put forward similar thoughts and state that relying only on internally generated attributes, carries a real danger of biasing the whole effort of capturing customers' expectations. They further state, as cited earlier in this thesis, that internal data such as complaint data should be used as a base for capturing the voice of the customer and that it should be complemented with other methods as needed.

To be able to complement data coming from customer complaints and capture the voice of the customer, companies need to choose between the most appropriate and suitable methods for collecting information. The next step is to analyze the data and identify root causes. It is important to communicate what has been found so that the new knowledge can lead to improvements. The different steps of the customer feedback process can be seen in Figure 7.

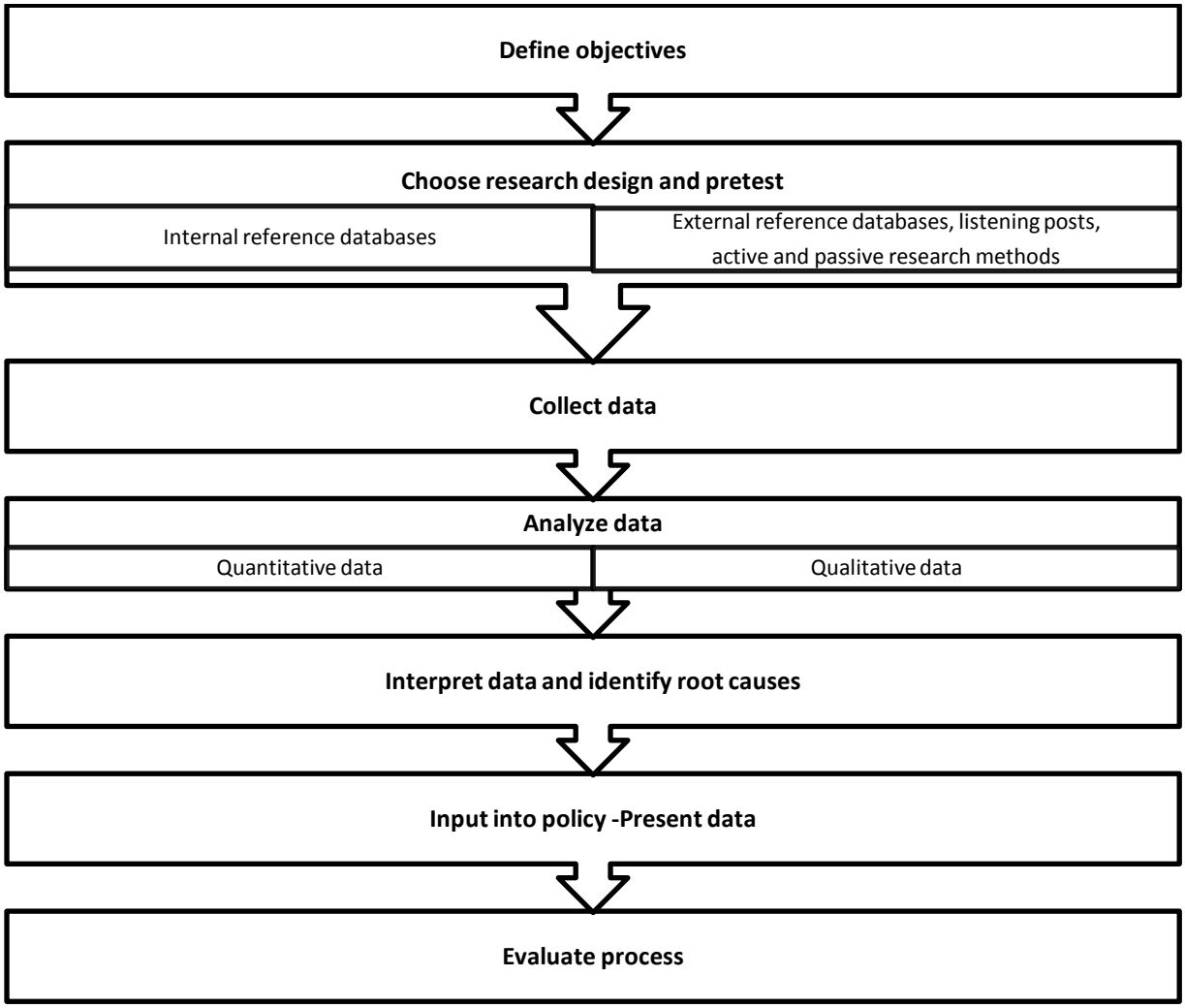

Figure 7: The customer feedback process. Steps adapted from Naumann & Giel (1995) and Tarp Institute (1986).

3.6.1 Objectives and research design

There are many ways available for collecting information from customers and the market place and the most suitable options cannot be selected or evaluated without having clear objectives with the process. Three principal questions need to be asked, 'Why are we doing this?', 'Who will use the data?' and 'In what form should the data be in order to be valuable?' (Naumann & Giel, 1995). Naumann and Giel (1995, p.23) state the most common objectives being: "To get closer to the customer", "to measure continuous improvement from the customer perspective", "to solicit customer input as the driver for product and/or process improvement", "to measure competitive strengths and weaknesses" and "to link customer satisfaction measurements data to internal performance and reward system measures". There are many more possible objectives with the process, each requiring different research design. Like with every research, the importance of pretesting cannot be over emphasized (Hunt, et al., 1982). In a pretest, everything is evaluated, the collection of data, the analysis and the form of how final results are presented to internal customers. If the internal customers, the people who will make use of the knowledge collected with the whole process, would prefer to see the data in different form, it might be necessary to use different analysis techniques. (Naumann & Giel, 1995)

3.6.2 Data analysis

When designing the quantitative analysis procedures the range of topics to be covered must be determined and a decision must be made regarding level of detail. Tabulation procedures and format of presentation must be developed. The Tarp Institute (1986) states four steps being necessary to conduct an effective analysis of gathered complaint data. The first step involves producing frequency distribution for each group of data gathered in terms of problem cause, product involved, location or unit involved. The data should be presented in a Pareto chart, the defect with the largest frequency should be placed furthest to the left and after that number of defectives decreases to the right (Juran, 1951 as cited Bergman & Klefsjö, 2010). In general only one problem can be solved at a time and Pareto charts make the most serious problem clearly visible (Bergman & Klefsjö, 2010). The second step, suggested by Tarp (1986), involves normalization of the data based on sales or number of accounts. This is important to see if there has been a real increase in complaints or if it is following sales figures. The third step is to apply thresholds, or benchmarks, determined in advance in cooperation with quality assurance and operation managers. The fourth and final step involves cross tabular analysis. Cross tabulation is good for identifying patterns of relationships in the variables and it is then up to managers to identify why the pattern exists (Naumann & Giel, 1995). An example and further explanation of those four steps can be found in Appendix B.

When collecting data from customers, there will not only be quantitative data but also qualitative data. Verbal comments about the product or the company should be used as supporting documents to quantitative analysis. These comments can give the organization a good idea about where the customer is heading in the future (Naumann & Giel, 1995).

Bryman (2004), Green et al (2007) and Becker (2012) are amongst authors that have written about qualitative data analysis and they all agree that coding and categorizing are important steps in analyzing qualitative data. Naumann and Giel (1995) also recommend categorizing and then to use Pareto chart to show the findings. The data should be easy to understand and suitable for analyses.

3.6.3 Policy analysis

Policy analysis consists of interpreting the data presented in statistical outputs. It should highlight the market damage and possible danger. It should also identify root causes and assess the potential for reduction or elimination of their occurrence (Tarp Institute, 1986). The Tarp Institute (1986) suggests the policy analysis to be conducted by the complaint handling office and that it should be done and communicated on a regular basis. The policy analysis step should point out which organizational unit is responsible and propose a corrective action. If operations manager does not find the analysis useful and actionable, all previous data generation and analysis is unnecessary (Tarp Institute, 1986).

A root cause is defined by Wilson, Dell, & Anderson (1993) as the basic reason for a problem which might have been prevented if this basic reason had been eliminated. Bhaumik (2010) states that typically, multiple root causes contribute to a failure. In this context, root cause is always negative. Root cause analysis refers to the process of identifying these causal factors or in other words, finding the real reason for why problems occur (Wilson, et al., 1993). Wilson, Dell, & Anderson (1993) state that for the problem solving process to be effective, the evaluation should find and correct the root cause, not only rectify symptoms. Finlow-Bates (1998) claims on the other hand that the idea of an absolute root cause to be a myth. In some cases, deep research is needed to find a technical cause. However, in Finlow-Bates (1998) opinion quality practitioners often need to capture the problem at a higher level in the

cause-chain. They should not be solving someone else's problem but focus on the most cost-effective solution.

Root cause analysis techniques can be both informal and structured. Common techniques, that are simple to use in most situations, are cause and effect diagram (Bergman & Klefsjö, 2010) and asking 'why' five times (McCarty, et al., 2005).

A systematic analysis can be made by using cause-and-effect diagram, also referred to as a fishbone diagram or Ishikawa diagram, first introduced by Dr. Kaoru Ishikawa. It is important to analyze only one problem at a time. In the diagram, the main types of causes that can possibly produce the problem are first described. Then each main cause is investigated in more detail and the causes of the main cause are found, see Figure 8. This method can be a good basis for finding root causes and solving problems. (Bergman & Klefsjö, 2010) It can also be useful for summarizing knowledge and pointing out if larger amount of data is needed (Montgomery & Runger, 2007).

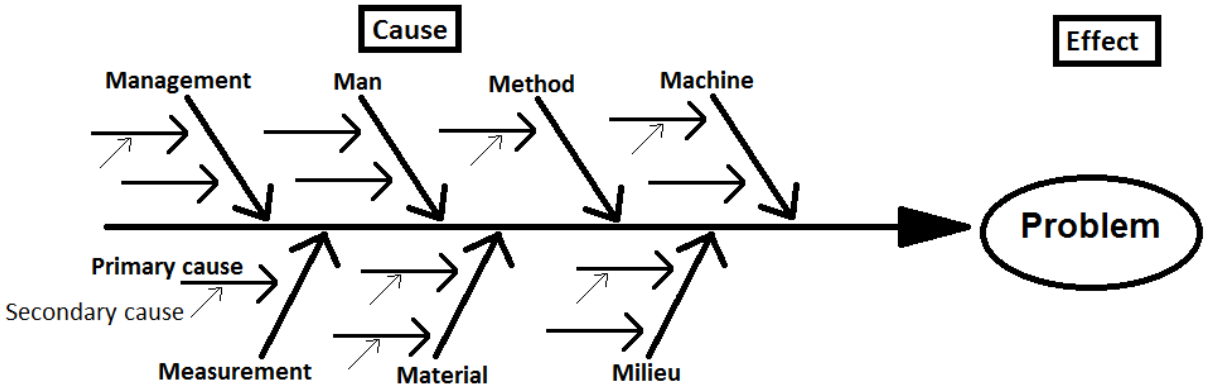

Figure 8: Cause and Effect diagram adapted from Bergman and Klefsjö (2010).

The causes of quality problems are sometimes referred to as the seven M's: management, man, method, measurement, machine, material, and milieu (Bergman & Klefsjö, 2010). A tool related to Cause and Effect diagrams, is The Five Whys. The idea with the 5 Why's tool is to "*take potential causes of a problem and dig deeper by asking "Why?" up to five times*" (McCarty, et al., 2005) or simply dig deeper until the root cause has been found.

Adamson (1993) states there being three major root causes of customer problems: staff, company actions and customer themselves. Staff fails to follow policies or procedures, or follow them too rigidly. The company can produce a service or a product that fails to meet reasonable expectations. The expectations can be raised too high by marketing departments. Customers can fail to read directions, push products beyond stated limitations and fail to maintain them. Tarp (as cited in Adamson, 1993) has found out that in all industries only 20-30% of problems have roots in employees' actions. The company itself and customers are being equally responsible for the other 70-80%.

3.6.4 Input into policy

Input into policy as defined by Tarp Institute (1986) describes how conclusions of the policy analysis are put into their final format and distributed within the company to influence decision making. Written memo followed by an oral presentation is in most cases most suitable and effective. This presentation should be produced on a regular basis and include positive as well as negative findings.

It is important that each memo/presentation meets the needs of the expected audience. The Tarp Institute (1986) suggests three types of reports, one for senior management, another type

for line managers and the third for the complaint handling unit management. See further in Appendix A. It is extremely important for the complaint handling office to have a cooperative relationship with all major departments. The complaint handling office should be seen as an internal consultant, not a finger pointer. Distribution of negative information should be limited but positive information should be distributed extensively within the organization. (Tarp Institute, 1986)

3.6.5 Evaluation

Tarp (1986) recommends companies to evaluate each step of the process and rate it as satisfactory or unsatisfactory. A central factor in process management is to adopt a holistic view of the organization, and to improve the process continuously in relation to quality, efficiency and adaptability (Bergman & Klefsjö, 2010). Goodman, DePalma and Broetzmann (1996) state that companies should track the impacts of the VOC process to influence senior management decision making and lead to increased customer satisfaction and loyalty. Tarp (1986) recommends calculating the economic benefits of complaints and other customer feedback handling and view the complaint handling office as a corporate profit center (Tarp Institute, 1986).

4 Case company background

This study has been conducted at a division of a medium sized mechanical company in Sweden that produces components for the truck industry. The division, which is a part of a bigger engineering group, is referred to as "the company". This section will describe the background and organizational structure of the company, followed by a brief analysis of the global Truck industry.

4.1 The Company Group

The Company Group is a parent company of an engineering group with wholly-owned manufacturing and sales companies. It operates in Europe, India, China and the US with headquarters in Sweden.

The group is originated from a company founded in the 1950s. The first years, the business grew rapidly within Sweden, and then expanded to Finland and later to Norway and Denmark where local sales companies were established. With focus on driver comfort, the company's product quickly became Scandinavia's most widely used. In the 1980's the company was taken public and got listed on the stock exchange's OTC list. The purpose was to strengthen the company's finances for further expansion. Production capacity was increased; many new products introduced and sales to new markets outside Scandinavia took off. In the 1990s the company re-focused its strategy and the scope of the business was narrowed again towards the first product. The new strategy has led to several acquisitions of competitors.

Today the group divides its activities into three divisions, operating in three different countries, within three different niches and with different brands. The parent company is responsible for the Group's financial management and allocation of resources between the divisions, as well as for development of the long-term business strategy and overall matters related to HR and IT. Each Division Manager is responsible for operating profit and loss and tied-up capital as well as for development and execution of business plans for the division in accordance with overall group goals and strategies.

4.1.1 Structure and Product portfolio

The company is the biggest within the group in accounts of operating profits and number of employees and compromises the solid and stable core of the group.

4.1.2 Strategy

According to the company group's homepage outspoken key factors for long-term success are: Clearly positioned brands, strong customer relations, focus on customers´ needs, a large aftermarket business and product development. Its mission statement is that the company will, through its own strong brands, be an internationally leading supplier within their niche for trucks and heavy trailers.

4.1.3 Market share, growth and financial situation

According to the company group, the company accounts for more than 50% of the global market for its products via two strong brands. The company's main market is in North-Europe. The home market in Sweden accounts for 31% of the total turnover, the other Nordic countries for 17%, Germany 20%, other European Countries 22% and rest of the world 10%. The focus in the drive for higher growth is on new markets such as Russia and Brazil.

The company has during the last five years delivered reasonable good operating profits, beside from 2009 when it was historically low, affected by the economic crisis in 2008. In March 2012 the board of directors of the company established new financial goals where they set the bar to turnover growth of at least 10% per annum and return on capital employed (ROCE) to be 18%.

4.2 Industry and Market analysis

4.2.1 The global Truck Industry

From a truly global perspective, the truck market is a growth market (KPMG International, 2011). But that is only the half story told. Truck sales have been rising steadily past years in emerging countries like China and India and are expected to continue to grow. Asia is the largest region for commercial vehicle sales, accounting for nearly one in every two commercial vehicles sold worldwide. Asian markets are mostly dominated by domestic brands. The Chinese manufacturer Dongfeng sold most units of trucks in 2010, beating traditional European brands as Daimler and Volvo. (KPMG International, 2011) In China and India the average sales price is around €30,000, much lower than in Europe where prices are around €80,000 to €100,000 (Andreas Renschler as cited in KPMG International, 2011).

In triad markets (Western Europe, USA and Japan), also labeled as mature markets, truck sales have been taking off and growing since the economical downfall 2009, but are still lower than what they were before the crisis (KPMG International, 2011). According to KPMG International (2011), there are companies in mature markets facing number of challenges if they are to maintain the growth in home markets. These include increasingly stringent regulations, rising gas prices and largely saturated markets. Dressler and Gleisberg (2009) split the global truck market into three major segments: premium, budget and low-cost. The premium and the budget segments are higher in safety and lower in emission than the low-cost segment. The premium segment has higher variety of electronic features and comfort over the budget segment. Multiuse, easy repair and overload capacity are important features in the low-cost segment. At present, the premium segment is dominant in triad markets and the low-cost truck segment dominates emerging markets. The low-cost segment is expected to shrink in the long term. The truck industry is moving more and more toward globalization and OEM's from mature markets are expected to enter the emergent markets first with budget trucks and later with premium trucks. (Dressler & Gleisberg, 2009)

4.2.2 Trends and innovations

Emission restrictions in mature markets have risen steadily in recent years (KPMG International, 2011). According to the company, there is a trend towards longer vehicles that are supposed to reduce the environmental impact of road transport.

The total cost of ownership has become an important issue in established markets of the truck industry. Total cost here meaning, the initial investment, plus the cost of fuel, drivers, repairs and maintenance (Dressler & Gleisberg, 2009). Dee Kapur (as cited in KPMG International, 2011) states the next technologies being for example collision avoidance systems, stability systems and everything that will reduce the operators overall costs further. In emerging markets the price tag on the vehicle is still the dominant purchasing factor (Dressler & Gleisberg, 2009).

4.2.3 Customers

The company's customers include all European truck manufacturers, body builders, haulers and importers. Body builders customize the truck body after it has left the assembly plant and

are by far the company's biggest customer group. The aftermarket includes services and sales of spare parts and accessories to end users through the company's own subsidiaries, retailers and distributers. The chain from the company to the end user can be seen in Figure 9.

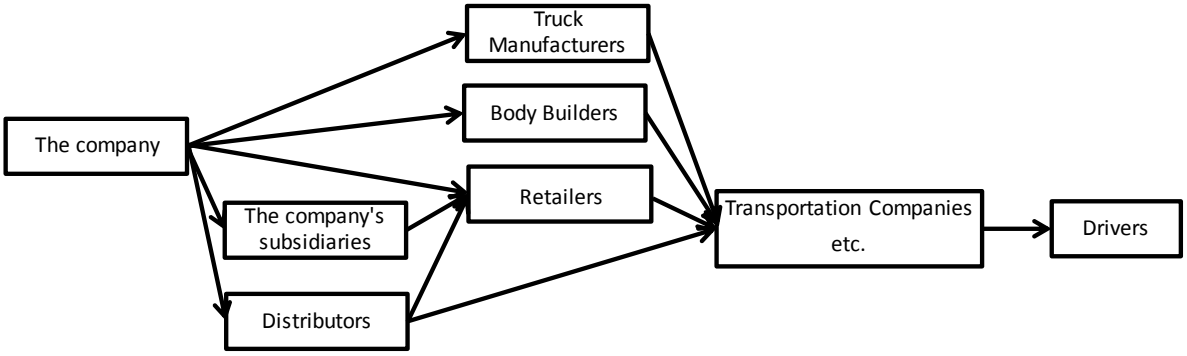

Figure 9: The customer chain from the company to end user.

According to a study done by Google in cooperation with Compete (as cited in KPMG International, 2011) on the automotive online aftermarket, only one percent of spare parts are ordered directly from manufacturers. The majority of sales go through after-sales retailers, 44% of orders are done offline and 52% online. Even though this study shows that online purchasing and direct shipments are increasing in portion it also reveals that four out of five customers are still buying automotive parts in person at a traditional store.

In a survey conducted by Dressler and Gleisberg (2009), driver comfort is considered as a prerequisite in triad markets while it is considered as one of the least important qualifications or a nice to have feature, in the emergent markets. This attitude is though expected to change in coming years. This same survey reveals that quality and robustness are important features and appear to have become a standard both in triad and emerging markets. While triad manufacturers compete on technology, the focus of the manufacturers in the emerging countries is still on mastering quality and affordability (Dressler & Gleisberg, 2009).

4.2.4 Main competitors

The niche that the company competes in consists primarily of four brands and the company claims that their two brands account for more than 50% of the global market the company claims both of their brands being reliable and safe. One of their brands competes on quality, charges premium price and is dominant in Scandinavia. The other brand is cheaper. It is strong in Germany and other parts of Europe. The competitors are also European companies that claim to compete on same attributes as the company; quality and reliability.

4.2.5 Suppliers

The company strives to establish long-term relationship with its suppliers in order to ensure continued deliveries in time of shortage. The production is dependent on intermediate goods and raw materials, mostly steel, cast iron and aluminum.

5 Empirical data

To present the data, from the interviews and the affinity diagram, it was divided after the three main quality management principles, customer focus, continuous improvement and teamwork. The first part of this chapter, focus on customer, explains how the company works with quality management, what methods they use to collect information about customers and their needs and wants and how the company handles complaints, step by step. The second part, continuous improvement, describes how Research and Development extracts different sources of information for product improvements or new product ideas. The third part, teamwork, describes how the divisions within the company communicate and work together.

5.1 Focus on Customer

The interviewed employees came from different departments at the company but all of them mentioned the importance of focusing on customers' needs, in one way or the other. This is one of the outspoken key factors in the company's strategy along with strong customer relations so the company has a clear aim of focusing on customers.

5.1.1 Quality Management at the company

The quality department at the company has four employees, a quality manager and three quality engineers. Reporting to the quality manager are also four people working with measurement. The company is very ambiguous when it comes to quality of the products and is ISO certificated with ISO 9001, ISO 14001 and ISO TS. The company delivers an environmental report every year to assure that employees are following all rules and regulations and are kept updated on these regulations. The company conducts four internal audits every year to have a good overview over all functions and departments in the company in terms of rules regarding the ISO certificates. The goal is that the audit should confirm that they are doing the right things. The company has been successful in those audits and, according to the quality manager, gotten credit for the quality work within the company group.

The company has a quality policy where they state that the products they deliver should live up to the customers' stated and implied needs in terms of safety, reliability, dependability, ergonomics and should meet all standards and regulations. The products should be delivered in the right amount at the right time. The company should strive to the zero-defects principle, where the goal is to do things right from the start, and should be achieved with prevention and continuous improvement. For each new product the company does failure mode and effect analysis (FMEA) and if there comes a suggestion on a product update (PU) another FMEA is conducted for the same product.

When selecting a supplier, the company only accepts those who are ISO 9001 and ISO TS certificated. As one employee said "when we order this material from the supplier, we also order with certificate." To fulfill the certificate everything is documented which makes it much easier if a problem with a product arises since the documents related to that product will lead to the right supplier. The company's purchasing department has a system to follow up on suppliers and monitor failures that come from each supplier. If a high number of deviations are detected the company takes action towards that supplier and if the supplier does not deliver in right time they get a red mark. If the company does not see improvements from that supplier a search for a new one begins.

What seems to be the hardest part of being certificated is to keep the employees engaged in the work since it can be monotonous and includes for example quality tests and measurement.

As one employee mentioned sometimes the employees might have a problem seeing the meaning with the measurement process.

5.1.2 Capturing the voice of the customer

The company collects information and learns about their customers' needs through several approaches. Employees from sales and marketing are in contact with and visit customers and end users. A survey on customer satisfaction is conducted annually and the company collects information from warranty claims. The company does field tests on products before they are launched to markets and gathers information about the market and customers by for example visiting truck exhibitions. For internal feedback from employees the company has a system called deviation system.

Listening posts through customer contact personnel

Employees in sales and marketing are in daily contact with customers. This contact involves for example visits to truck manufacturers, body builders and retailers. Recently the company has also started to visit end-users in Sweden, both current and non-current users. This has been tried earlier in the company's history but was cut off for economic reasons. These visits are done with the aim of presenting the brand, get feedback and talk about how customers are experiencing the product. The representative gives away brochures which include information about the product, safety and direction on how to use the products. The end-users purchase the product through a retailer and the company's representative directs them to the closest one, either to make a purchase or in case of a warranty claim. The company does not want to sell directly to end-users, according to one interviewee, since retailers have not been pleased with competitors who have been doing that.

The sales and marketing department uses a CRM (customer relationship management) program called Caesar. Each customer gets one page and there is possible to log information about sales and former communication under a feature called activity. There is a difference in how salesmen log information into the system. At least one of them writes everything, communication, positive and negative feedback under the activity feature. Another employee writes a general text and puts positive feedback under the activity feature but puts all negative feedback under a feature called notes. The notes are a special feature in Caesar and it is possible to export all notes into an Excel file where it is easy to filter information and search. This is not possible to do with the activity feature; it is not searchable. The Caesar program does not have a feature that makes it possible to send a log or comment forward to another person. The Caesar system can be connected to MS Outlook and the salesmen can access the program through smart phones, which is very useful when they are traveling around to meet with clients. The sales force is in general very satisfied with Caesar. It is an important tool for them and helps them to always be updated with specific information concerning each customer.

The sales department tracks sales of different products and different areas. These observations have led to deviations, for example a salesman noticed unusual increase in sales number of a relatively cheap component. This component turned out to be defected but the retailers did not bother to complain since it was cheaper to give the end-user a new one than to send the broken part to the company.

Survey

The company has an established process on customer satisfaction. The process, as it is mapped, starts with an information need and the first step is to select a sample from customers, review and possibly revise customer relationship issues. The next step is

measurement, where a survey is conducted from the chosen sample. Next steps are to summarize the data and then analyze it and compare against key performance indicators. The output of the process is a possible activity. This process should be repeated at least annually. The process owner is the head of sales and marketing. The survey is conducted through telephone with customers and end users from Sweden, Norway and Denmark. According to one interviewee the feedback the company gets from these surveys is not much about the technical part of the product but more on the total package, price, service etc.

Truck fares and exhibitions

The company participates in several truck and truck equipment exhibitions every year. Most of them are in Europe visited by commercial drivers and hauling companies along with dealers and actors from the industry. Exhibitions are a platform for introducing new products and increasing awareness of the company. They are also seen by the company as a good way of meeting and keeping up good customer relationship and get the chance to meet with drivers and truck owners.

Field tests

When new products have been developed they are put through field tests before they go into mass production and are marketed. Due to safety issues, most of the products have to be tested thoroughly and get certification before they are put out in the field. Truck drivers, normally found through retailers use the product for some period and then report back to the company.

The company aims at starting the field tests in November at the latest, to include possible effects from winter conditions. An employee from Research and Development (R&D) talks to each driver about their experience and different technical things. The employee also examines the product, disassembles it, mounts it together and takes photos. This is done several times during the field test. If the field test started in November and everything turns out to function well when checked out in May, the product is released in August. If the field test fails, the problem is figured out and solved if possible. Then another field test might be compiled again depending on the problem.

When analyzing data from the field tests, the product development group looks for patterns and their causes. All information gathered is compiled in an Excel sheet that is accessible by the product project group. There is no functional database for compiling information but there is a will to get one in order to get better communication between the people involved in the project and make it easier to fill in information directly at the field and make a search. A budget has been given for this database so now the company is looking for a suitable system.

Deviations

A deviation is when anomalies regarding a product or process are discovered in-house, before the product has been presented to the market. The company has a deviation process to follow in these circumstances. This process also applies to all accepted claims that contain a new failure that has not been discovered before. A deviation meeting is held every morning to discuss deviations in the process at that time and if something new has been discovered. Deviation in a process or routines can for example be regarding environmental policy and regulation. Product deviation process can for example start if it is discovered that material in a certain product does not fulfill hardness certification.

The process starts by discovery of the deviation and the one who discovers it reports it to the manager responsible for the product/process. If this involves a product all production for that

product will be blocked, until the root cause has been discovered. This is done to minimize the damage for the company, customers and maybe even environment. If the deviation is confirmed the deviation process continues, otherwise the production starts again. A deviation report is established and formal investigation begins, including mapping of the problem and investigations to see if it can be found in other products. A short term solution is determined and a search for root cause begins. When they have identified root causes a final solution is determined and if the solution works the quality department closes the deviation's report. In Figure 10 an overview of the deviation process is displayed.

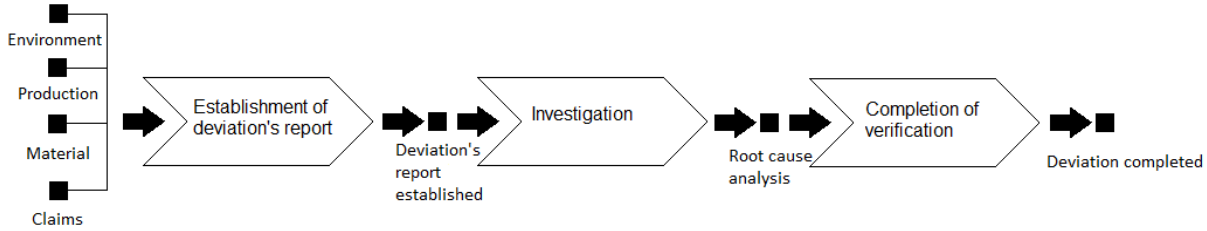

Figure 10: Highest level of the deviation process at the company

Deviation reports are made in a system called AM-system and when writing a report the employees have to be precise for the report to be searchable later. If an employee wants to know detailed number of a certain fault they have to search by article number on the part and search in the headings of the reports if the fault is mentioned. The interviewed employees, which are users of the AM-system, are overall satisfied with its function.

5.1.3 Complaint handling

One approach that the company uses for capturing feedback from customers is through collecting data from complaints. The complaint process is the primary subject of this study and will therefore be explained in detail.

Screening

The company's retailers are in charge of the first screening process of complaints from customers. The retailers have to judge whether they think the product fault will fall within the company's warranty policy or not. If the warranty claim is accepted by the retailer, they send the faulty product to the company or its daughter company, who sends it further. The user gets a new product, replacing the faulty one, all at the cost of the retailer. The company strives to educate the retailers regularly about the products and what kind of faults fall within warranty and what does not.

The second screening of complaints takes part at the company where a person who is a member of the sales department is in charge of screening from the Swedish market and a person who is part of the quality department is in charge of screening from the international market. Those employees judge if the faulty product falls under the company's warranty and from here on, they will be referred to as complaint handlers.

Logging and classification

When the retailer has accepted a claim, they fill out a paper form called complaint report and send it along with the faulty product to the company. Many retailers have a stack of forms that come with running numbers. The forms are in duplicates, so the retailer keeps one copy and sends the other one to the company. If the retailer does not have a copy of the form, another option is to print it from the company's homepage. It can be found in Swedish, Danish and Norwegian. The form is, for some reasons, currently not accessible online in English.

The retailer is responsible for filling out following data:

- Owners information
    - Name, address, phone number and customer number.
- Retailers information:
    - Name, address, phone number and contact person
- Product complained about
    - Type, date fitted, date removed, distance driven (km)
- Specific information concerning vehicle and type of driving
- Compensation claim for own work
- Reason for claim

The complaint handlers at the company state that many retailers take short cuts and only write very limited information as the retailers name, owners name and reason for the claim. There are different thoughts within the company whether the paper based form is outdated. One employee would like to see the process more modern, have the form online and offer the ability for retailers to track claims in the system. Another employee however thinks this is good and that it is important to have double copy with the complaint numbers in right order. The third thinks that the paper form has to be offered since it is such a known way of working.

When the faulty product has arrived to the headquarters along with the complaint report, the complaint handlers do an assessment of the product according to the company's warranty policy and fill out the rest of the form by writing down:

- Date and name of complaint handler
- Assessment of the faulty product explained in few lines
- Action taken, approved or refused, if refused then date of return and perhaps explained in few lines
- Error code
- Internal cost
- Cost of work
- Other cost

To specify a failure in a faulted product the company has used special error codes which should give a short description on what is wrong with the product. The codes are numbered from 1-100 and grouped under general codes and product types. Each code has a short description, some examples are: Welding failure, loose component and rusty material. These codes are presented in a long list and it can become difficult to choose which code to use. When looking at which codes are the most used codes, one general code, 'loss of function', is highest ranked. It can be easy to pick this code since it applies to many things.

When the complaint handlers have done the assessment, chosen an error code, and completed the paper form they fill in the information into an MS Access database, a program that is used to keep track of complaints.

The Access database contains information concerning:

- Claim number (the complaint report's running number)
- Which department within the company is responsible for the fault and will carry the cost
- Customer number

- Error code

The claim report database, Access, is about to be faced out and claim reports are to be moved to the AM system. More than one interviewee expressed a need for the company to have integrated processes between the claim process and the deviation process and that moving the claims in the AM system would be a step towards that. Complaint data will become more accessible to others in the company and could be utilized more efficiently than now.

Response Investigation

The process, from when a product has arrived at the company and until an inspection has been completed, can take from five minutes to two weeks. The complaint handlers have many years of experience within the company and are familiar with the products and their function. The complaint handlers usually conduct the investigation at the company's workshop. They read the explanations provided by the retailer and examine the faulted product. If something is unclear they contact the retailers and get better information. There are few claims every year, according to the complaint handlers, and when investigating the products they have the quality of the products in mind.

Response Formulation and Warranty Policy

When the complaint handlers have investigated the product, they have to decide upon whether the company will cover the fault or not by following the company's warranty policy. The warranty policy states:

- The warranty is valid in 24 months from product's delivery date.
- The warranty covers only workmanship and material, not normal wear and tear.
- Defected product will not be replaced if it shows damage caused by improper handling or installation.
- The warranty does not cover liability of any kind, direct or indirect damage to either person or property, and down time or disruption.
- If claims work is expected to exceed 3 hours, the company should be contacted in forehand.

If the claim is denied the complaint handlers contact the account manager responsible for the customer involved. The account manager studies previous history of the customer and decides if the claim will be accepted anyhow and marked as goodwill.

Response Production

When the complaint handlers have investigated the faulty problem and come to a solution in cooperation with relevant customer account manager. The retailer is contacted through phone by the complaint handlers and receives an answer. If the complaint is approved the retailer gets refunded. If the complaint is denied the product is sent back to the retailer. According to an interviewee, the retailer will not be happy if the claim is rejected since they have already exchanged the product for the end-user and will have to bear the cost.

Output

The defected products are thrown away after approximately three months. After the case has been closed the complaint reports from the retailers are stored in a folder after numerical order of the complaint report number. Coded information is stored in the Access database. If the defect is unknown within the company the claim becomes a deviation and the deviation process, described above, begins.

When the R&D manager asks, a complaint handler delivers an overview in paper form from the Access database. This overview shows how many claims with each failure code have been filed

5.2 Continuous improvement

After gathering feedback and other information from customers the company should use this information to improve the products and processes of the company.

The R&D department gets input concerning new product ideas and product improvements from various sources. If an employee has a suggestion for improvement or new product they can either discuss the idea with one of the brand managers from the sales division and they put the proposal directly into an excel file called "bank of ideas", or what is more common, can fill out a proposal through the PU (product update) system, which is a part of the AM software. The R&D manager is in charge of looking at proposals from the PU system. He also looks at past deviations, quality issues and warranty claims to see if some product improvements are needed. The R&D manager reviews an overview of quality issues and warranty claim data that have come to his table and has to decide whether a PU proposal is needed to solve current issues. For each PU, the R&D manager does rough cost estimation. If external cost is estimated higher than €5000 the PU goes to the bank of ideas file. If the cost is less, the R&D manager decides if the idea is worth pursuing. This external cost can for example include buying a new machine or travelling cost. If the company has a problem that needs to be solved right away it goes directly through the PU process. Majority of PU suggestions come from production, around 70%, and the other 30% are mostly from sales and marketing.

Responsible for going through suggestions in the bank of ideas is the product planning meeting. This meeting is three to five times a year and lasts for at least a whole day since some of the members travel from abroad. This meeting decides which ideas they would like to see executed and make a business case with payback time and product plan for those ideas. This plan is presented to the product council which decides if the idea is worth pursuing or not. When the product council has approved the idea it becomes a project with a stage gate process. The product council gets an update after the pre-study, and then makes a final decision.

For every product there is a 10 year development plan where there should be new products or new updates. The company is aware that the market will develop and the user will change as stated by one of the interviewees. In the past the user and the owner were the same person but times are changing. Transportation companies are becoming bigger and the truck-drivers are recruited to work there instead of having their own trucks.

5.2.1 Biggest problems seen in using complaint data for improvements

The affinity diagram, conducted during this study, presents various answers to the question; 'What are the biggest problems in using complaint data for improvements'? Figure 11 presents how the affinity diagram looked in the end.

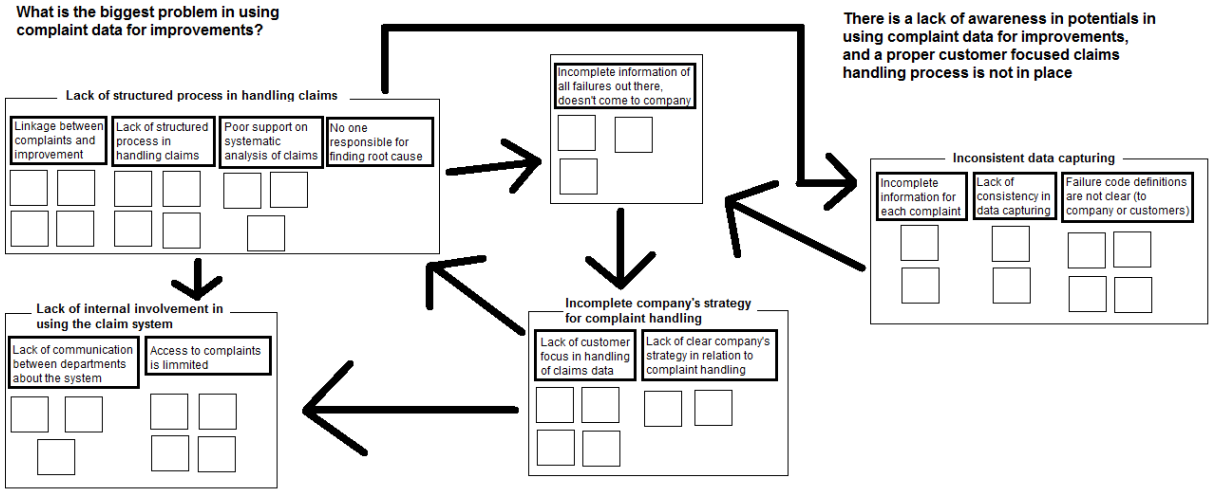

Figure 11: The Affinity diagram

Looking at the first heading, Lack of structured process in handling claims, it seems as there is a missing link between complaints and improvements since complaints are not seen as an opportunity as a basis for improvements. There is no clear process in how to handle claims or what happens to them after they have been gathered. The complaint data is stored but not analyzed systematically and no one is responsible for finding the root cause. The analyses are not done in time to accommodate changes in products. The details from the complaint system are also insufficient for improvement work. Communication between departments about the complaint system is lacking and not everyone have knowledge about the system throughout the company. Therefore is little communication about complaints and what goes into the complaint system is not shared throughout the company.

The company's strategy is clear about having customer focus but it is incomplete when it comes to complaint handling. There is no strategy or aim with the data collection. The company does not get firsthand information from customers since retailers become filters and the complaint data received is incomplete. It only consists of warranty data but not all failures result in complaint. Product usage is not known and general information from end-users is not consistent between complaints. Regarding failure codes, it is difficult to analyze them. They are too many, too specific and change over time. One and the same code has been used for different failures.

As a result from the affinity diagram it was stated that there is a lack of awareness potentials in using complaint data for improvements, and a proper customer focused claims handling process is not in place.

5.3 Teamwork

This part describes how cooperation and communication is between different divisions of the company.

Many employees at the company have worked there for a long time and have seen the company develop and change over time. The communication between departments changes from period to period and one employee thinks that this depends on the top management and the organization's culture. When conducting the affinity diagram there were notes concerning communication and cooperation between different departments. There are for example no cross-functional teams regarding improvements except from the product council. One employee from the sales department mentioned that departments did not share much time together in organized meetings other than having Christmas lunch together every year.

According to one interviewee employees in countries outside of Sweden have the impression that when contacting the company about failure in a product it is not taken seriously unless it comes from a retailer in Sweden. It looks as the Swedish market has a higher priority than other markets.

The quality department and production have a meeting every morning and the quality department also contacts the purchasing department every day. Cooperation between quality and R&D exists but it seems as it mainly happens when R&D receives a short statistical report of claims and deviation from the quality department. Communication between sales and R&D is rare and R&D seldom gets information from sales about what the customers have expressed to them about the product. One employee at the R&D department expressed interest in knowing about other problems in the field, other than from claims, and that information should come from the sales department. Since they are in contact with the customers they are in possession of the largest part of information the company has about its customers.

Employees at the company know each other by name though they may not know each other personally. As stated, many employees have worked at the company for many years; some have even left but returned. They know who to talk to if they need specific information. According to one of the interviewees the ‘new guy’ in their department has been there for five years. It can be difficult for new employees to search for information, according to an interviewee; since the knowledge is kept within the employees’ minds instead of being documented. It is therefore favorable to learn quickly who the expert in each area is.

6 Analysis and Synthesis

This chapter aims to analyze the empirical findings of chapter 5 through the lenses of the literature in chapter 3. The chapter is divided in three parts; focus on customer, continuous improvement and teamwork

6.1 Focus on customer

The company states on its homepage that some of the key factors for the long-term success of the truck equipment division are "strong customer relations" "focus on customer's needs" and "product development". The employees interviewed, regardless of their position within the company, were all very much aware of the importance of focusing on customer's needs and maintaining good relationship with them. These strong statements from the upper management and common awareness within the company are positive and in line with Dean and Bowen's (1994) believe that company's long term success depends on the customer satisfaction and the company should focus on making the customer happy.

A successful VOC process should be built from multiple data sources (Goodman, et al., 1996) and the sources used should be chosen by taking into account the suitability and the objectives with the process (Naumann & Giel, 1995). Naumann and Giel (1995) state that in order to get closer to the customer and maintain strong customer relations, companies first and foremost have to understand what attributes are most important to customers and how well the firm is delivering each attribute. Qualitative methods such as in-depth interviews and focus groups, followed up by quantitative methods such as surveys are best suited for this objective. In order to achieve customer driven improvements, Naumann and Giel (1995) recommend face-to-face interviews with interesting customers and conducting a root cause analysis finding out why departed customers have decided to turn their business to somewhere else.

The company uses multiple ways to collect feedback from external customers, see Table 7. Apart from the VOC methods listed below, the company also captures voices and comments of internal customers by working with deviations. The quality department is responsible for the deviations and they are stored in the AM program. Everyone in the company have access to the AM program.

Table 7: An overview of main methods used by the company to capture the Voice of the Customer, what program the company uses to store data, what department is responsible and the method type.

Data source	Program	Department responsible	Method type
Sales figures	IFS	Sales and Marketing	Internal reference database
Comments from interaction with customers	Caesar	Sales and Marketing	Listening post
Survey	-	Sales and Marketing	Active research method
Warranty claims	MS Access, plans to use the AM program	Quality department	Internal reference database
Exhibitions	Not documented	Sales and marketing and R&D	Listening post
Field tests	Excel file, hopes for new program	R&D	External reference database

Even though the company is clear when communicating their key factors for long-term success, they lack clear objectives with the VOC process as a whole. The methods that are being used have not been selected to complement each other as is recommended in the literature ((Adamson, 1993; Goodman, DePalma, & Broetzmann, 1996; Naumann & Giel, 1995), but rather to fulfill sub needs of each department. As a result, management gets many separate snapshots of quality and satisfaction (Goodman, et al., 1996) instead of seeing the whole picture.

If the company's objectives are to maintain strong customer relations, capture customers' needs and improve product development, there is nothing wrong with using the methods listed in Table 7. As can be seen from Table 7 different departments are responsible for each VOC method and they all use different programs and approaches to store the collected information. This setup affects the possible synergies that could be gained from all of the methods. The access to each of the programs is limited to employees in each department and what is being measured and recorded does not follow standardized structure. This makes collective data analysis difficult. The company is far from the only company struggling with this process. Goodman, DePalma, & Broetzmann (1996, p.35) stated that "the problem with the VOC process is not how the data are collected, but rather how the data are used or not used". They further state that most companies are spending high amounts when collecting customer feedback but that they seldom analyze it or use it for decision making. Since proper analyses of the data collected at the company is difficult, it becomes hard to take advantage of the information gained.

For increased understanding of customers' needs and wants, it could be interesting for the company to have a closer interaction with customers in markets outside Sweden, where the competition is fierce and the customer has experience from using products from competitors. The company's staff in other countries has the impression that the Swedish market is higher prioritized than other markets so there are possibilities to explore other markets further and gain insight into customers from other parts of the world.

It is positive that the company has started visiting end users again since a successful VOC process comes from many different sources (Goodman, et al., 1996). The fact that end-users visits were cut off few years ago for economic reasons points out the importance of calculating the benefits gained from those visits, both in terms of increased sales and in terms of how increased knowledge about customers' needs leads to product and process improvements.

It is important to make someone responsible for analyzing sales figures regularly. Data should be looked at in context with other feedback from market and customers. It has happen at least once at the company that tracking of sales data has led to discovery of a defected component and this discovery did lead to an improved product. This example of the defected component is widely known within the company and has increased peoples understanding of how market data can be put to use for improvements. Tarp (1986) states, that positive information, like recognition of a problem and acting towards correction, should receive extensive distribution. When a problem is recognized throughout the company, and more people know of its existence, it is more likely that a solution to the problem will be established.

Exhibitions give an opportunity to have a discussion with customers. It is important to be open for customers' comments but also good to be prepared in forehand for example by preparing questions and conduct semi-structured interviews. Questions and comments from customers should be noted down and analyzed. With systematic documentation of data it becomes easier to see trends (Tarp Institute, 1986) and findings will not only be based on a gut feeling.

Field test is one of the ways the company has for gaining customer input. The customer gets a completed product to test in real circumstances and a company's representative visits the customer to get their opinions. This is done with several customers and is therefore similar to customer advisory board (Cooper & Dreher, 2010).

The company is doing a good job with their deviation system. The AM program is available by everyone at the company and incidents are solved quickly. A deviation meeting is held every morning to discuss deviations in the process at that time and if something new has been discovered. Being a part of a team makes employees feel needed and appreciated. Bergman and Klefsjö (2010) stated that quality improvements aim at providing employees with better opportunities to do a good job and feel happy with their performance. A satisfied internal customer is a good way to satisfied external customers.

The objectives and needs of the company can differ between periods and then different methods should be used. From economical point of view internal reference databases like customer complaints and sales figures should be used as a base (Naumann & Giel, 1995) and supplemented with other methods depending on the objectives. It is therefore important and economically feasible for the company to have all processes and analysis procedures towards internal reference databases in order.

6.1.1 Complaint handling

The complaint handling process will be analyzed step by step as was done in chapter 5, Empirical data.

Screening

At the company complaints are transferred from user to retailer to producer, but not directly from user to the company. This process involves the risk of complaints and information being misplaced, lost or forgotten (Tarp Institute, 1986). Since retailers are the ones who take care of first screening of claims, the company never gets to know about the claims or complaints that are rejected by the retailers. Neither do they hear about minor failures that are directly fixed at place instead of going through the claim process. Here the link is missing from customer to the company and knowledge transfer from the external structure to the internal structure is lost (Sveiby, 2001). The company has to gain this information elsewhere and therefore it is good that they have started to visit end users again.

The company strives to educate retailers regularly about the products and what kinds of faults fall within the warranty. This is extremely important in order to being able of identify severe complaints from the rest (Tarp Institute, 1986). A written manual with examples would be valuable among with guidelines on what is a severe complaint (Tarp Institute, 1986). Users' safety should be the most important factor when deciding upon severity of a complaint, other factors to consider are legal liability and brand image (Gilly & Hansen, 1985).

The complaint handlers at the company have developed good knowledge of the company's products and have valuable experience. A certain care has to be taken when their resources are used for other activities. According to the Tarp Institute (1986) those who screen complaints should not be a part of a team or department who is responsible for the consumer's problem. A tendency to screen out problems related to the screening employee's department may appear. Homburg & Fürst (2007, pp. 526) state similar things, that "individuals in organizations perceive complaints as a source of threat to self-esteem, reputation, autonomy, resources, or job security thus, to protect themselves against this threat, they exhibit different types of defensive behavior towards complaints". The company is not a large company and

employees might have to take on several roles which can be positive. Still no one should be put into that position of being on both sides of the table.

Logging

An idea from one of the company's employees was to make it possible for retailers and customers to log in claims online and follow up on where in the process their claim is at each moment. The benefit of having this possibility is that the company gets to know the details of the claim earlier. If the retailers get comfortable using this form it can be estimated likely that they would also use this form to put different comments and claims they reject in the same system. For this to become a reality it might be necessary to start off with some incentives for the retailers.

The complaint report that is in use today contains all features recommended by Tarp (1986). An interviewee stated that retailers often skip filling in information about the customer. The company should look into which data, that retailers have to fill in the complaint report, the company is actually using for analysis. This topic emphasizes the importance of doing pretests. The importance of pretesting cannot be over emphasized (Hunt, et al., 1982). The pre-test has to cover the whole feedback process. If it turns out that the people who will eventually make use of the data would prefer to get data in different form, different techniques might be needed (Naumann & Giel, 1995). If any of the attributes are not being used, they should not be in the form. Another possibility is that something might be missing from the form for the internal follow-up (Tarp Institute, 1986).

As it is now, the company has three different systems to log customer's feedback; AM program, MS Access and Caesar. Tarp (1986) mentions that one common problem associated with logging is failure to maintain a central complaint log, that results in unnecessary maintenance of multiply logs. The current structure at the company automatically makes analysis more bothersome.

There are no procedures on how comments and complaints are put into Caesar. Rather have each of the users developed their own way of working. What is put in has to be done in a systematic, unified way within the company and should harmonize with the classification system used for warranty claims. If verbal comments are for example tied with specific product type, all analysis becomes more efficient (Bryman, 2004; Green et al, 2007; Becker, 2012). It has to be possible to make a search and sort comments from the Caesar system. The "note" feature imported to MS Excel could do the job. For employees feeling more comfortable with the system, a comprehensive handbook, or a manual, including examples, could be provided on how complaints and comments are registered and classified (Tarp Institute, 1986). Goodman, DePalma, & Broetzmann (1996) state that questions, problems and other feedback should be logged, wherever they are received in the organization. This means for the company that all those who are in contact with customers should be able to access Caesar and be encouraged to log in comments from customers.

When the company has adopted complaints in the AM program, the complaint system will automatically become more accessible than it is today, since more people are familiar with that program. The system offers the possibility of having different user-accounts for different positions. Relevant employees should be able to access the system at any time and see an overview of committed claims. Goodman, DePalma, & Broetzmann (1996) state that one of the requirements for a successful VOC process is to ensure that senior management has access to the VOC data.

Classification/ error codes

The main problems with the existing error codes for complaints are that they are a combination of problem codes, root cause codes and decision codes. This is a common problem according to Tarp (1986). Some examples are #27 'loose component' (problem code), #15 'incorrectly installed by the company' (cause code) and #96 'rejected, normal wear out' (decision code). This setup makes it extremely hard for the complaint handlers to choose the most appropriate failure code, beside the fact that they have to choose from a list of 100 codes. The result has been that the complaint handlers often choose the general code "does not work". This should not be something that the company states, they are the experts, but this could be something that the customer states when filing the complaint to the retailer. If complaints are not properly classified, statistical generation and subsequent policy analysis are severely hindered (Tarp Institute, 1986). If analysis of data is not possible, the whole process of the data collection becomes worthless for future improvement work.

Tarp (1986) recommends using two kinds of failure codes. One for problem as it is being perceived by the customer and one root cause code in terms of system/employee failure, company policy/procedure or customer expectations. The company is not in a position to have codes for customer perception of the problem since the text describing the problem, written in the complaint report, is written by the retailer, not the end user. Therefore the company should use problem codes as they are perceived by the complaint handlers. Problem codes can be found by answering the question 'What is not working?' Tarp (1986) recommends that code categories should be designed with enough specification to identify the exact nature of the problem.

The company has traditionally used numerical codes, each having specific meaning. A company's employee has come up with the idea to use alphabetical order or even to not have the codes labeled. As it is today there are outdated codes on the list that have not been used for many years and even only used for one case. What needs to be kept in mind, if numbers are to be used, is to not use the same number twice if something becomes outdated but to continue with a new number-slot. It can be confusing for later analysis if code 23, even though outdated, is used again for something new. A comprehensive handbook or a manual including examples, has to be provided for employees on how complaints and comments are registered and classified (Tarp Institute, 1986).

Response investigation, formulation and production

The complaint handlers both have many years of experience within the company and have good knowledge of the functionality of the products which is a great resource for the company. The complaint handlers have great belief in the products' quality which is a positive thing but when handling complaint, it can also be a barrier when it needs to be accepted that something went wrong. Defensive organizational behavior towards complaints is a trap that many companies fall into (Homburg & Fürst, 2007) and the company needs to be careful not to fall into this trap. The consequences can be a skewed picture of the market from what it really looks like.

With its warranty policy, the company gives signals of reliability and the customer gets a form of insurance (Spence, 1977) valid for 24 months from product's delivery date. The company's policy can be classified as an equity approach (Gilly & Hansen, 1985). The complainant is prevented from losing anything and is left in a position comparable to the pre-problem condition (Gilly & Hansen, 1985). When looking at strategy towards complaint handlings it can be good to go through the list from Gilly and Hansen (1985) of factors that can be influential towards which strategy should be chosen. Factors favorable equity approach

in the company's case are: low product mix breadth, not a family brand, low reference group visibility, product cost characteristics, complaint frequency is low and the channel support is ok. Over benefitting is also recommended because of these following factors: frequency of purchase is rare but large amounts every time, product growth rate is high, high product risk severity, firm growth strategy is aiming for strong growth and product position is competing on quality. Now the company is using equity approach but since many factors are in favor of them using over benefitting it might be good to consider some mix of these two approaches.

When it happens that claims are rejected, retailers get disappointed since they have already replaced the product and lost money. It is important to avoid this kind of scenario by education and maintaining good relationship with retailers. If a retailer gets rejected without knowing why, it might be possible that future complaints from customers would not be sent further but rejected immediately. For improving customer relationship, customer contact personnel should be instructed to communicate in such a way that customers get the impression that, besides getting the complaint out of the way, the company is also interested in understanding and eliminating the underlying causes (Homburg & Fürst, 2007).

Creation of public awareness

It is more advantageous to maximize the number of complaining customers rather than trying to minimize the number of complaints (Fornell & Wernerfelt, 1988). Many studies on complaint and customer behavior have tended to confirm the fact that a large percentage of consumers who experience problems do not complain (Day & Ash, 1979; Tarp Institute, 1986; Stephens & Gwinner, 1998). For the company to gain information from customers that want to complain, the customers have to know that their complaints are welcome, how to contact the company and which information should be included in the complaint (Tarp Institute, 1986). The company's contact information should be placed where it is visible for the customers. Tarp (1986) recommends having contact information in advertisements, product literature (warranty, user manual) and on signs at point of purchase. The contact information should also be available at the company's webpage, preferably on the front page. It should be easy to complain as soon as the problem occurs to minimize negative word of mouth (Tarp Institute, 1986). The company prefers customer's to go directly to retailers when they have a problem. Due to the nature of truck driving it is likely that drivers are not always near to their known retailer when problems occur and the company could benefit from making it clear on their homepage, how to complain and what is covered. A list of retailers and daughter companies in each country including emails and other contact information could for example be helpful.

6.2 Continuous improvement

The company has a very strong market share in their home market. Even though they are doing well, is it important to continue on developing and improving the products. According to Bergman and Klefsjö (2010) organizations that stop improving will soon stop being good. Organizations should therefore constantly come up with new and improved processes and products (Dean & Bowen, 1994). As has been stated, the company has many ways of gathering information from customers and market. How the information is used for improvements is the important part (Goodman, et al., 1996). The company is not making use of the collected information to full extent for several reasons expanded on in the following:

One of the problems pointed out, when conducting the affinity diagram in this study, was that complaint data is not seen by upper management as an opportunity for improvement. For the organization to be activated and committed to improvement work, it has to start with management's approval and involvement (Garvin, 1988). The fact that costs regarding

complaint handling are visible and immediate, while the benefits are long-term and indirect is a common hinder for upper management (Berry, 1996 as cited in González Bosch & Tamayo Enríquez, 2005). Goodman, DePalma and Broetzmann (1996) state that companies should track the impacts of the VOC process to influence senior management decision making and Tarp (1986) recommends calculating the economic benefits of complaints and other customer feedback handling and view the complaint handling office as a corporate profit center.

It is very difficult to analyze data coming from the complaint database with the existing error codes. As pointed out in the affinity diagram, error codes are badly structured and it is easy to pick the most general ones. Tarp (1986) states that code categories must be designed with enough specificity to identify the exact nature of the problem, and current coding scheme does not offer this specification. Data put into Caesar is not registered nor classified in a systematic way. Goodman, DePalma, & Broetzmann (1996) state that customer contact data should be categorized using a uniform classification system to allow the integration of data from different sources. The company should therefore strive to use a unified classification system for all data sources.

There is a lack of structured process for working through information collected. There is no one that has clear responsibility for analyzing the data and finding root causes. The deviation system looks at one problem at a time in isolation but there is no process where all data from customers and the market are looked at together. The literature states that complaint data must be supplemented by using other sources of information such as survey data and quality reports (Adamson, 1993; Goodman, DePalma, & Broetzmann, 1996; Johnston & Mehra, 2002) and if the VOC process is to be successful, it should be built from multiple data sources (Goodman, et al., 1996). Flint (2002) states that better and deeper customer understanding will improve initial new product generation and increase the likelihood of repeated success, he recalls the old adage in this context; garbage in, garbage out.

There is a lack of communication between R&D and units that handle customer issues. Statistical claim report from the Access system is delivered to the R&D department but it mainly includes how many incidents of each failure code have happened over the last month. The report is only delivered in paper and not supplemented with an oral presentation. This is a common problem, according to Tarp (1986). Fundin and Elg (2006) found out that it is important to use personalized information as a complement to codification to receive an appropriate picture of problems that cause customer dissatisfaction, else product development will have difficulties in understanding the coded information.

6.3 Teamwork

For the company to become a learning organization they should be able to easily transfer knowledge throughout the company. Today they are not utilizing all potential with employees only sitting in their own corners holding on to their knowledge. Employees have to be united in their mind as well as their work. Learning from previous mistakes is one way of transferring knowledge and Maidique and Zirger (1985) even state that failures are the best teachers. When a failure occurs it should be systematically recorded and made accessible to employees. It can also be helpful to look to others to learn, both for successes and failures. The company has been recording, both claims and deviation, but it has not been successful in learning from the customer feedback or using it for improvements. To become a successful learning organization Garvin (1993) suggests few steps:

- Foster an environment welcoming learning
- Employees must get time to discuss, evaluate and think about strategic plans
- Full support and involvement from management

- Employees should be trained in brainstorming, problem solving and other core learning skills.
- Open up boundaries and stimulate exchange of ideas – with conferences, meetings, project teams etc.

The company could gain from emphasizing more on having an environment open for learning and exchange of ideas. The interviewees were perceived as having different views on willingness to learn new things and participate in training and seminars. Some were enthusiastic while others were not excited.

One of the biggest problems in the company is lack of communication between departments, at least connected to listening to the customer and turning that information into improvement work. Eklund (2000) recommends that companies take care of the internal customers as well as the external customers and pass their quality work to the next employee. Dean and Bowen (1994) believe that if a company wants to have long term success it should focus on customer satisfaction. Satisfied internal customer is more likely to result in satisfied external customer (Bergman & Klefsjö, 2010).

One interviewee, who has worked at the company for a long time, mentioned that the culture of the company has been different between periods, depending on the upper management in charge at each time and their support. During certain times, communication and collaboration has been good between departments but in other periods the "us" and "them" thinking has been more dominating. Walls between departments do easily develop. In recent years he feels that collaboration and teamwork has been more up-front. With increased teamwork Sveiby's (2001) knowledge value chain should be kept in mind and its ability to grow into a network utilized as possible. Since knowledge does not leave the person who shares but doubles within the organization it becomes a network of knowledge where information flow becomes easier. It will only benefit the company if knowledge sharing becomes easier within the company. Knowledge shared between two employees doubles the organizational knowledge (Sveiby, 2001).

The sales and marketing department has most information about the customer and should therefore be active in communicating the customer's needs and opinions to other departments. Sveiby's (2001) nine knowledge transfers can be helpful for the company regarding communication and increased learning environment. The company should have a strategy for how to use each knowledge transfer because they exist in every company and should be utilized to their fullest potential. The company as well as other stakeholders, employees, suppliers and customers, will all gain from these transfers and shared knowledge grows since it does not leave the person who first possessed that knowledge. This is important both for tacit and explicit knowledge and though it might be easier to transfer explicit knowledge for example with documentation and handbooks it is as important to transfer tacit knowledge for example with learning-by-doing workshops with practical hands-on training. Nonaka's (1991) SECI model can be a good base for visualizing the transfer between employees.

The culture at the company has ascendant characteristics of being personalized, rather than codified (Hansen, et al., 1999), meaning that when one employee needs to find some special information it may not be found in a database for everyone to see but this employee needs to find another employee who possesses this knowledge. However, the employees are willing to share the information with other employees if they are asked. So the searching employee will have to know where to search for this specific knowledge. Most companies choose to have a mix of personalization and codification but then have one dominant and choosing to have personalization can develop an expert's culture where employees become experts in a special

field (Hansen, et al., 1999). In these circumstances the employees might become scared of sharing too much information in part because they think that someone could take their job (Sveiby, 2001) but Garvin (1993) suggests that this might be overcome by stimulating exchange of ideas and opening up boundaries. Most employees at the company have been there for many years and know who to ask and know that if they ask they will get an answer. With codification everything has to be documented and a new person has to know where to search within databases and it can be easier to ask around for the expert in the field.

7 Discussion

The purpose of the study was to elaborate on practices for obtaining and analyzing customer feedback to use for improvement work in the product development process, with focus on complaints. Of the literature in the area of complaint handling, much is built on the seminal work of The Tarp Institute. *Consumer Complaint handling in America: An Update study* was published in 1986 and was supposed to provide an overview of changes from another TARP study, conducted between 1974 and 1979. The 1986 report provided consumer affairs professional guidelines for establishing cost-effective complaint handling procedures. There are no other such hands-on guides on how to handle complaints. The Tarp study is good for that matter that they both touch upon how to handle complaints in order to maintain a loyal customer and on how to improve current situation. The disadvantages are that it is tailored to public American organizations instead of service and manufacturing firms and with fast development of the information technology in recent years; some of the advices are outdated. Other valuable input in the complaint handling literature are more about the benefits (Zairi, 2000; Adamson, 1993; Gilly & Hansen, 1985), the constraints (Day & Ash, 1979; Tarp Institute, 1986; Stephens & Gwinner, 1998; Homburg & Fürst, 2007) and how to choose the right strategy (Fornell & Wernerfelt, 1988; Gilly and Hansen 1985).

The quality management literature talks very much about the importance of having clear customer focus. There are many useful tools provided within quality management, but not many hands on information on how to act to live up to the principles regarding customer focus and specially complaint management. The innovation management literature also emphasizes the importance of getting out of the building and talking to customers (Blank, 2007) and capturing their needs, wants and expectations (McCarty, Daniels, Bremer, & Gupta, 2005; Sampson, 1999; Flint, 2002). With the greater emphasis on the voice of the customer in recent years, complaint handling is now seen as one pussle in a bigger whole. Adamson (1993) and Naumann & Giel (1995) stated that complaint data must be supplemented by using other sources of information such as survey data and quality reports. Goodman, DePalma, & Broetzmann puplished an article in 1996, 10 years after the Tarp report. Their work still builds on Tarp‘s values but now the emphasis is on the whole VOC process and how feedback from customers from different sources should not be analyzed in vacuum, but rather be a part of a bigger customer feedback process. It has to be noted that Goodman is one of the founders of the Tarp Institute and co-author of the Tarp report. Adamson was an employee of Tarp Europe and his opinions might be affected by this relation.

The literature states that customer focus is considered vital and that the main problem with customer feedback is not to gather data, but to put it in use. Fundin and Elg’s (2006) research aimed at providing managers with a framework for using when establishing a customer dissatisfaction feedback system. They attempted to connect quality management and complaint management with a framework that positioned different sources, of gathering customer feedback, in four categories. Besides the Tarp report, a structured manual for organizations is still missing in theory. This thesis is an attempt to provide guidance on how to concur this challenge by making synergies between quality management, customer feedback management and complaint management by using theories from knowledge management as an aid. The thesis also provides a framework for complaint handling process (see Chapter 3.6 Customer feedback system).

The customer feedback process is cooperation between different divisions within an organization. The prerequisite of a successful improvement process is to stimulate shared

knowledge culture and exchanging of ideas (Garvin, 1993). When the customer feedback process has been put in order, the spotlight turns to product development, that needs to be open for and willing to make use of new knowledge. For companies that have been more technical than customer focused, this is a cultural challenge that needs to be tackled. If managers do not find the analysis useful and actionable, all previous data generation and analysis is unnecessary (Tarp Institute, 1986).

There is a need of not only having a good complaint system but to link it to other processes to use as a basis for improvement. For further studies it would be interesting to develop the practices discussed in this thesis for use in development work. It would be interesting to follow up on this case study and see how it goes in implementing different steps, what will be successful and what will be most challenging. Another interesting research topic would be to conduct a similar research as was done by Tarp in 1986 and create guidelines for complaint and customer feedback handling, in line with today's technology and market environment.

8 Conclusions

This case study was conducted at a medium sized mechanical company during four months period.

The first research question was following:

- *What are the biggest problems in using complaint data for improvements?*

As stated by literature, common problems seem to be; that management is to short-sighted when it comes to complaints since the cost of complaints is visible and immediate while the benefits are long-term and indirect (Berry, 1996 as cited in González Bosch & Tamayo Enríquez, 2005). Managers do not take the customer complaints seriously and some employees even develop a defensive behavior towards complaints and look at them as a threat rather than an opportunity (Homburg & Fürst, 2007). Customers can also be reluctant to complain, thinking that it is not worth the trouble, no one at the company cares or they might not find the right channel for the complaint (Day & Ash, 1979; Tarp Institute, 1986; Stephens & Gwinner, 1998).

In regards to the company, this question was answered with help of an affinity diagram. The final outcome, summarized in one sentence, was that 'there is a lack of awareness of potential in using complaint data for improvements, and a proper customer focus claims handling process is not in place'. This outcome can only be applied at the case company, but this is something other companies can have in mind since it is important to have awareness and a proper process. The problems that were posed in the affinity diagram were case-related and specially applied to the company but can be a beginning point for other companies that are also struggling with using complaint data for improvements. What seems to be most important to have in mind is to have a structured process for handling claims and have a clear linkage between complaints and improvements. The biggest hinders found in the case of the company were:

Complaint data is not seen by upper management as an opportunity for improvement. When management commitment is lacking it can be seen difficult for the whole organization to be engaged.

Classification system for customer claims is unsuitable. Current system is a mix of problem codes, cause codes and decisions codes. It is complicated for the complaint handlers to choose appropriate code with this system and almost impossible to make a proper analysis.

Complaint data, as with data from other sources, is analyzed in vacuum and not used to complement each other.

There is a lack of structured process for working through information collected. There is no one that has clear responsibility for analyzing data and finding root causes.

There is a lack of communication between R&D and units that handle customer issues. Reports with codified data are not complemented with oral presentation and can therefore be hard to understand.

The second research question was:

- *What should customer complaint system contain to be of use to product development?*

What was found to be important was that complaint data should not be analyzed in vacuum but should be complemented by other sources of customer feedback, both positive and negative.

When choosing the right complaint handling strategy, over-benefitting, equity or under-benefitting approach, companies should take different attributes into account such as product growth rate, complaint frequency and channel support.

Claims, complaints and comments from customers need to be coded according to predesigned schemes, wherever they are received within the organization. Everyone in contact with customers should have the same systematic coding and logging method.

Organizations need to have clear objectives with all data collection. Present the data in a clear way, analyze it and find root causes. The findings need to be communicated in tailored way to upper management, division managers and product development.

The third and final research question was:

- *What are managerial implications for companies that want to use customer complaint systems for improvement work?*

Management needs to be involved and have a complete strategy in place regarding complaint handling and other customer feedback within the company. Customer focus needs to be a part of the overall company strategy but it also has to be specified how to use customer focus within each department. There has to be a strategy involving how the company is planning on using this information as a resource in improving the product or service they provide.

Management needs to create awareness of the importance of knowledge sharing between employees and they all have to display information they have about the customer. To improve, management needs to keep inspiring the employees and keep them updated. Product development needs to be open for using knowledge that has been collected by others and put trust in the findings.

A customer feedback process needs to be in place with clear responsibilities of each step. Management has to see the profit the company gains from having a good customer feedback process. The process has to be evaluated regularly and financial benefits should be calculated. To be successful at using customer feedback it is important to know why you are doing this and what the company will gain. Organizations must welcome customer feedback and be aware that it can be helpful in determining if the products or services offered are something that the customer is looking for. The complaining customer should be utilized in making the organization better.

All claims, complaints and comments from customers need to be classified and logged in a unified way. Feedback from customers from different sources needs to be analyzed together and root causes of problems need to be found.

Management has to encourage employees to work together, to be a team. Sharing information between employees and between departments can become crucial in knowing what the customer wants. Sharing knowledge and data between employees and departments helps to spread the information about the customer and ease the use of the customer feedback for improvements.

9 Recommendations

9.1 Complaint handling process

This part will present recommendations to the company regarding its complaint handling process.

9.1.1 Screening and logging

The company has to provide training and make sure that both retailers and the company's personnel work in same manner and share the same perception on how to handle and when to accept claims. The company should train more people, other than the two complaint handlers, in using the systems and everyone in the organization should be aware of its existence.

The company should consider having some kind of a comment system for retailers where they register claims they reject. The Tarp Institute (1986) states, that if minor complaints are not registered, the complaint data will be biased towards more difficult types of complaints. Through the same system, the company could offer retailers the possibility of filling in an online complaint report where the retailers would automatically get a complaint number to send with the defected product. The benefits of having this possibility are that the company gets to know the details of the claim earlier. If the retailers get comfortable submitting an electronic complaint report, it can be estimated likely that they would also use this form to put different comments and claims they reject in the same system. For this to become a reality there might be necessary to start this off with some incentives for the retailers. An idea from one of the company's employees was to make it possible for retailers and customers to log in online and follow up on where in the process their claim is at each moment. This might be possible if the claims were registered online and retailers would still get complaint number to follow up on.

The company should look into which data, that retailers have to fill in the complaint report, the company is actually using for analysis. If any of the attributes are not being used, they should not be in the form. An interviewee stated that retailers often skip filling in information about the customer. Another possibility is that something might be missing from the form for the internal follow-up (Tarp Institute, 1986).

9.1.2 Classification

New failure codes were developed in cooperation with two employees at the company. The list of 100 codes would disappear and the new codes should be categorized by products and parts so it would be easier to find the right code. What comes up in the 'Problem'-field is dependent on what has been chosen in 'Product part' and the 'Product part'-field is dependent on 'Product line'. Figure 12 gives an example of the problem code structure if the company were producing bicycles.

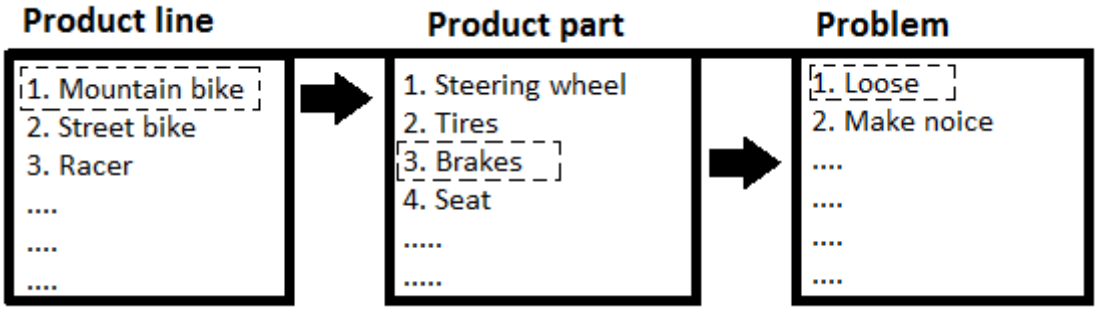

Figure 12: An example of problem codes

9.1.3 Response investigation

Zairi (2000) notes that, to be of use complaints have to be looked at in a constructive, positive and professional perspective. Complaint handlers and everyone involved in the complaint process, need to keep an open mind when investigating claims and look at them as an opportunity rather than a threat.

The company has to provide the complaint handlers with training when new products are introduced. According to Tarp (1986), can the response investigation be a major cause for delayed response and is the most labor-intensive practice. It is highly recommended to the company to train more employees in being able to handle claims and investigate faulted products. As it is today, there is no one to replace the two complaint handlers if they need a vacation or are not present for some reason.

9.1.4 Warranty policy

Decisions concerning warranty claims must be comprehensive and clear (Tarp Institute, 1986) and it is important that both of the complaint handlers share same ideas on what is covered and what not. Their opinion should not depend on their feelings but rather be a systematic investigation.

Now the company is using equity approach but since many factors are in favor of them using over benefitting it might be good to consider some mix of these two approaches.

9.2 Efficient Customer Feedback Management

The following part contains recommendations regarding customer feedback management at the company.

9.2.1 Clear objectives

To get the most out of the customer feedback process, the company has to define clear objectives in order to choose the most suitable research design (Naumann & Giel, 1995). A successful VOC process is built from multiple sources that are chosen to complement each other (Goodman, et al., 1996). When methods have been chosen in relevance with objectives, they need to be pre-tested (Hunt, et al., 1982).

9.2.2 Shared responsibility

The company has to spread the fact that improved quality is everyone's responsibility and should start with top management commitment as recommended by Garvin (1988).

9.2.3 Clever use of IT systems

The company should set guidelines on how to submit claims, comments and complaints from customers into the AM program and Caesar. All those who are in contact with customers should be able to access Caesar and be encouraged to log in comments from customers. What is put in has to be done in a systematic, unified way within the company and should harmonize with the classification system used for warranty claims.

9.2.4 Present data in a clear way

It is important to present collected data in clear way to ease effective root cause analysis. Frequency distribution for each group of data gathered from claim system should be produced in terms of problem cause, product involved, location or unit involved. The data should be presented in a Pareto chart. Next the data should be normalized in terms of sales or number of accounts and then cross-tabularized for identifying patterns of relationships in variables. (Tarp Institute, 1986) Verbal comments about the product or the company should be categorized and used as supporting documents to quantitative analysis.

9.2.5 Find root causes

When data has been sorted, it is important to continue with the process, compare findings from different sources, start analyzing data and finding root causes by for example using cause and effect diagram and asking why five times. The company has to put together a group who is responsible for this work. It is important to concentrate efforts at analyzing one problem at a time (Bergman & Klefsjö, 2010) and this work has to be done regularly.

9.2.6 Input into policy

When data has been analyzed and root causes have been found, distribution of findings within the company is essential. The analysis team should be seen as internal consultants, not finger pointers. Distribution of negative information should be limited but positive information should be distributed extensively within the organization (Tarp Institute, 1986).

The company is recommended to provide upper management, with a written memo followed by an oral presentation on a regular basis. The memo should address the three top problem areas that require managerial action, identify problem root causes, the cost of not solving a preventable problem and the cost of a possible solution. The report should also identify several positive things and give credits to those division managers who have prevented or solved a problem. Managers of departments should also receive written memos, followed by an oral presentation on issues that concern their functions or department. (Tarp Institute, 1986)

9.2.7 Evaluation

The company should regularly evaluate the whole customer feedback process. The basic rule of continuous improvement states that it is always possible to improve products, processes and methodologies while using fewer resources, achieve higher quality at lower costs (Bergman & Klefsjö, 2010).

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11 Appendix A: The Tarp Institute's Complaint handling Functions

Much of the literature in the area of complaint handling is built on seminal work of The Tarp Institute (1986). *The reports written by Tarp, where they give a detailed guide on how to handle complaints, are not easily accessible. A very brief summary solely based on the Tarp Institute studies is therefore provided in this chapter.*

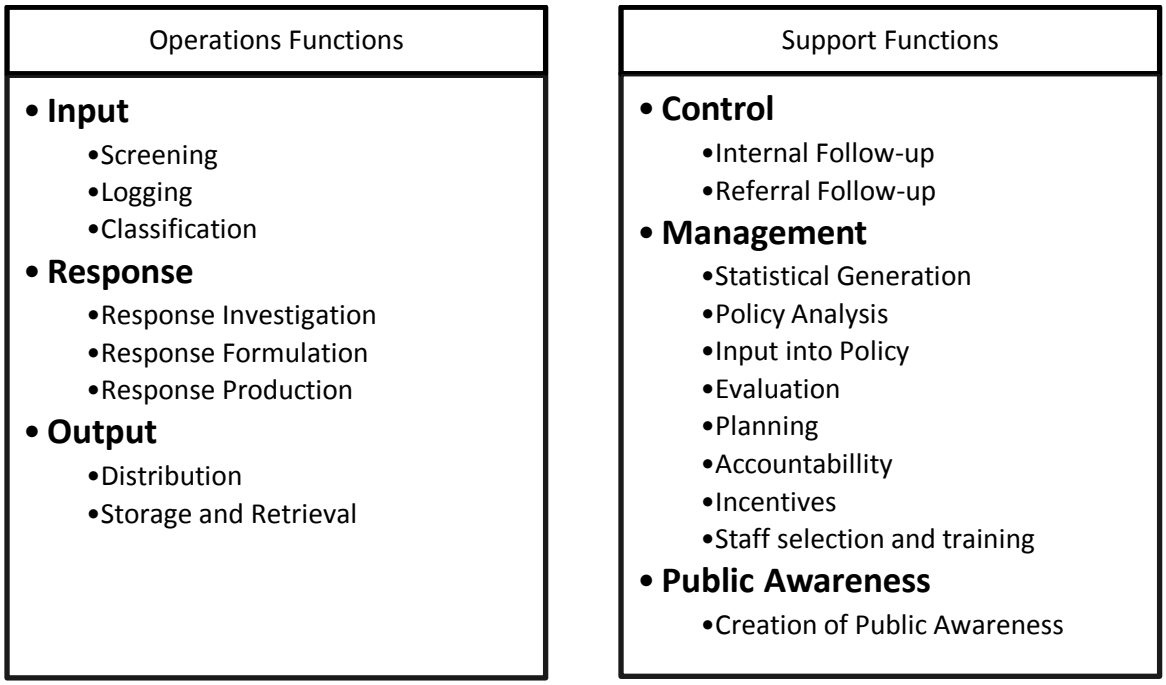


Figure 13: Two groups of six key functions that must be performed in order for consumer complaints to be handled properly.

11.1 Input

11.1.1 Screening

Screening is the sorting of complaints from the general communication flow and the directing of those complaints to the one who is in charge. Transferring of complaint between units has to be done in as few steps as possible, the greater the number of times the complaint is transferred among offices, the greater the risk that the complaint will be misplaced, lost or forgotten. Those who handle screening of complaints should be trained in identifying severe complaints from the rest and know how to act in those cases. Those who screen complaints should not be a part of a team or department who is responsible for the consumer's problem. A tendency to screen out problems may exhibit.

11.1.2 Logging

Logging is the recording of data that describe the status and data elements of each complaint. The log can serve as a data base in the handling process of complaints. It may as well serve as a basis for statistical reporting, policy analysis, input into policy and evaluation. When designing the logging procedures the range of data elements have to be decided upon. Seven sets of data elements are common:

1. Entries identifying the incoming complaints. For example a unique number or complainant's name. Complainant's address and telephone number may also be recorded.
2. Assignment data. For example response due data, analyst responsible and action to be taken.

3. Progress data. Such as date the complaint was received and date when response was sent out.
4. Complaint disposition entries. Those are items describing the content of the final response.
5. Complaint content/cause classification codes.
6. General statistical data.
7. A prose summary of the complainant's problem.

Unnecessarily detailed logging is a common pitfall when designing the logging procedures. Another common problem is the failure to maintain a central complaint log. Multiple logs and systems can cause unnecessary maintenance. Logging of telephone complaints and of outgoing referrals is often not sufficient but still important. (Tarp Institute, 1986)

11.1.3 Classification

Classification is the coding of complaints according to predesigned descriptive schemes. The classification can provide a data base to be used in statistical generation and analysis. The classification scheme has to be decision oriented and specific enough to identify the nature of the consumer's problem.

The Tarp Institute states that complaints should be classified according to:

- Product or service line.
- Specific product or service
- Problem being complained about **as perceived by the customer**.
- Injury or damage to the consumer.
- Organizational unit(s) responsible for, or whose actions contributed to the problem.
- Root cause in terms of system/employee failure, company policy/procedure or customer expectations.

A classification manual with written instructions and examples on how to code information should be provided in order to reduce code errors. If more than 5% of complaints fall into a miscellaneous code category, that category should be refined and new categories developed. Separate code categories should be established for the largest groupings of miscellaneous complaints.

A common problem associated with classification is confusion among problem codes, root cause codes and disposition codes. The actual root causes of problems and consumer perceptions of the root causes of problems are two different things, still both need to be captured. When the numbers of complaints are high, it might be sufficient only to code samples of complaints.

11.2 Response

11.2.1 Response Investigation

Response Investigation involves identifying the issues that define the consumer's problem and then obtaining data for use in the response formulation. Proper response investigation techniques and data collection is important for obtaining the appropriate problem resolution. The investigation can be labor intensive and therefore costly. It is often a cause for delayed response. Approaches for response investigation can be in the form of examining in-house records, data can be collected through written or spoken responses, over telephone (or internet). A field investigation can also be required.

11.2.2 Response Formulation

Response Formulation is when the complaint handler has decided how to resolve the problem and responds to the consumer. This is the most important step in the complaint handling process. Effective response formulation needs to be clear and accurate and deal with all the issues articulated in the complaint. Timeliness of response is important in the way that a slow reply degrades satisfaction.

Several approached are available for establishing response policies. Companies can decide to cover only what is within warranty, cover everything to meet consumers demands or to meet them partway.

11.2.3 Response Production

Response Production deals with transmitting the response to the consumer. The response may be delivered orally in person or through phone or written. The form can be either standardized or personalized; clarity and appropriateness are the most important factors.

11.3 Output

11.3.1 Distribution

Distribution means sending out the final response to the consumer and a copy to other interested parties. Information should be sent to those who are in charge for the root cause of the problem and to upper management, as well as third-party complaint handlers such as retailers. A special care has to be taken in forwarding a copy of complaints response and resolution to the right persons in the organization. Mass mailing can lead to that the response will not be read by those who need to correct the root cause.

11.3.2 Storage and retrieval of data

Storage and retrieval of data has become much easier and accessible with computers. Anyhow, companies have to decide upon the cost of storage of files and products vs. the detail and ease of accessibility required to support other functions.

11.4 Control

11.4.1 Internal follow-up

Internal follow-up consists of controlling the nature of how complaints are handled in-house and setting standards for response time and quality. If standards are not being met, management should act to correct. Response due dates should be set in accordance with consumer expectations for response time.

11.4.2 Referral follow-up

Referral follow-up consists of the controlling of complaints that are referred to other complaint handling offices such as dealers, retailers and field offices. The main objective is to provide the complaint handling office with an ongoing assessment of its referral policies. Good cooperation is important.

11.5 Management

11.5.1 Statistical generation procedures

When designing the statistical generation procedures the range of topics to be covered must be determined and a decision must be made regarding level of detail. Tabulation procedures and format of presentation must be developed. Four steps are necessary to conduct an effective analysis of gathered data. The first step involves producing frequency distribution for each group of data gathered in terms of problem cause, product involved, location or unit involved. When presented, the items should be rank ordered with the most significant problems appearing at the top of the column. The second step involves normalization of the data based on sales or number of accounts. This is important to see if there has been a real increase in complaints or if it is following sales figures. The third step is to apply thresholds, or benchmarks, determined in advance in cooperation with quality assurance and operation managers. The fourth and final step involves cross tabular analysis. This type of analysis allows further identification of how why and where problems occurred and who is responsible. Further, the factors of timeliness must be analyzed and communicated on a regular basis, and the analyst‘s qualifications, who needs to be knowledgeable about the product and the organization and skilled in interpreting statistical data.

11.5.2 Policy analysis

Policy analysis consists of interpreting the data presented in statistical outputs. It should highlight the market damage and possible danger to public created by problems. It should also identify root causes and assess the potential for reduction or elimination of their occurrence.

The policy analysis should be conducted by the complaint handling office. The policy analysis step should point out which organizational unit is responsible and propose a corrective action. If operation manager does not find the analysis useful and actionable, all previous data generation and analysis is unnecessary.

11.5.3 Input into Policy

Input into Policy describes how conclusions of the policy analysis are put into their final format and distributed within the company to influence decision making. Written memo followed by an oral presentation is in most cases most suitable and effective. This presentation should be produced on a regular basis and include positive as well as negative findings.

It is important that each memo/presentation meets the needs of the expected audience. Three types of reports are suggested, each one suited to its audience. The senior management report should address the three top problem areas that require managerial action. It should identify problem causes, the cost of not solving a preventable problem and the cost of a possible solution. The report should also identify several positive things and give credits to those unit managers who have prevented or solved a problem. Line manager reports should include the same content as the senior management reports, but should be tailored to specific functions or divisions. The third type of report is for the complaint handling unit management. It should focus on information on emerging trends, the issues being brought to senior management’s attention and productivity, workload and resource allocation. It is extremely important for the complaint handling office to have a cooperative relationship with all major departments. The complaint handling office should be seen as an internal consultant, not a finger pointer. Distribution of negative information should be limited but positive information should be distributed extensively within the organization.

11.5.4 Evaluation

Evaluation is the assessment of complaint-handling office performance. The evaluation should measure effectiveness versus cost. Complaint handling effectiveness is first assessed from a process perspective where each step in the complaint handling process is evaluated and rated as satisfactory or unsatisfactory. The outcome effectiveness is measured in timeliness of response, percentage of satisfactorily resolved problems, degree to which root causes are identified and impact of response on image and future purchasing decisions. The cost involves labor, equipment, contracts and supplies and can be both direct and indirect. An additional factor to include in cost-effectiveness calculations is the complaint handling unit‘s ability to retain brand loyalty.

The evaluation should minimally be conducted on an annual basis and preferably by outside evaluators for an objective assessment. When this approach is not feasible, in-house evaluators should be selected from outside the complaint handling office. Self-evaluation is the least preferred approach. The evaluation should start with interviews with complaint-handling personnel and senior management. Then office records and a sample of data are reviewed. Later a sample of consumers who have complained is contacted through telephone or mail survey. The last step suggested is a mail or telephone survey with the general consumer public. For economic reasons it is recommended that the questions concerning the complaint handling process should be included in other general consumer surveys.

Cost effectiveness can be defined in terms of cost per complaint handled or even cost per satisfactorily resolved complaint. Businesses should utilize this analysis to calculate the economic benefits of complaint handling and view the complaint handling office as a corporate profit center.

11.5.5 Planning

Planning is the process of setting priorities and goals for fixed period of time for the complaint-handling office. It addresses the two operational goals of the office that are handling of individual complaints and identification of root causes of problems. The plan should be formal and written and be a participatory process between complaint handling office and senior management. Goals should be set for complainants’ satisfaction and response time and also for prevention and improvements. Budget and allocation of resources plays a big role in the planning process. The plan should specify quantifiable performance objectives and give special emphasis to the economic benefits of complaint handling.

11.5.6 Accountability

Accountability consists of assigning complaint handling and complaint prevention responsibilities to specific offices and personnel. Given the press of other duties, complaint handling may not be performed adequately unless an accountability policy is adopted. It further pinpoints out who is responsible if a problem arises. Accountability policies may be defined by complaint-handling policy statements where the organization’s approach to complaint handling is defined and complaint handling responsibilities are mapped in an organizational chart. Another definition of accountability policies are written statements of all organizational units’ responsibilities and employee job descriptions where all complaint handling responsibilities including prevention are listed. Complaint handling should not be lumped together with responsibilities for answering general correspondence. Managers of corporate departments outside the complaint handling office are responsible for correcting the root causes of consumer problems.

11.5.7 Incentives

Incentives are rewards and penalties used to encourage the prevention of consumer problems and proper handling of consumer complaints. Incentives can be both economic and non-economic, in the form of recognition both formal and informal. Formal recognition that can in the long run have positive impact on compensation and job classification and in the short run, positive impact on employee morale, is preferred.

11.5.8 Staff selection and training

Staff selection and training is important at all stages of the complaint-handling process. Customer service representative must have appropriate personality traits as well as technical qualifications. Organizations often fail in spending time on formal training. Without appropriate selection and training, turnover will be high and performance low.

11.6 Public Awareness

11.6.1 Creation of public awareness

Public awareness is created by informing consumers that complaint handling offices exist and then teaching the public how to utilize those offices for obtaining assistance. Consumers should be told that their complaints are welcome. Without public awareness, the full marketing benefits of complaint handling cannot be realized and the percentage of customers who experience problem and make a claim will be lower. Approaches to creating public awareness can be advertisement mailings to consumers, message included in the billing statement, signs at the point of purchase, message on products label, a section in product literature, through mass media or direct communication. What is chosen depends on the type of product or service being sold. It is important to use a media that encourages consumers to complain directly at the time that the problem arises; immediate contact lessens the negative word of mouth generated between problem experience and resolution.

12 Appendix B: An example of statistical data generation

This chapter takes an example of statistical data generation of complaints as suggested by Tarp (1986).

Imagine a company that makes three products: A, B and C. Each product is a combination of components 1, 2 and 3, that all can fail. The company sells through three different retailers, x, y, z.

Product	A	B	C
Possible Failure	1,2,3	1,3	2,3
Possible retailer	x,y,z	x,y,z	x,y,z

The sales figures for last month were:

Sales this month	A	B	C	
Retailer x	100	60	15	175
Retailer y	30	60	30	120
Retailer z	15	10	5	30
	145	130	50	

Possibility of failure 1	275
Possibility of failure 2	195
Possibility of failure 3	325

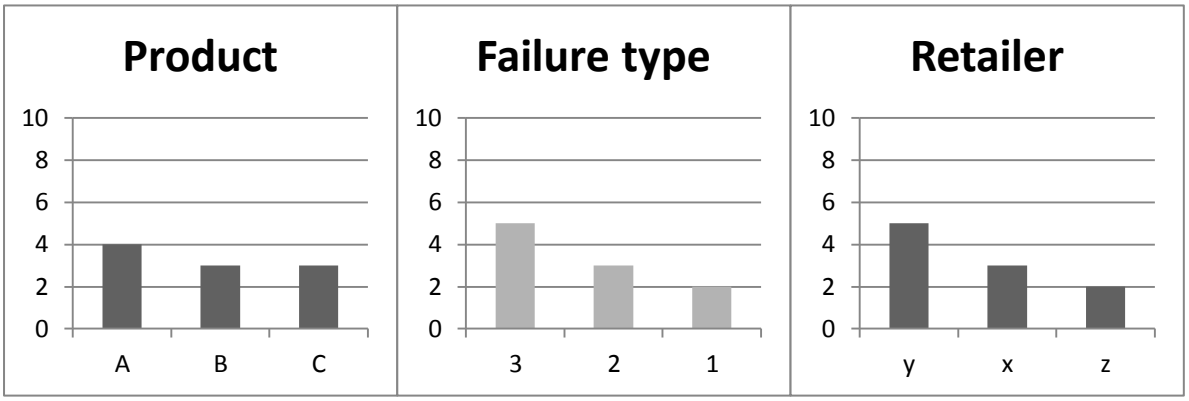
The complaints that the company received from its retailers last month where in total 10 and where the following:

Complaint #	Product	Failure	Retailer
1	A	1	X
2	A	3	X
3	B	3	X
4	B	3	Y
5	A	2	Y
6	A	2	Y
7	C	2	Y
8	C	3	Y
9	C	3	Z
10	B	1	Z

The table on the right shows the summary for each factor and puts them in frequency order so it will be easier to create a Pareto chart.

		#
Product	A	4
	B	3
	C	3
Failure	3	5
	2	3
	1	2
Retailer	y	5
	x	3
	z	2

Let's start by producing a frequency distribution:

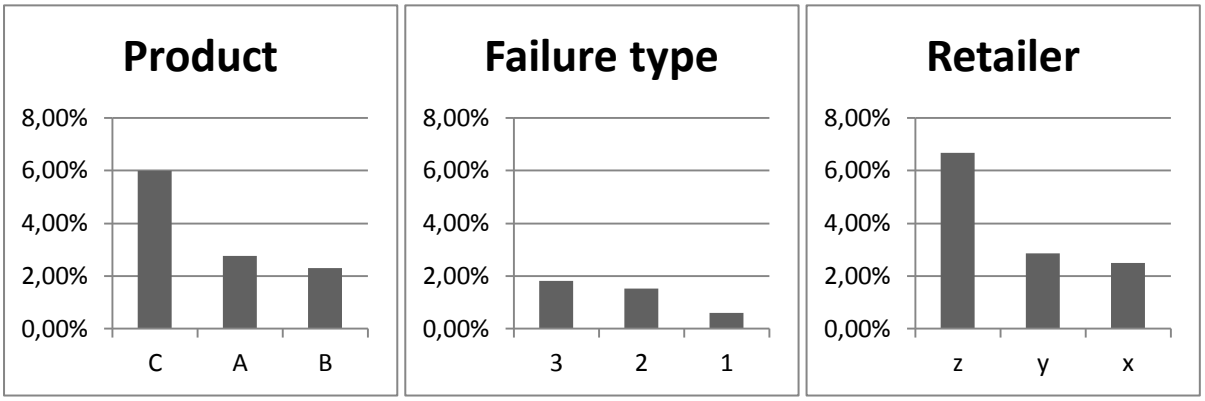


Those graphs give us the information that product A has most claims. Failure type 3 is most common and most claims come from retailer y. But that information is not of much value unless put into perspective with sales figures.

		#	Normalized
Product	A	4	2,76%
	B	3	2,31%
	C	3	6,00%
Failure	3	5	1,82%
	2	3	1,54%
	1	2	0,62%
Retailer	y	5	2,86%
	x	3	2,50%
	z	2	6,67%

The table on the right puts the factors in order after fault ratio for the Pareto chart.

		Normalized
Product	C	6,00%
	A	2,76%
	B	2,31%
Failure	3	1,82%
	2	1,54%
	1	0,62%
Retailer	z	6,67%
	y	2,86%
	x	2,50%

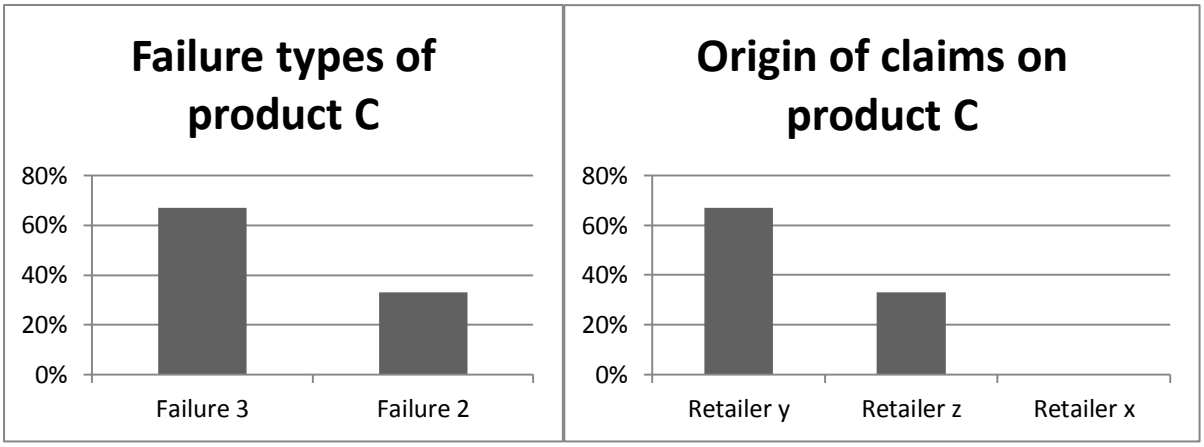


Those graphs give different results. Product C has highest failure rate, even though most of the failures come from product A. Failure type 3 has the highest ratio and is also the most frequent. Retailer z reports most claims compared with how many items they sell.

Product C is of interest since it shows the highest failure ratio. With cross tabulation we get better information about the problem. The initial information gave that

Product	Failure	Retailer
C	2	y
C	3	y
C	3	z

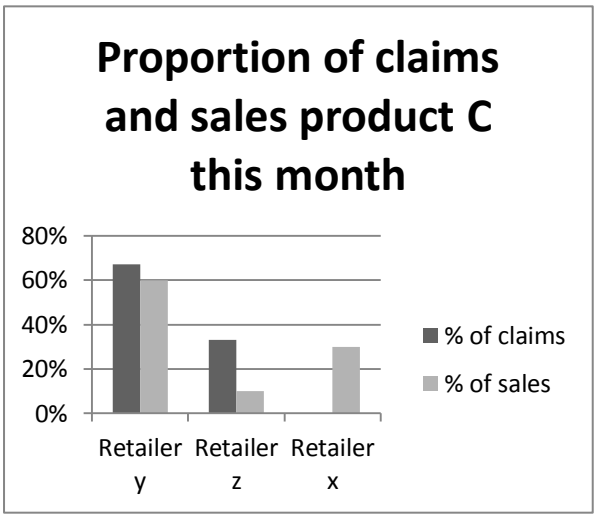
Failure 3	67%	of failures
Failure 2	33%	of failures
Retailer y	67%	of retailers
Retailer z	33%	of retailers
Retailer x	0%	of retailers



The most common failure type for product C is failure 3 and most claims come from retailer y.

We can go on and look at the sales figures for product C this month:

Sales this month	C		
Retailer y	30	60%	of sales
Retailer z	5	10%	of sales
Retailer x	15	30%	of sales
	50	100%	



Here it can be seen that retailer z has a high number of claims in comparason with number of sales and that the opposite goes for retailer x.

This presentation of data gives a clue on where the biggest problems are and where to start the search for the root cause so that the process can lead to improvements. The cause of the fact that retailer z has high number of claims in comparasion with frequency of sales might be that retailer z recently hired a new employee or that the customers that do business with retailer z use the product differently than customers in other areas. Or maybe retailers y and x are not reporting all the claims that they should do. The answers to those questions, e.g. the root cause has to be found by complementing the data with additional informations.