



Satakunnan ammattikorkeakoulu
Satakunta University of Applied Sciences

ANNA AUTIO

Designing a complaint management process for subcontracting com- pany's ERP system

DEGREE PROGRAMME IN INDUSTRIAL MANAGEMENT
2024

ABSTRACT

Autio, Anna: Designing a complaint management process for subcontracting company's ERP system

Bachelor's thesis

Degree programme in Industrial Management

May 2024

Number of pages: 63

Complaint management is important for organisations because it enables them to collect valuable information about customer satisfaction and identify areas for improvement. The purpose of this study was to find out how the case company's complaint management process could be improved with the help of an enterprise resource planning system. Designing a more effective complaint management process within the ERP system was important for the company due to some inefficiencies in their current process. To achieve the objectives of this thesis, research was made into the qualities of an effective complaint management process, the current state of the process, and how integration with an ERP system could improve its efficiency.

The theoretical framework of this thesis consists of complaint management, ERP systems and process management. This research was conducted as qualitative research, using semi-structured interviews as the main data collection method. Additional data was gathered by observing the process and studying internal documents relating to the case company's complaint management process.

Based on the interviews, the strengths and weaknesses of the process were identified. The results suggested that the case company's complaint management process is very customer-oriented, and customers' problems are solved quickly. The weaknesses of the process included poor implementation of the process, lack of knowledge regarding roles and responsibilities, and the fact that the process does not produce enough information for managerial decision-making.

Based on the data collected from interviews and observing the process as well as theoretical knowledge gained from literature, suggestions for the improved process were made. The outcome of this thesis is an outline of the new complaint management process that utilises the ERP system.

Keywords: complaint management, process management, process improvement, ERP system

CONTENTS

1 INTRODUCTION	5
1.1 Case company introduction, research background and limitations.....	5
1.2 Research objective and research questions.....	6
1.3 Theoretical framework.....	7
2 COMPLAINT MANAGEMENT	9
2.1 Definition of complaint and complaint management.....	9
2.2 Aspects of complaint management	10
2.2.1 Customer relationship management.....	10
2.2.2 Quality management.....	12
2.3 Goals of complaint management.....	14
2.4 Complaint management Process	15
2.4.1 Direct complaint management process.....	16
2.4.2 Indirect complaint management process	17
2.5 Complaint satisfaction	19
2.6 Complaint management and organisational learning	20
2.7 Complaint management best practices	22
3 PROCESS MANAGEMENT.....	24
3.1 Concept of process.....	24
3.2 Process development.....	25
3.3 Process descriptions	27
4 ENTERPRISE RESOURCE PLANNING SYSTEMS	29
4.1 Enterprise resource planning system functions.....	29
4.2 Benefits of ERP	30
4.3 Limitations, weaknesses, and risks of ERP	31
4.4 Technological aspects of complaint management.....	33
5 DESCRIPTION OF THE METHODS AND IMPLEMENTATION	36
5.1 Research process	36
5.2 Research approach	38
5.3 Data collection methods	39
5.4 Research ethics.....	43
6 RESEARCH RESULTS AND ANALYSIS	45
6.1 Interview results	45
6.2 Answers to research questions	47
7 RECOMMENDATIONS FOR IMPROVED COMPLAINT MANAGEMENT PROCESS	51

8 CONCLUSION	58
REFERENCES	61

1 INTRODUCTION

Complaint management is a broad and complex area of action that includes planning, implementation and supervision of all measures related to the company's complaints. From a strategic perspective, complaint management is crucially important in two ways. Firstly, complaint management has strategic potential for customer relationship management as customer satisfaction and customer loyalty are restored through effective complaint handling. Secondly, complaint management also has great strategic potential for quality management since it is in control of gathering and utilising complaint information to improve products and processes. (Stauss & Seidel, 2019, p. 4.)

This thesis examines the complaint management process of a subcontracting company. The focus is on identifying inefficiencies within the existing complaint management process and suggesting solutions that utilise the capabilities of an enterprise resource planning system.

1.1 Case company introduction, research background and limitations

The case company is the largest waterjet and laser cutting company in Finland. It is the parent company of a group of three subcontracting companies specializing in cutting plate, sheet and tube products. The parent company was founded in 2020 and currently has three sites located in Central Finland. In addition to laser, waterjet, plasma and flame cutting, the group's companies offer a wide variety of additional services, including bending, bevelling, shot-blasting, drilling, and grinding. The group employs about 160 people, uses over 18 000 tons of steel and other metals a year and its annual turnover exceeds 50 million euros.

With an effective complaints management process, it is possible to identify opportunities for process and service improvements, eliminate complaint-causing factors and prevent problems from reoccurring and ultimately enhance customer satisfaction and loyalty. Customer satisfaction, continuous improvement and effective complaint handling are important to the case company. The current complaint management process is not as efficient as it could be and does not generate enough information for management decision-making. The company has grown significantly over the years and because of expanding operations, updating the current systems has become necessary. With the ongoing enterprise resource planning system development project, there is also the opportunity to redesign the complaint management process, integrate it into the enterprise resource planning system, ensure its efficiency and benefit from the opportunities brought by digitalization.

This study concentrates on designing the new complaint management process and developing suggestions for improvement. The implementation of the changes or the new process are not part of this study. The possible changes to the ERP system will be made by the in-house software developer.

1.2 Research objective and research questions

The aim of this research is to find out how the case company's complaint management process can be improved with the help of the enterprise resource planning system. Designing an improved complaint management process for the enterprise resource planning system is important for the case company because the current complaint management process does not work as efficiently as desired, and it does not produce enough information to support the company's management's decision-making. In order to achieve this goal, it is necessary to find out what an effective complaint management process is like, what the current state of the case company's complaint management process is and how the enterprise resource system can improve the process.

The following research questions serve as the foundation for the study:

1. What are the characteristics and qualities of an effective complaint management process?
2. Why is complaint management important?
3. What is the current state of the complaint management process?
4. How can an enterprise resource management system improve complaint management process?

1.3 Theoretical framework

The theoretical framework of this thesis includes complaint management, process management and ERP systems. The theoretical framework is presented in figure 1.

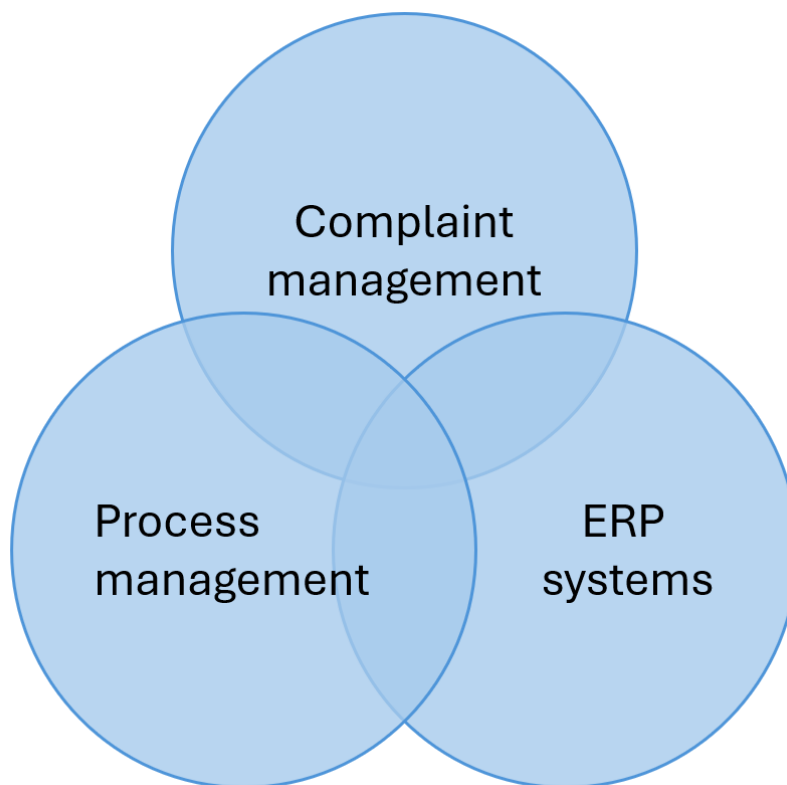


Figure 1. Theoretical framework of this thesis

Complaint management is the process of receiving, analysing, resolving, and preventing customer complaints. It aims at recovering dissatisfied customers.

In addition to the overall goal of increasing organisation's competitiveness and profitability, complaint management has two sub-goals: one relating to customer relationship management and customer satisfaction and the other to quality management and improved operations. This thesis explores both aspects of complaint management.

In order to find out how complaint management process can be improved, it is also necessary to study process management and process development. The steps of process development are reviewed as well as process mapping as a tool for improvement.

This thesis also discusses the functions of enterprise resource planning systems and their strengths, weakness and benefits. The features of information systems that can be used in complaint management process are also discussed in more detail.

2 COMPLAINT MANAGEMENT

2.1 Definition of complaint and complaint management

The ISO 10002:2018, the international standard that gives guidelines for complaints handling in organisations defines complaint as an “expression of dissatisfaction made to an organization, related to its product or service or the complaint-handling-process itself, where a response or resolution is explicitly or implicitly expected” (ISO 10002:2018, 2018). Complaints are the intentional verbal or written expressions of the complainant’s dissatisfaction with the company’s non-compliance with the customer’s expectations (Stauss & Seidel, 2019, p. 26).

Complaint management can be defined as the process of receiving, investigating, resolving and preventing customer complaints, and recovering customers. The goal of complaint management should not only be customer satisfaction but, above all, operational improvements which, in turn, will lead to better financial results. (Johnston, 2001, pp. 60–61.) Complaints should not be seen only as a cost factor, but as an opportunity to identify and correct errors and reduce costs (Stauss & Seidel, 2019, p. 33). By utilising the information contained in complaints, organisations can analyse, improve, or even eliminate processes leading to complaints. Complaints also provide an opportunity for organisational learning and a chance to better the long-term relationships with customers. (Vos et al., 2008, p. 8.) Since the aim of complaint management, from a processual point of view, is problem identification, information processing, and root cause analysis, it, in essence, a problem-solving process (Tuertmann et al., 2016, p. 2).

Complaint management and organisation’s response to service failures and complaints has the ability to strengthen customer loyalty by restoring customer satisfaction, or it can make the situation worse and drive dissatisfied customers to competitors (Smith & al., 1999, p. 356). Efficient complaint management

processes have also been shown to have a positive correlation with business performance, as shown in figure 2 (Johnston & Mehra, 2002, p. 147).

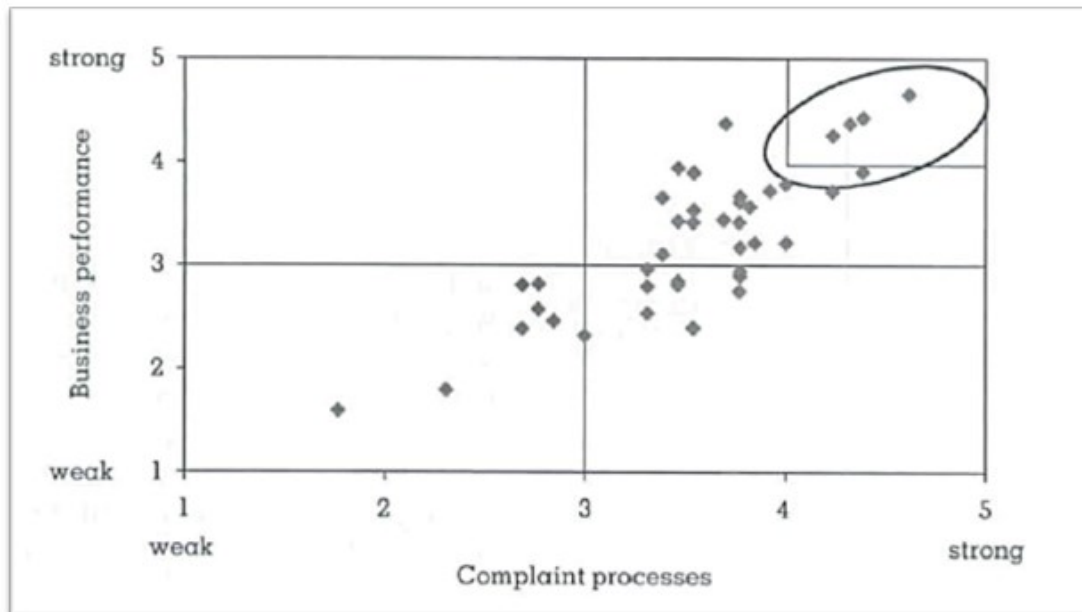


Figure 2. Complaint processes versus overall business performance (Johnston & Mehra, 2002)

2.2 Aspects of complaint management

2.2.1 Customer relationship management

Customer relationship management (CRM) is a business process in which a company manages its interactions with customers and all customer-related activities and information. It can be described as a series of interconnected processes aiming at generating maximum profit by achieving an optimal balance between organisational investments and customer needs (Schierholz, 2007, p. 831–832), and as Stauss & Seidel describe it, “the totality of corporate measures for the systematic initiation, development, maintenance, and safeguarding, and even the termination and reinitiation of customer relationships”. The aim of CRM is also to build a relationship of trust and loyalty between the supplier and the customer that leads to commitment and inner bond. This kind of loyalty can only be won based on positive experiences through which buyers

are convinced of the company's customer-oriented behaviour. (Stauss & Seidel, 2004, pp. 3, 11.)

Customer relationship management's conceptual foundation is customer relationship lifecycle, which is based on the notion that customer relationships, from the beginning until the end, go through various stages of different intensity that require stage-specific customer relationship management tasks. Three types of customers can be distinguished during the customer relationship lifecycle in terms of business relationship, each posing entirely different managerial challenges. *Acquisition management* focuses on potential customers and tries to entice them to make an initial purchase; *retention management's* focus is on current customers and making sure business potential grows continuously; and with *regain management*, companies try to win back lost customers, those that have either already terminated the business relationship or have made explicit their intention to do so. (Stauss & Seidel, 2004, pp. 3–5.)

The tasks related to customer relationship management vary depending on the length and stability of the relationship, degree of danger, and the appeal of the customer. Complaint management is part of retention management as it deals with customer relationships that are endangered as a result of dissatisfaction and can lead to termination of business relationship and loss of profits. (Stauss & Seidel, 2004, p. 7.)

Customer retention management includes various organisational processes, such as measuring customer satisfaction, customer retention planning, quality assurance and complaint handling. With customer retention management companies can gain financial benefits. The net present value of retained customers is increased with the lengthened customer tenure and increased purchase volumes and customer referrals, while the costs of relationship maintenance and customer replacement decrease. The companies' customer retention efforts should be focused on those customers who have the highest residual lifetime value and whose contribution towards the achievement of the organisational objectives are significant. (Ang & Buttle, 2006, pp. 85–86.)

According to the research conducted by Ang and Buttle (2006), there is a strong positive correlation between having a documented complaints-handling process and excellent customer retention (p. 93). Handling complaints efficiently helps companies retain customers' residual value by ensuring their problems are solved. By identifying and eliminating systemic problems with the help of complaint data, companies can prevent their customers from taking their business to competitors. (Ang & Buttle, 2006, p. 9)

2.2.2 Quality management

In addition to complaint management being a tool for improving and managing customer relationships and having an impact on customer satisfaction, complaint management also has a quality-oriented dimension. Complaints contain information about the quality of the organisations' products and services, and that information can be used for long-term improvement of operations. (Linder et al., 2014, pp. 865–868.) The concept of quality can be interpreted in different ways. In general, quality means meeting the needs of the customer in the most efficient and profitable way possible for the organisation. Quality is compared and measured in relation to the needs, requirements, and expectations of the customer. If the customer is satisfied with products or services they receive, the company's operations are of high quality. A quality company is one that is customer oriented in its operations. In a quality organisation, the top management is committed to quality development and developing the personnel, who is seen as a resource for achieving quality and customer satisfaction. A quality organisation is quick to react to changes and can build partnerships when necessary. Its management system and decision-making are based on facts, and it has a clear vision of the future and is able to build action plans that support it. (Lecklin, 2002, pp.28–30.)

A reference model for complaint handling that takes into account, not just customer orientation and financial orientation, but also quality orientation, consists of four steps:

1. **Data organisation:** in the first step, which is triggered by reception of complaint, data regarding the complaint is gathered and made available for consecutive phases. Data sources include the complainant, internal quality data and field data. The critical success factors of this first step are information integrity and efficient data gathering. Often, especially in small and medium enterprises without centralised complaint reception, customers approach their contact person when complaining. Therefore, a structured approach to complaint reception is needed to ensure all relevant information is collected.
2. **Failure identification:** The second phase includes pre-analysis of gathered data and its consolidation to a failure pattern which helps reduce redundant work. Failure patterns and failure databases are used for checking for previously known problems and solutions for them. Unknown problems are assessed for their priority for resource allocation. In this phase the complaints are prioritised and failure correction is triggered by allocating resources and assigning a responsible person. The failure identification phase is important for the efficiency and effectiveness of the complaint management process.
3. **Failure correction:** in the third step, a systematic and efficient root cause analysis is conducted by using various quality management methods that depend on the problem and situation. After determining the root cause, prevention measures and an implementation plan need to be defined. Usually, the complaint-handling process ends with implementing the agreed countermeasures.
4. **Long-term knowledge transfer:** companies often fail to transfer the failure correction results to other product lines, future products or production sites which can lead to reoccurrence of once corrected failures. To avoid that, complaint management should be linked to a knowledge management system for active information distribution. (Linder et al., 2014, pp. 869–870.)

2.3 Goals of complaint management

The overall goal of complaint management is to increase the organisation's competitiveness and profitability by making sure customer satisfaction is reestablished, negative effects of customer dissatisfaction are minimised, and the indications of operational weaknesses are used to making improvements. (Stauss & Seidel, 2004, p. 30.) The overall goal can be divided into sub-goals related to customer relationship, quality, and productivity as depicted in figure 3. The customer relationship-related subgoals include stabilising the endangered customer relationships, increasing purchase frequency and intensity, and creating new promotional effects via positive word-of-mouth communication. By achieving complaint satisfaction through timely and unbureaucratic complaint handling, the overall customer satisfaction and customer loyalty and commitment are improved, customers are more likely to increase their purchase frequency and intensity and expand the range of products and services purchased and thus securing sales and profits. Effective complaint management should also help prevent negative word-of-mouth communication and encourage positive ones as complaint experiences are discussed in the customer's social sphere and can influence the attitudes of other customers. (Stauss & Seidel, 2019, pp. 56–57.)

The quality-related subgoals include utilisation of complaint information to increase product and service quality and avoiding internal and external failure costs. The information contained in complaints regarding products, services or corporate behaviour is important for quality management as it indicates whether set quality levels are adequate and whether quality standards are adhered to. Through systematic analysis of complaint information, it is possible to reduce and prevent costs related to guarantee claims and warranties. With the information contained in complaints, flaws in internal processes can be identified and processes made more efficient. Additionally, the information provides insights into customer expectations. (Stauss & Seidel, 2019, pp. 57-58.)

Efficient task fulfilment is the subgoal related to productivity. Resources must be used efficiently and economically in order to accomplish the quality- and

customer-relations-related sub-goals. Consequently, the sub-goal of efficient task fulfilment must be included in all measures. (Stauss & Seidel, 2019, p. 58.)

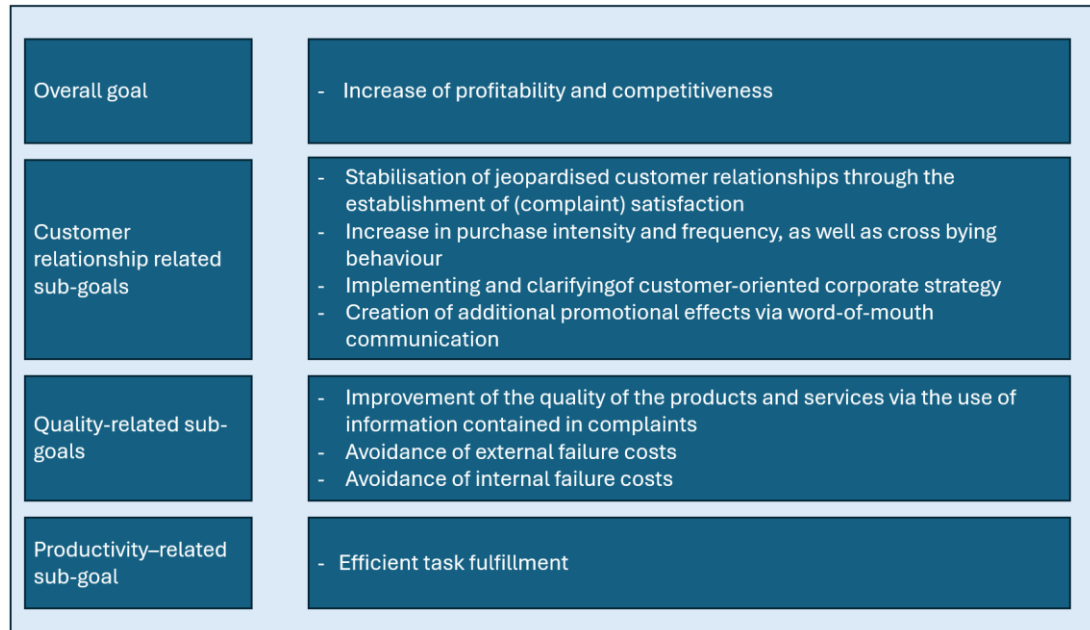


Figure 3. Goals of Complaint Management (Stauss & Seidel, 2019)

2.4 Complaint management Process

Complaint management must focus on two key perspectives: customer needs, or the marketing and CRM perspective, and organisation needs, the quality management perspective (Effey & Schmitt, 2011, p. 476). An example of a holistic approach to complaint management that considers both the customer satisfaction perspective and quality management perspective, is the model by Stauss and Seidel, presented in figure 4. The model consists of direct complaint management process which is related to the CRM aspect of complaint management and is in direct contact with the dissatisfied customer and aims at customer satisfaction and customer retention, and indirect complaint management process, which is related to the quality perspective of complaint management. (Stauss & Seidel, 2007, as cited in Effey & Schmitt, 2011, p. 477.)

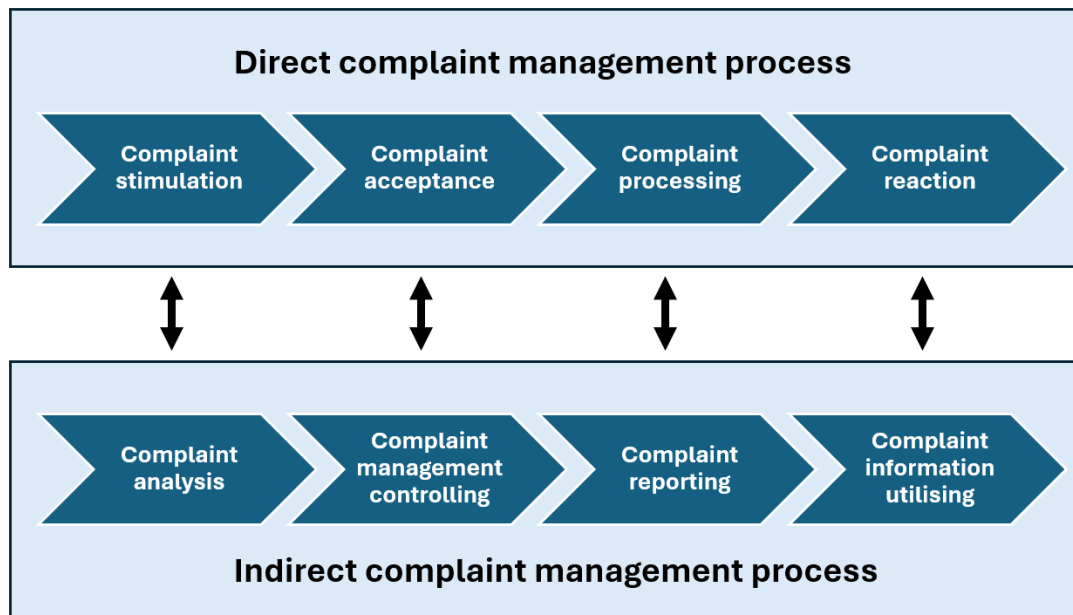


Figure 4. Complaint management process (Stauss & Seidel, 2007)

2.4.1 Direct complaint management process

The direct complaint management process is associated with the CRM aspect of complaint management and is directly in contact with the dissatisfied customer. The tasks associated with it concern the individual case and aim at eliminating customer dissatisfaction and at achieving complaint satisfaction. The tasks involved in direct complaint management include *complaint stimulation*, *complaint acceptance*, *complaint processing* and *complaint reaction*. Complaint stimulation aims at encouraging dissatisfied customers to complain to ensure that the company is made aware of any problems. The three sub-tasks in this stage include deciding the complaint channels and the methods the customers should use when expressing their complaints, communication of the channels to customers, and making sure there is adequate capacity to accept complaints. (Stauss & Seidel, 2004, p. 32.)

The task of complaint acceptance involves organising the complaint inputs and documenting the complaint information. It is important to make sure the reception of complaints is well managed and employees who receive complaints have clearly defined responsibilities, as the company's initial reaction to complaints can either reduce or increase dissatisfaction. The recording of

complaints should be done in an accurate, fast, and systematic manner. The task of complaint acceptance involves making decisions regarding documentation contents and their categorisation and the form of documentation. The documentation should include at least the information on the complainant, the problem, and the object of the complaint as well as the information on the handling of the complaint, including complaint acceptance, processing and complaint reaction. In order to systematically document complaint information, a categorisation system is needed. (Stauss & Seidel, 2004, pp. 32–33.)

The most important task in complaint processing is the methodical planning of complaint resolution: identification and modelling of complaint handling procedures and determining the people responsible at each level. A “Process Owner” is responsible for the whole complaint management process; “Complaint Owner” for the particular complaint case; and “Task Owner” for individual steps. (Stauss & Seidel, 2004, p. 33.)

The key subtasks of complaint reaction include defining basic guidelines and rules of behaviour and deciding on the solutions offered to customers. Types of compensation can include financial, such as discount and money back; tangible, such as exchange and repair; and intangible, such as an apology. To reach a suitable decision, there must be enough detailed information about the complainants and the economic value they represent the company. Complaint reaction phase ends the direct complaint management process. (Stauss & Seidel, 2004, p. 33.)

2.4.2 Indirect complaint management process

The indirect complaint management process is not in direct contact with the complaining customer. It is associated with the quality-related goals of complaint management and by evaluating, communication, and using complaint information, it facilitates internal learning. It includes the tasks of complaint analysis, complaint management controlling, complaint reporting, and the use of complaint information. (Stauss & Seidel, 2004, p. 34.)

Complaint analysis is an interface between the CRM and quality-oriented approach to complaint management. It is needed for the short-term elimination of failure symptoms to improve customer satisfaction, but it is also the first and most important step in starting an effective complaint handling process within the organisation. (Effey & Schmitt, 2011, p. 477.) Within the area of complaint analysis, it is important to systematically utilise the information obtained from the critical customer complaints. The more accurately the "voice of the customer" is captured in the complaint analysis, the more able the company is to transition from problem diagnosis to problem prevention. (Stauss & Seidel, 2004, p. 118.) Information obtained from complaints should be analysed both qualitatively and quantitatively as they provide information on organisational weaknesses as well as market opportunities. Monitoring the volume and distribution of complaints and ranking the issues that customers believe to be most important are the main goals of quantitative analysis. Qualitative analysis in the form of methodical investigation of complaint causes should be implemented and used as a basis for improvements. (Stauss & Seidel, 2004, p. 34.)

Complaint management must be controlled systematically in accordance with business objectives. It involves setting goals and monitoring the degree to which they are reached, and developing corrective measures, when necessary. Complaint management controlling is divided into three categories: evidence controlling, task controlling, and cost-benefit controlling. The main concern of evidence controlling is the investigation of the extent to which the registered complaints reflect the complaints voiced by customers and to make the level of customer dissatisfaction evident to the management. Task controlling monitors how well complaint management tasks are accomplished. This requires selecting quality dimensions, determining quality indicators, and setting target figures. Cost-benefit controlling focuses on evaluating the profitability of complaint management by assessing the resources that are used and the results that are achieved. (Stauss & Seidel, 2004, pp. 34, 138–166.)

Different internal target groups must have access to the data from the complaint analysis and complaint management controlling. To decide which

analyses should be distributed or made available on demand, at what intervals, and for which internal customer segments, decisions regarding complaint reporting must be made. These decisions are the main tasks of complaint reporting phase. (Stauss & Seidel, 2004, p. 34–35.)

Complaint management's main goal is to make sure that complaint information is actively used for improvement measures, thereby notably contributing to quality management. Achieving this goal requires regular complaint reporting and systematic use of complaint information. Complaint information can be utilised, for example by integrating complaint information into customer knowledge management systems and into the work of quality improvement teams. (Stauss & Seidel, 2004, p. 35.)

2.5 Complaint satisfaction

Customers who choose to express their dissatisfaction through complaints have expectations about the desired outcome of the complaint process and the way the company handles the complaint. These expectations form the standard against which the customer assesses the company and their answer. Exceeded expectations result in complaint satisfaction, fulfilled expectations in indifference, and unfulfilled ones in complaint dissatisfaction. When developing and improving complaint management processes, it is essential to know which aspects of the organisation's reactions are important for customers regarding complaint satisfaction or dissatisfaction. The dimensions of complaint satisfaction the customers use when evaluating the company's complaint management can be categorised into four groups:

- 1. Accessibility:** the ease of finding a contact person and making a complaint;
- 2. Quality of the interaction:** the subdimensions of this interaction taking place during acceptance and processing of complaint include politeness with which the complainant is treated, understanding the situation from the complainant's point of view, effort to solve the problem, active contact with the complainant, and reliability and adherence to promises made;

3. Reaction speed: promptness of confirmation of receipt, response to further questions and the resolution of the case;

4. Appropriateness/fairness of results: appropriateness of the offered solution and the fairness of the compensation provided.

This list of factors highlights the fact that complaint satisfaction is influenced not only by the proposed solution but the by the overall experience of the complaint situation. Complaint satisfaction or dissatisfaction often has a significant influence on the overall satisfaction with the business relationship. Complaint dissatisfaction intensifies overall dissatisfaction and leads to negative word-of-mouth communication and possible ending of the business relationship, whereas complaint satisfaction leads to complainant regaining their satisfaction with the company, positive word-of-mouth communication and the continuation of the business relationship (Stauss & Seidel, 2004, pp. 25–27.)

2.6 Complaint management and organisational learning

Surprisingly, many companies are not managing complaints appropriately or using complaint information efficiently, despite the numerous potential benefits that efficient complaint management could bring (Homburg & Fürst, 2007, p. 523). Some companies still consider complaint management a cost factor rather than an opportunity for improvement (Vos et al., 2008, p. 8). According to Homburg and Fürst (2007), the lack of appropriate and effective complaint management processes is often the reason why companies are unable to utilise the complaint information for systematic improvements (p. 523). Homburg and Fürst further argue that organisational barriers, such as defensive organisational behaviour towards complaints can prevent the efficient handling of complaints and weaken organisational efficiency. People in organisations often view complaints as unpleasant and threatening issues with possible negative effects for them and thus engage in a variety of defensive behaviours to defend themselves against the threat. The different types of defensive organisational behaviour include, for example, avoiding contact with complaining customers, not distributing complaint information within the company, lack of responsiveness to complaints, and insufficient use of complaint information in

decision making. The negative effects of defensive organisational behaviour can be substantial and can include unfavorable effects on complaint satisfaction and on perceived complaint-based improvements. (Homburg & Fürst, 2007, p. 523–527.)

Instead of considering complaints as a cost factor, companies should see them as a source of information, and an opportunity for both individual and organisational learning which can lead to improved ways of working and improved long-term customer relationships. Learning, for organisations, is important as it enables developing a broad variety of organisational capabilities which can create and expand competitive advantage. (Vos et al., 2008, p. 11.)

The methods of organisational learning can be categorised into two groups: informational learning and interactive learning. The main focus of informational learning is on gathering, storing, analysing, and sharing of explicit information, while in interactive learning, routines are created and transformed by interacting with others. One of the two types of learning can be more beneficial than the other, depending on the organisational environment. Informational learning in the context of complaint management takes place when sharing and exchanging information during the complaint process, for example, by e-mails between customers and employees involved in improvement efforts, and by sharing complaint information on the intranet. Interactive learning takes place as attempts to either understand the causes leading to complaints or to resolve complaints are made by interaction. These learning-inducing interaction situations can be, for example, a dialogue with a customer regarding a complaint, employees from different units taking turns to gain insight about complaint causes, developing standard policies for complaint handling, and designating employees to teams to enhance complaint handling. A dialogue between people is essential in order to establish new routines or to create shared knowledge structures. As some of individual knowledge is implicit, externalising it so that it can be shared is crucial. (Vos et al., 2008, pp. 11–12.)

2.7 Complaint management best practices

A good complaint management process is one that is simple enough and has well-defined procedures that are easily understood by both employees and complainants. Registering a complaint should be made easy for the customers, preferably with a single point of contact who can offer quick and reliable responses and keep them informed of the resolving progress. A good complaint management process also encourages and empowers staff to handle the situation and stresses the importance of taking complaints seriously. A good complaint management process aims at reducing the causes of complaints, not just the number of complaints, and uses the data obtained from complaints for eliminating the problems and causes of complaints. (Johnston & Mehra, 2002, pp. 145–146.)

According to Johnston and Mehra (2002), best practice organisations see complaints and complaint management as a component of a comprehensive strategy and a part of good management rather than in isolation (p. 145). In addition to effective operational systems and procedures, best-practice complaint management is also concerned with company culture, training programmes and motivational aspects and analysing financial implications of complaints and improvements. Organisations achieving best-practice performance manage complaints by:

- Having processes designed for speedy and personal response to complaints.
- Encouraging customers to complain.
- Having no-blame culture that accepts the fact that mistakes are inevitable and normal part of organisational life, but same mistakes should not be repeated.
- Creating external and internal closure by following up on complaints and making sure customer is satisfied and that the organisation has learned from the complaint and implemented improvements to its processes to make sure problems do not reoccur.
- Having dedicated top-level involvement from senior managers in complaint management matters and front-line issues.

- Considering complaints as a strategic matter and involving complaint management professionals into business decision-making.
- Focusing on communicating the complaint data throughout the organisation, making sure there is a common understanding of the problems and issues and making improvements based on the information.
- Having an internal complaint management system where problems and issues encountered by staff, internal complaints are discussed and treated just as methodically as customer complaints and their reoccurrence is prevented. Employees should also be seen as the main source for improvement ideas.
- Carrying out customer satisfaction surveys that directly seek information about problems and their resolutions.
- Making sure complaint management prompts action and leads to improvements and financial benefits by reducing costs and time spent on solving problems.
- Increasing employee awareness of the benefits of complaints and making sure they understand the importance of customer satisfaction and customer retention.
- Having a good understanding of the costs of complaint management and the value of improvements and creating means to assess the financial impact on the organisation and sharing the information with managers and employees.

(Johnston & Mehra, 2002, pp. 148–153.)

Organisations with effective, documented complaints-handling process are more efficient in resolving customers' problems and are more likely to succeed in retaining those customers' residual value. Additionally, with the data collected from complaints and their analyses, organisations can recognise repetitive and systemic problems, identify and eliminate root causes and thus improve their operations. Identifying and acting on customers' problems will lessen the likelihood of them taking their business to competitors. (Ang & Buttle, 2006, pp. 93–95.)

3 PROCESS MANAGEMENT

3.1 Concept of process

Processes are the foundations upon which organisations are built: they are series of interconnected actions through which a company transforms inputs into outputs using existing resources (Boutros & Cardella 2016, p. 2). Figure 5 shows a simplified depiction of a process.

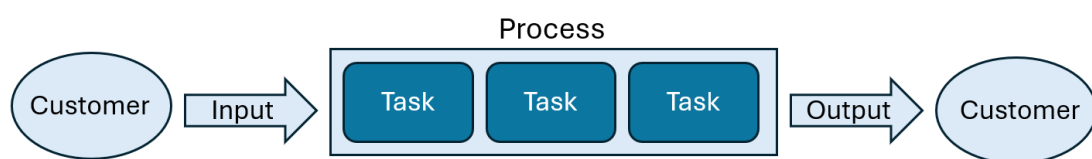


Figure 5. Process (Flanigan, 1995)

Input is what starts the process; tasks are the individual steps in the process added to the input, and output is what is delivered to the customer. A process is always a customer-to-customer chain. The process generates added value to the customer who can be internal or external. (Flanigan, 1995, p.6.)

Organisations can be seen as combinations of processes connected both horizontally and vertically. The key to managing an organisation effectively is having a thorough understanding of how each process operates and impacts other processes. According to Boutros and Cardella (2016, pp. 5–6), there are two types of processes: business or core processes and supporting processes. Core processes are those that are connected to external customers capturing their needs, and they reflect the core competencies of the organisation. There are usually only a few core processes within an organisation. Support processes are those that are needed for the core processes to work. Core processes include, for example, product development, sales, and marketing. Examples of support processes are human resources, accounting, and IT services. Support processes' customers are usually internal customers.

3.2 Process development

There are two process-oriented approaches to improving products and services. They both aim for doing things cheaper, faster, and better: process reengineering and process improvement. Process reengineering aims for a radical change and total revolution of current ways whereas process improvement aims for incremental change and evolution of current practices. (Flanigan, 1995, p.3.) In process improvement projects, it is essential to understand the features and qualities of a process. The five fundamental elements essential to a clearly defined process are resources, inputs, activities, outputs, and controls. To reach the desired goals, to create value, and to achieve customer satisfaction, organisations must combine resources, inputs, activities and controls in the most efficient way. (Boutros & Cardella, 2016, pp. 3–4.) The methods of improving organisations' performance through implementing small improvements and completely re-designing existing processes, though implemented in different ways, share common basic steps, shown in figure 6.

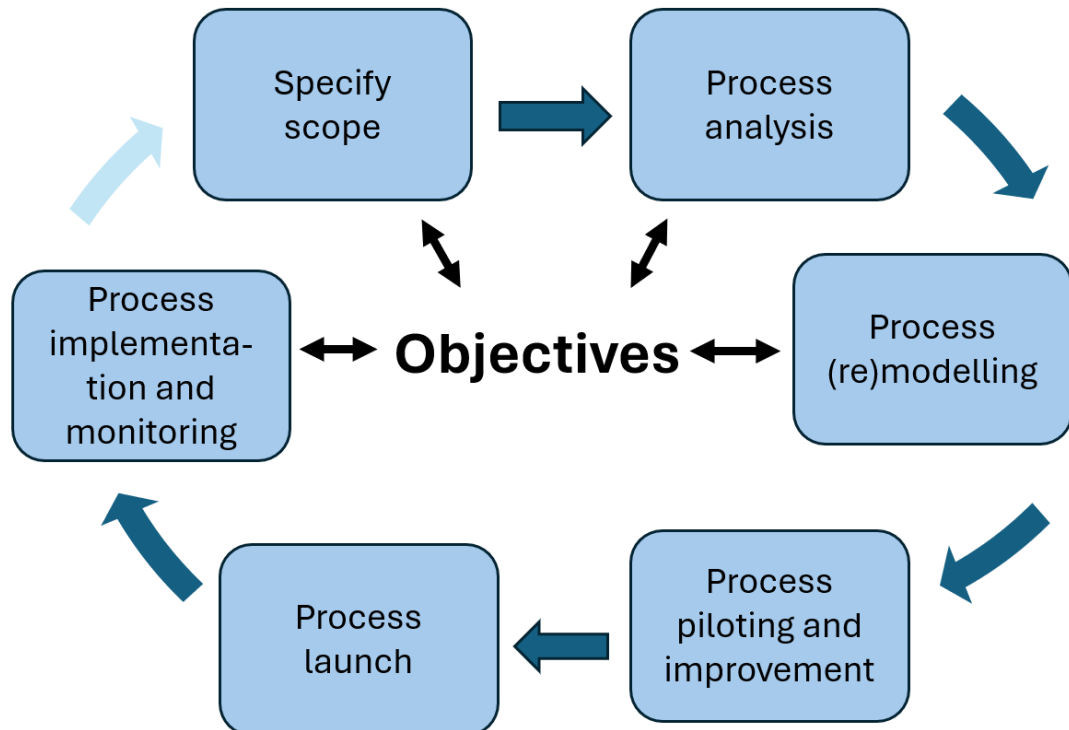


Figure 6. Basic steps in process development (Martinsuo & Blomqvist, 2010)

1. Specify scope,

2. Obtain reliable data regarding the current process, collection methods, compare to the objectives,
3. Identify areas for process development, describe target process,
4. Process is tested / piloted,
5. Process launch,
6. Process implementation and monitoring.

Before beginning process development, a decision must be made regarding the scope of the project and which processes will be affected. Organisation's goals and the available data from current processes are important in defining the scope. Once the scope is defined, data regarding the current process must be gathered. This should include both data describing the process's functionality and general measurement data. The methods of data collection can include, for example, interviews, observation, process simulation, and analysing past performance data. It is important to compare the current process with the objectives and examine whether the process produces desired results and what kind of deficiencies can be observed. (Martinsuo & Blomqvist, 2010, pp. 6–9.)

The purpose of the process analysis phase is to create and develop plans to improve the process. With the information collected regarding the current state of the process and by evaluating and analysing alternative solutions, the aim of process analysis is to find the implementation model that best suits the company's needs. Simple basic tools are usually sufficient for process analysis. The methods that can be used include, for example, process diagram analysis, analysing the cost-structure of the process, benchmarking, problem solving by using quality tools such as Statistical Process Control, and utilising the experience of process development team. Once the process is analysed and areas for process development are identified, the target process is described in such a manner that it can reach its performance goals. In the next phase, the process is observed and tested in either actual or simulated environment and additional corrections and modifications to the model are made. Piloting before final implementation of the process model can prevent expenses of implementing a faulty model and provide valuable data on whether the new process can

meet its goals and solve its previous problems. Old procedures, guidelines and practices are replaced with new ones with the extended implementation of the process model. This involves training and instruction of employees and modifying monitoring and control systems. (Lecklin, 2002, pp. 167–169.)

3.3 Process descriptions

Process descriptions are part of the quality system. It is recommended to create a written overview of the process that describes the key points of the process, such as the name and purpose of the process, key tasks, start and end points of the process, customers, suppliers, outputs and inputs of the process and how the process is connected to other processes within the organisation. (Lecklin, 2002, p. 152.)

Process mapping is a method for describing workflows and processes graphically. The purpose of a process map is to illustrate the content of the process description. It presents visually the steps of the process, people, and functions involved in it. The process diagram should fit on one page and be kept simple to ensure comprehensibility and readability. (Lecklin, 2002, pp. 156–157.) Process maps can help identify problems and potential improvement opportunities in a process (Boutros & Cardella, 2016, p. 153).

One of the benefits of process mapping is that it can increase the transparency of the process, making it easier to see the features of the process and status of operations. The possible benefits of process mapping associated with transparency include the recognition of “status, problems, responsibilities and interdependencies, as well as the facilitation of systems performance understanding, feedback on achieved tasks, communication and improvements and enabling decision-making” (Klotz et al., 2008, p. 625).

Usually, the most effective method of describing the current state of a process is to move from the beginning to the end of the process and record the flow of information and materials as well as the value-adding activities as they take

place. When mapping the current process, the current activities and outputs must be described accurately despite them often being less than ideal. The resulting process descriptions are often disorganised, ambiguous and difficult to understand. Since process mapping is used for identifying areas for improvement and can aid in more methodical work execution simply by documenting the agreed ways of working, it is important to describe the current process “as-is” and keep it separate from the ideal target process. Describing target processes should be described from end to start. This way, it is possible to identify what needs to be accomplished in order to create the required output and satisfy the customers’ needs, to identify the activities needed to do so and the tools and systems required for each task in the process. When describing the target process, it must be made sure the process model is simple and achievable and can meet its objectives. All activities within the process should add value to the customer and material and information flows should be taken into consideration. (Martinsuo & Blomqvist, 2010, pp. 13–17.)

The level of detail of the process model depends on the content and purpose of the process. While safety and security-critical processes, for instance, must be modelled at a very detailed level, processes with a high level of uncertainty cannot be modelled at a similar level of detail. There are several variants of process descriptions, such as task matrices, flowcharts, process flow diagrams, and written instructions, which each describe the process in a slightly different way. (Martinsuo & Blomqvist, 2010, p. 5.)

4 ENTERPRISE RESOURCE PLANNING SYSTEMS

4.1 Enterprise resource planning system functions

Enterprise Resource Planning (ERP) system is business software application that enables organisations to create and access information real-time, manage day-to-day business activities, automate business processes, and facilitate dataflow between business processes. ERP system is a series of modules or business applications linking different business units, including, for instance, manufacturing, financial and human resources, that are used to gather and integrate real-time information into a single system with a common platform enabling the distribution of information across the organisation. ERP system's purpose is to increase an organisation's profitability by ensuring the generation of accurate and up-to-date information for managerial decision making. (Beheshti, 2006, pp. 184–185.) With an ERP software, the data and processes of an organisation can be standardised, and the data gathered from transactions converted into useful information that can be analysed and used to support decision making in real-time (Parthasarthy, 2007, p.2).

A central database serves as the ERP system's hub and makes user-accessible data that has been retrieved by multiple application modules readily available. Financial functions, manufacturing and service processes, quality and plant management, inventory and supply procedures, HR management, sales and delivery, customer support, and reporting capabilities are just some of the application modules available. ERP system also often have applications for, for example, production planning, capacity requirements, materials requirements, and budgeting. The central database standardises and centralises the organisation's data collection, analysis and distribution. (Dillard & Yuthas, 2006, p. 206.)

4.2 Benefits of ERP

There are several direct and indirect benefits and advantages associated with installing an ERP system. Some of the benefits can be seen sooner while for some companies it can take years before full benefits of their ERP system can be seen. Some of these benefits and advantages include:

- Storing data in one place reduces unnecessary work
- Improved customer satisfaction
- Improved staff satisfaction
- Reduced costs
- Reduced lead-times
- Reduced cycle-times
- Improved supplier performance
- Reduced quality costs
- Sped up data processing
- Increased efficiency and competitiveness
- Improved decision making
- Increased sales
- Faster response to customer inquiries
- Increased flexibility
- Business integration
- Improved analysis and planning capabilities
- Improved corporate image
- Increased customer satisfaction
- Consistent, improved internal operations

(Monk. & Wagner, 2013, p. 39; Parthasarthy, 2007, pp. 2–3.)

Parthasarthy (2007) considers integration the most important benefit of ERP implementation (p. 2). Optimisation of independent business functions in autonomous business units was the goal of conventional information systems and they were often weak in communication and information integration. With ERP software, transactional data is automatically updated and available for managerial decision making in real-time across the organisation.

The ERP system's "economic value added" is produced by more effective reporting capabilities and improved decision-making capabilities resulting in reductions in inventory and personnel. Additionally, outcomes contributing to the increased economic value added include the facilitation of integrating activities, standardisation of internal processes as well as external interfaces, enhanced control, enhanced access to information both content and timeliness wise, facilitation of communication and collaboration inside and outside the organisation. (Dillard and Yuthas 2006, p. 207.)

With ERP implementation, reengineering business processes is often a necessity. According to Dillard and Yuthas (2006), one of the main benefits of ERP systems is the standardisation of processes across the organisation providing centralisation (p. 206). Often organisation's existing practices and processes are replaced by industry's "best-practice" processes embedded in the software.

4.3 Limitations, weaknesses, and risks of ERP

ERP implementation projects are more than just simple software projects. They are often costly, time-consuming, complex with high failure rate, and require disruptive organisational changes. ERP projects are interdisciplinary and large number of stakeholders need to be involved in the implementation of ERP. ERP projects take months, or even years and the overall implementation costs are significantly increased by hidden costs incurred throughout the ERP lifecycle. (Aloini et al., 2007, p. 548.)

Some of the risks and difficulties involved in implementing an ERP system include too high costs of installations and maintenance, difficulties in adapting the system to particular business processes and workflow, user resistance, discrepancy between organisational culture and ERP system, lack of ability to manage technology, and repetition of errors. (Parthasarathy, 2007, p. 5.)

According to Aloini et al. (2007, p. 552) ERP project failure can be classified in one of four categories:

1. *Process failure* occurs when the project is not finished on time and within budget,
2. *Expectation failure* results when IT systems fail to meet user expectations,
3. *Interaction failure*, when users have a negative attitude toward IT,
4. *Correspondence failure* occurs when there is a mismatch between IT systems and planned goals.

According to Aloini et al., (2007), some of the most common risk factors associated with ERP projects include inadequate selection of suitable ERP projects, ineffective strategic thinking and planning, ineffective project management and project team skills, inadequate change management and poor leadership, inadequate training and instruction and low top management and key user involvement (pp. 558–559). A few factors are marginally linked to the technological dimension of an ERP project, while most factors are more concerned with managerial aspects, indicating that the successful completion of the project requires strong management.

In order to reap the benefits of ERP systems, resulting from structured, integrated components and standardised processes, organisations must adhere to "best practice" processes and often redesign their existing ones. The system can be customised if the processes available do not meet the requirements of the organisation. This is rarely done as changes in one integrated module will require making changes to several others and the costs are often too high to justify the changes. When existing processes and structures differ significantly from those in ERP, the organisation must make considerable changes to accommodate the system. (Dillard & Yuthas, 2006, p. 207.)

While ERP applications are beneficial in integrating data from different business functions within an organisation, they are transaction-based and meant for recording events that have already happened rather than planning for future. With ERP systems, it is possible to design intricate workflows, but

reshaping and restructuring them if business opportunities and challenges arise is difficult. (Parthasarathy, 2007, p. 5.)

4.4 Technological aspects of complaint management

Particularly when dealing with a large number of complaints, with complex or very differentiated processing procedures, or with the need to perform extensive analyses and generate reports, efficient accepting, processing, and resolving of complaints becomes impossible without using a software programme. These programmes can improve quality and efficiency, but only when utilised within the strategic framework provided by consistent and comprehensive complaint management and leadership. The most important functionalities of a software programme used for complaint handling include thorough, structured and rapid documentation of complaint information, documentation of internal complaint handling, analysis and reporting of complaint information, and monitoring of the task performance of complaint handling. (Stauss & Seidel, 2004, pp. 275–276.)

In the *complaint acceptance* context, the software solution's primary role is to make sure that the objective of thorough, structured, and rapid complaint documentation is reached. A software solution enables the thorough documentation of complaint information by predefining which information is to be documented. To support the documentation and to advance the documentation discipline, certain data fields might be designated as "mandatory fields" that need to be filled in before the data can be saved. The provision of suitable fields that record the complaint in a logical order is a fundamental requirement for the thorough, rapid documentation of complaint information. Suitable classification attributes are defined for similar circumstances and can, when recording a complaint, be chosen from a list with a click of a mouse without having to enter all the information manually. Typically, companies often aim at achieving rapid complaint documentation by including only the most important information or providing classification attributes on a highly abstract level. By doing so, the quality of information suffers at the expense of speedy documentation and

hinders opportunities for quality improvements, valid analyses and customer-oriented complaint handling. Therefore, it is necessary to establish conditions that will guarantee not only quick but also distinct and comprehensive capture of complaint information during the software-technical implementation of the documentation process. (Stauss & Seidel, 2019, pp. 436–437.)

In the context of *complaint processing* and *complaint reaction*, software systems can be utilised mainly for directing the complaint-handling tasks, managing deadlines and communication, and for encouraging rapid and consistent problem-solving policy within the organisation. A complaint handling software enables the automatisisation of the flow of complaint processing as procedures can be initiated automatically as new cases are recorded in the system: tasks can be forwarded to their “task owners”, deadlines and reminders can be set, and processing history can be generated automatically. (Stauss & Seidel, 2019, p. 437.)

With complaint management software, the complaint handling procedures can be simplified: various documents can be scanned and saved under a particular case in the system with added processing notes and commentary. This will improve communication and the flow of information as relevant information is readily available for all stages of complaint processing. Additionally, complaint management software can further enhance internal communication. Communication during complaint handling process can be optimised, for example, by having automatically generated notes and comments regarding the processing sent as e-mail messages to personnel handling complaints downstream in the process. (Stauss & Seidel, 2019, pp. 437–438.)

Complaint management software can also be used to support an organisation’s problem-solving policy. With access to previous complaints, employees can see problem solutions and compensatory payments linked to the defined problem categories and similar cases. This enables uniform, consistent responses and speedy elimination of problems. (Stauss & Seidel, 2019, p. 438.)

Implementing a complaint management software system enables not only efficient registration of processing of incoming complaints, but also makes the documented information easily available for analysis and complaint management controlling and can even launch the related procedures automatically. The software users can define, access and process various analyses, such as frequency and volume analyses and cause-and-effect analyses, without specialised statistical or technical knowledge. (Stauss & Seidel, 2019, p. 439.)

5 DESCRIPTION OF THE METHODS AND IMPLEMENTATION

5.1 Research process

The topic of the thesis was suggested by the company's CEO. The company has grown substantially over the years and some of the company's processes as well as systems needed updating. The current complaint management process was not working efficiently enough and did not provide enough information for the company's management for decision-making. As the company had recently started an ERP system update project, it was natural to schedule the improving and integration of the complaint management process into the ERP system at this time. The research case started with meetings between the researcher and the CEO where details of the research and the expectations of the company were discussed. The objective of the thesis was to create an improved complaint management process for the company's ERP system.

Once the topic and objective of the thesis was decided on, the research question and sub-questions were formulated that gave the research focus and objective and guided the research process further. The research approach was chosen to be qualitative research since the research would involve gathering and evaluating non-numerical data to understand ideas, opinions and experiences to get a good understanding of the current complaint management process and areas for improvement. With research questions guiding the research process, the researcher began to familiarise herself with the theoretical framework, the topics of which included complaint management, process management, and ERP systems. Literary review included books and scientific articles.

The data acquisition methods of this research included process observation, familiarisation with documents from previous complaint cases, reports and statistics from previous months and years, and semi-structured interviews. Participant observation was a natural data collection method with the researcher working in the case organisation as quality manager with the possibility to

observe how each complaint case was handled and how people worked in the process. Studying existing documents, such as previous recorded complaint cases, gave additional information about how the process works. Semi-structured interviews were conducted with department supervisors who deal with complaints as part of their daily tasks. In addition to the interviews, information was gathered in several informal talks with various staff members who explained how complaint handling has been managed in the past.

Based on the information from interviews, studying documents and observing the process, the current state of the process was analysed: the process's strengths, weaknesses and areas that needed improvement were identified. Finally, suggestions for the new complaint management process were made. The suggestions were based on the best practices identified from literature review and information gathered from interviews. The research timeline was planned in advance, but the process took longer than anticipated. The research process is shown in figure 7.

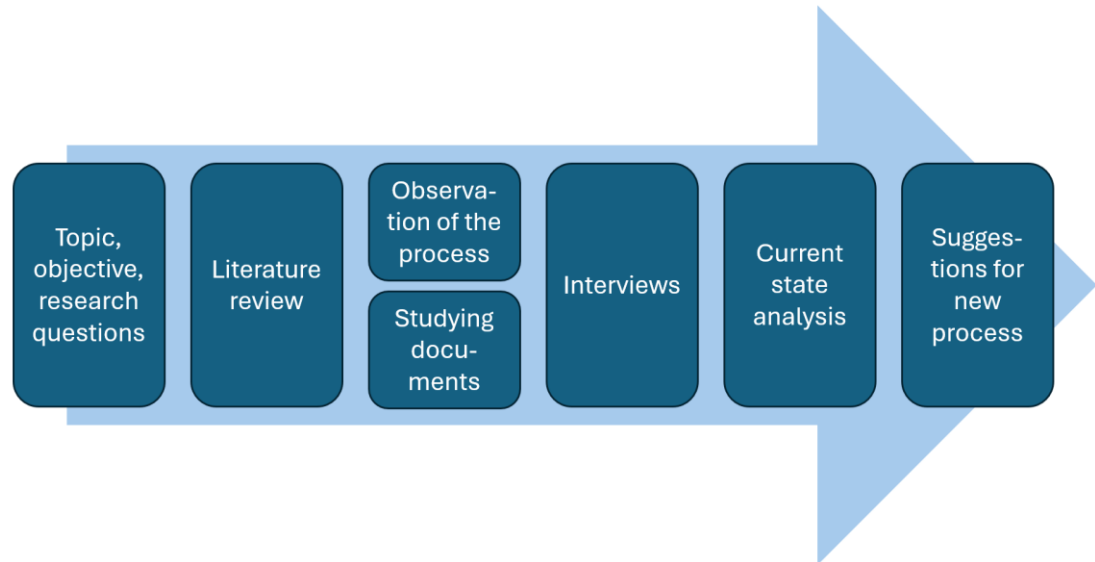


Figure 7. The research process.

5.2 Research approach

The research approach of this study is qualitative research. The term *qualitative methodology* is used for research that generates descriptive data. It is a collection of methods for gathering data and a holistic way of approaching the empirical world. The goal of qualitative research is to develop concepts and comprehension from patterns in data and form general principles and build theories from them within theoretical framework. (Taylor et al, 2016, pp. 18–19.)

A research approach is the strategy chosen by a researcher to gather, examine, and interpret data. According to Hirsjärvi et al., (2007) there are three research strategies. (pp. 130–131.)

- *experimental research*: the effects of one variable on another variable are measured. Experimental research typically involves selecting a sample from a certain population, analysing it in various, systematically changed test conditions and measuring changes numerically. Experimental research often includes testing hypotheses.
- *Qualitative Survey research*: information is collected in a standardised form from a group of people, typically by using a questionnaire or structured interviews. The collected data is then used to describe, compare, and analyse phenomena.
- *Qualitative Case study*: comprehensive, detailed data is gathered regarding a single case or a small group of interconnected cases. Typically, these can be individuals, communities, or processes, studied in their contexts. Data is collected using various methods, including observations, interviews, and studying documents.

The strategic decisions regarding the research methods are guided by the purpose of the study. If the purpose of the research is *exploratory* and aims to, for example, finding new perspectives or phenomena, explaining lesser-known phenomena, or developing new theories, the strategy chosen is most often qualitative field research or case study. When the purpose of the research is *explanatory* and the goal is to provide explanation for why particular

phenomena operate as they do or find an explanation for an occurrence or issue, typically through causal relationships, the strategy can be either qualitative or quantitative. *Descriptive* research's goal is to present accurate descriptions of people, events or situations and document key features of the phenomena. The strategy for descriptive research can be either quantitative survey research or qualitative field research. (Hirsjärvi et al., 2007, pp. 134–135.) This research was conducted as a qualitative study. To form a general overview and in order to understand the current complaint management process and the practices involved, methods of data collection included observation of the process, studying internal documents from previous complaint cases and interviewing employees involved in the complaint management process.

5.3 Data collection methods

The efficiency of data collection is a crucial component of research design since it often determines whether the research aims can be met and whether the research questions can be satisfactorily addressed. Data is the facts and figures gathered for record or statistical analysis. The two main types of information that are typically used for research purposes are primary and secondary sources of data. Primary data sources are original data sources in which the data is collected by the researcher for a specific purpose; secondary data sources are ones that have been collected for other research projects by someone else. Various methods can be used to collect primary data, including observation, surveys, interviews, and use of documents. (Adams et al., 2007, pp.70, 92.)

Observation

Observation should be an important aspect of research, regardless of the other chosen data collection methods. Where surveys and interviews provide insight into how people perceive their surroundings and how they think, feel, and believe, they do not tell what is really going on. Observation provides information on whether people act and behave as they say they do. The two types of

observation *systematic observation* and *participant observation* are the extremes of two continuum, where systematic observation is structured, and the observer is an external actor and participant observation is less structured and the observer participates in the group's activities. Systematic observation is often used in quantitative research and participant observation in qualitative research. The biggest advantage of observation is that it provides immediate, direct information about the behavior of individuals, groups or organisations. It is an especially suitable method for studying interaction and in situations that are difficult to predict. (Hirsjärvi et al., 2007, pp.207–210.)

In this study, participant observation was an important aspect of data collection. The author of this thesis works as a quality manager in the case organisation and is responsible for supervising the complaints handling process. Observation of the people and practices involved in the complaints handling process was conducted as complaints were received from customers and handled within the organisation. The researcher kept record of the events and practices and used them when analysing the current state of the process.

Interviews

What makes interview a unique data collection method is that it involves verbal communication with the subject directly. There are both advantages and disadvantages to interviews. One of the biggest benefits of interviews as means of collecting data is flexibility: it is possible to adapt to the situation and take different respondents and their behaviour into consideration and adjust the order of interview topics. There is also the possibility to interpret the responses and ask for further clarification. Some of the disadvantages of interviews include that they are time- and effort-consuming needing careful preparation and setting up and often massive amounts of analysing notes and making transcripts. They also require certain sophistication from the interviewer. Furthermore, interviews, due to their laboriousness, often encompass only a relatively small sample. (Adams, W.C., 2015, p. 439.)

There are three types of interviews: structured interviews, which are conducted using predetermined questions asked in a set order from each respondent;

unstructured interviews which are the closest to conversation during which the interviewer explores the interviewee's thoughts, opinions, feelings and perceptions as they emerge during conversation; and semi-structured interviews which share elements from the two aforementioned. Typically, semi-structured interviews are conducted conversationally around predefined topics without having precisely set questions or order. Semi-structured interviews often combine closed and open-ended questions and additional information is gathered with *how* and *why* questions. (Hirsjärvi et al., 2007, pp. 202–204.)

Theme interviews, also known as semi-structured interviews, were conducted with the case company employees. The goal of the interviews was to get answers to the research questions and to gain a comprehensive understanding of the current complaints handling process flow and the participants' roles within it as well as to find out the process's strengths, weaknesses, and possible areas for improvement. The interviews also helped identify inconsistencies between the process work instruction and the actual work activities performed in the process. The interviews were carried out as face-to-face interviews. Each person was interviewed individually to ensure that everyone had their say and everyone's opinions were heard. Before the interviews, the interviewees were told about the purpose and goals of the thesis. The interviewees were the organisation's production manager as well as the department supervisors from programming, waterjet cutting, bending and postprocessing departments who are responsible for overseeing the day-to-day operations in their departments and deal with complaints in their departments. They were chosen because they have experience and extensive knowledge of the past complaints, how they were handled and how the process could be improved. During the interviews, the participants were asked questions regarding their roles and responsibilities in the complaint handling process, the workflow and data flow of the process. The duration of the interviews varied from about half an hour to an hour. All interviews were recorded and later transcribed.

Instead of a list of set questions, there were themes that were explored during the interview. The structure of the interview was formed based on the following themes:

Roles and responsibilities. What is the participant's role in the process; what tasks, activities and responsibilities are part of their role? Are the responsibilities defined clearly?

Process. Are the needs of the customers met? Are the needs of the organisation met? Is the process efficient? What are the biggest problems in the process? How could the process be improved? What are the strengths and weaknesses?

Information flow. How is information obtained and shared? Do the participants receive enough information regarding complaints? What are the problems regarding information flow? How could it be improved?

Tools. What tools are used in the complaint handling process? Are there problems associated with those? How could ERP system improve the process?

Information about the complaint handling process was also obtained from other employees of the company through informal discussions that involved many of the same themes as the interviews. These discussions were not scheduled but took place as part of handling complaints or as part of other discussions at the workplace. Notes were kept on the information revealed by these discussions and used in the analysis phase.

Use of documents

Using documents as part of data collection can serve different purposes. Documents can be used to gather information about the environment in which research participants operate, provide background information, and help contextualise data gathered from interviews. Additionally, information in documents can point to some issues that need to be investigated and circumstances that need to be monitored as part of the research. Documents can also provide additional research data and can be used to track change and development. Document analysis can also be used to confirm conclusions or support evidence from other sources. Often documents may also be the best way to

obtain information when it is impossible to observe events or when sources have forgotten the details. The advantages of document analysis include efficiency, availability, cost-effectiveness, lack of intrusiveness and reactivity, exactness, stability, and coverage. Some of the disadvantages of document analysis are low retrievability, lack of detail, and biased selectivity. (Bowen, 2009, pp. 29-31.)

The documents that were reviewed and analysed for this research included the complaint handling work instruction, recordings from previous complaint cases and summaries and statistical data from previous months and years. The aim of the review and analysis of the documents was to get information on how the process was originally been designed to work and how it has worked in the past. The documents provided context and background information for the research, gave ideas for the interviews and situations that needed to be observed. The documents that were reviewed also provided supplementary research data that verified findings from other sources. The review and analysis of the documents brought up the same findings as did the observation of the process and the interviews.

5.4 Research ethics

The quality of the research is to some extent dependent on the integrity and justness of the researcher. Researchers should follow a code of ethics and refrain from any form of deception, dishonesty and misinterpretation of information and research findings. The ethical principles researchers need to consider include being truthful, respecting others, avoiding harm, ensuring privacy of those taking part in the research, providing enough information to participants to ensure informed consent, respecting the right not to participate in the research or to stay anonymous, and guaranteeing confidentiality of information. These principles must be borne in mind throughout the research process from the planning of the research through implementation, data analysis and reporting. (Saunders et al., 2023, pp. 256–257.) The researcher must also refrain from plagiarising, uncritical generalisation or fabrication of research

results, misleading or incomplete reporting, disparaging other researchers, and the misuse of research grants. (Hirsjärvi et al., 2007, pp. 134–135.)

Ethical principles were adhered to in the conduct of this research. The interviewees participated in the study voluntarily and they were given information about the purpose of the study and how the interview data would be used. Anonymity was maintained for all interviewees, and their responses are not traceable to any individual. The research material was carefully selected from reliable sources, and it was reviewed critically. The case company information, except for complaint management process, is not discussed in detail. The research results were analysed carefully, and research findings are reported truthfully and accurately.

6 RESEARCH RESULTS AND ANALYSIS

6.1 Interview results

Roles and responsibilities

Based on the interviews, it can be stated that the roles, responsibilities, and tasks with the complaint management process are not clear to even all those who participate in the process. The complaint management process is described in a work instruction that lists the tasks and people's responsibilities as well as the sequence of tasks. The interviewees work as supervisors and according to the work instruction, their responsibilities in the complaint management process included going through the complaint with the person responsible for the occurrence, finding out the root cause and preventive actions and recording it on the complaint form. Some of the interviewees were not familiar with the content of the work instruction and some were not aware that such instruction existed. The interviewees had rarely, if at all recorded any information in the system. Most of the recordings in the system were made by the sales personnel and quality managers. The implementation of the process had not been successful. All interviewees emphasised the importance of the direct complaints handling process and they all were often involved in the corrective measures related to individual complaint cases making sure making new parts or repairing faulty parts was executed quickly and correctly. The indirect aspects of complaint management were not seen as important and any information regarding root causes and prevention of similar complaint cases in the future was rarely recorded in the system. The lack of knowledge regarding roles and responsibilities in the complaint management process was not limited to the interviewees. Similarly, not all sales personnel were aware of their roles and responsibilities in the process. Their responsibilities include the initial recording of information and forwarding the case to the right department head for further inspection. In some cases, only very little information was recorded and some of the complaints were never recorded in the ERP system.

Process

According to the interviewees, the direct complaint management part is seen as the most efficient aspect of the process. Complaining has been made easy for the customers: they can always contact the salesperson who can usually handle all matters related to their orders, including complaints. Sales staff is also in most cases able to immediately agree with the customer how to proceed with the complaint: will new parts be made for the customer, will the old ones be repaired, or will the customer get a refund. The customer usually receives a reply and a solution to their complaint quickly and customers' needs are usually met. The indirect complaint management process, however, is in practice completely forgotten and the information obtained from complaints is not fully utilised. The complaint information is not analysed thoroughly or used to advantage when planning development measures. The ERP system, at the moment, does not enable generating reports.

Information flow

The ways participants receive information regarding the complaint cases and complaint handling include the complaint form, e-mails, phone calls and face-to-face conversations. The complaint information initially received from the customers should always be recorded on the complaint form as accurately and detailed as possible by the salesperson receiving the complaint. The complaint form in the ERP system enables rapid and accurate recording of complaints with dropdown menus and the possibility to include attachments, such as photos, technical drawings, and e-mails. The complaint form is not always used in the best possible way and its features are not fully utilised. The interviewees said that often not enough information is recorded on the form and that information is fragmented since it is obtained from various sources via various media, and they often have to ask for details that should have been recorded in the system in the first place. The poor flow of information was expressed in the interviews, but it was also apparent when observing the process and going through recordings from previous cases that not enough information is recorded on the form. Often information is passed between two individuals and the knowledge regarding a particular complaint is not available to anyone else. The interviewees also admitted that they too usually do not record anything on the form. In this way, information about the processing of complaints and

solutions is also not stored in the ERP system, and it cannot be used for processing future complaints or improving operations.

Tools

Tools used in the process are also connected to the efficiency of information flow. The tools used in the complaint management process include the ERP system and various tools used for communication such as e-mails and phones and spreadsheets that are used for tracking order progress and making statistics. While the existing complaint form in the system enables efficient complaint recording, there are features that could improve it. During the interviews, the participants suggested that with ERP system, the handling of complaints could be scheduled better, and the system could send automated notifications when a complaint is recorded and when there are tasks that need to be done.

6.2 Answers to research questions

In this study, the importance of complaint management process for the case organisation and the qualities of efficient process were examined. Research questions were answered based on the collected data and knowledge gained from literature review.

1. What are the characteristics and qualities of an effective complaint management process?

For a complaint management process to be considered effective, it must consider the needs of the customer and the needs of the organisation. Making a complaint must be made easy for the dissatisfied customers and making complaints must be encouraged. The complaint process must be simple enough for all to participants to understand it and the responsibilities must be clearly defined. People who deal with complaints must be prepared for the situations they encounter and there must be basic guidelines and rules of behaviour. Reaction to complaints must be quick. The recording of complaint information must be fast, accurate and systematic. Complaint management's main goal is

to make sure that complaint information is actively used for improvement measures, therefore it is important that the complaint management process produces information that can be used in improvement project and management decision-making.

2. Why is complaint management important?

The importance of complaint management is twofold: it affects not only customer satisfaction, but it also has a quality-oriented goal of continuous improvement. By solving customers' problems, complaint management provides opportunities for improving long-term customer relationships and strengthening customer loyalty which will prevent customers from taking their business elsewhere. Improved customer satisfaction will have a positive effect on financial results. By analysing the information obtained from complaints, organisations can identify weaknesses and opportunities for improvement, correct errors and reduce costs.

3. What is the current state of the complaint management process?

With the information gathered from the interviews, observations of the process and studying case company's complaint management related documents, strengths and weaknesses of the current complaint management process were identified. The current complaint management process is very customer-oriented and quick at coming up with resolutions to customers' problems. The complaint channels are well-established and communicated to customers and making a complaint is easy. As each customer usually deals with a designated salesperson, they can handle all matters related to their orders, including complaints, with the salesperson responsible for that customer. Complaints can be made by customers' preferred method, usually by phone or by e-mail. Additionally, the company website lists the quality managers contact details for those customers who prefer to deal with them instead. The complaint form in the ERP system enables, when used correctly, systematic and rapid recording of complaints. The form for recording complaints has a dropdown menu for quick categorisation of complaints and various fields for recording information

as well as the possibility to include attachments such as e-mails and photos. Immediate corrective measures are usually carried out quickly. These include, for example, the production of new parts to replace defective ones, the repair of parts, or a refund to the customer.

While the case company's complaint management is customer oriented and often works well from the customer's point of view, there are areas that need improvement. Some of the weaknesses in the process are related to process implementation. The responsibilities in the process are not clear to everyone: though there is a written work instruction for the complaint management process, it is followed arbitrarily, and not everyone involved in the complaint management process is aware that there is such an instruction. The recording of complaints in the ERP system is often done negligently: not all complaints are recorded in the system, and those that are, often lack necessary information. The ERP system's complaint template enables accurate recording of complaints, but often important information is left unrecorded, and, for example, photos of the faulty parts are not attached to the template. The processing of the complaints is not monitored: if it is agreed with the customer that new parts are made, parts are repaired or the customer receives a compensation, these tasks are done promptly, but the internal processing of complaints, finding root cause of the problem and implementing preventive actions are not recorded in the system or monitored in any way. There are also some inefficiencies in the system that is used for recording and handling of complaints. The current ERP system does not have a reminder system that would send automated messages when complaints are recorded in the system or there are unfinished tasks relating to a complaint. Also, the system does not enable sorting complaints into open and closed cases, nor does it have any possibilities for generating reports for management to use in decision making, and data needs to be entered manually into excel charts in order to get statistics and charts.

4. How can an enterprise resource management system improve complaint management process?

ERP system is especially beneficial when dealing with a large number of complaints. With the help of an ERP system, complaints can be accepted, processed and resolved efficiently, analyses can be performed, and reports generated easily. Some of the most important features of ERP systems in relation to complaint management include the possibility to document the complaint information quickly in a thorough and structured manner, analysing and reporting of complaint information and monitoring of complaint task performance. With ERP software, data is available for management decision making.

7 RECOMMENDATIONS FOR IMPROVED COMPLAINT MANAGEMENT PROCESS

The improvement proposals are based on the findings from interviews, current state analysis of the process and best practices identified from literature. Some of the improvement proposals can be implemented already, but some require changes to the existing ERP system. Customer orientation, speed, clear division of responsibilities and making data available for management emerged as the most important features in the complaint management process. When designing the process, both the needs of the customers as well as the case organisation were considered carefully. The complaint management process is based on the Stauss & Seidel model where the process is divided into direct complaint handling process, which is in touch with the customer and concerned with CRM aspect of complaint management, and the indirect process which is more concerned with the quality management aspect of complaint management and continuous improvement.

DIRECT COMPLAINT MANAGEMENT PROCESS:

1. Complaint Stimulation

In order for the dissatisfied customers to complain if they wish, the organisation must establish complaint channels. The complaint stimulation phase has two interconnected fundamental tasks that must be performed: communication channels must be established, and they must be communicated to the customers. The complaint management process starts when the customer has a problem about which they want to complain. The case company has ensured that the customer has channels through which it is easy to contact the company and, if necessary, make a complaint. The case company's customers complain via e-mail by contacting the seller, the common sales e-mail or the quality manager. Contact information is listed on the company's website and customers have a salesperson as their contact person, with whom they can handle all matters related to their order, including complaints. The complaint channels

were already well-established at the case company and complaining was made easy for customers.

2. Complaint Acceptance

Task: document complaint information into the ERP system.

Responsibility: salesperson receiving the complaint

Task: information about corporate reaction, resolution

Responsibility: salesperson receiving the complaint

The essential tasks at the complaint acceptance phase include the organisation of receipt of complaints and the documentation of complaint information. Managing these tasks is the responsibility of the salesperson who receives the complaint. The responsibility for accepting the complaint rests with the person who receives it, and the acceptance of a complaint should not be transferred from one person to another without a justified reason to make sure the complaint is handled without a delay. The information recorded must be accurate and detailed. The complaint form in the case company's ERP system is well designed and can be used efficiently when all its features are utilized. It enables rapid and accurate recording of complaint information with drop-down menus for quick categorisation of complaints and the possibility to add photos, e-mails and other documents as attachments. The template has data fields for entering information, including description of the complaint, measures agreed with the customer, root cause of the occurrence, and preventive actions. The person receiving the complaint must enter the detailed information regarding the complaint obtained from the customer, add attachments received from the customer, and make sure there is enough information recorded to resolve the case. With most cases, salesperson is able to offer the complaining customer resolution immediately when the complaint is received. This can include manufacturing new parts, repairing faulty ones, or monetary compensation. If the problem is resolved right away during complaint acceptance phase, the response should be documented on the complaint form.

The structures of responsibilities at the case company are defined in the work instruction but not everyone is familiar with this instruction or aware of their tasks in the process. For the process to work as desired, it is important to implement it properly. The work instruction must specify tasks associated with each step of the process and who is responsible for executing them, and it must be made sure everyone is familiar with the work instruction and how the process works. This can be achieved by training the staff and ensuring that going through the process and the instructions is part of the orientation for those people who are involved in handling complaints as part of their tasks at the company.

3. Complaint Processing

Tasks: root cause analysis

Responsibility: department supervisors

Task: manufacture new parts/repair parts

Responsibility: department supervisors

Task: monetary compensation

Responsibility: secretary

The methodological planning of complaint resolution, which includes identifying and modelling complaint handling procedures and identifying the individuals in charge at each level, is the most important task in the processing of complaints. The tasks at the case company at the complaint processing phase include making sure the promises made in the complaint acceptance phase to the customer are fulfilled so that the customers will receive new or repaired parts done correctly, or the monetary refund by the agreed time. The responsibility for these tasks lies with the department supervisors for making sure customer receives the parts and with the secretary that the compensation is made. The department supervisors' tasks also include doing internal research work and going over the complaint with the staff member who is responsible for the occurrence of the complaint and finding the root cause. The tasks also

include recording the complaint processing information and root cause with preventive actions, if possible, in the ERP system.

The biggest problem with the complaint processing phase of the current process is that the supervisors do not record anything in the system despite it being instructed in the work instruction. The process could be improved by making sure the process and work instruction is implemented properly and people are aware of their tasks and do as instructed. The process could also be improved by the possibility to add deadlines to tasks, having automated messages delivered to department supervisors when a complaint in their department is registered, and automated reminders when task are due. Now the salesperson receiving the complaint sends an e-mail to the supervisors stating that there is a complaint registered in the system. Also, currently there is no possibility for setting deadlines for tasks and thus no automated messages when they are due.

4. Complaint reaction

Task: resolution to customer/final reply to customer

Responsibility: quality manager

The complaint reaction ends the direct complaint management process. The tasks at this stage include offering resolution to customer, if it was not offered already in the complaint acceptance phase, and the final reply to customer. These are the quality manger's tasks. In most cases, the resolution can be offered to the customer by the salesperson receiving the complaint during the initial contact. The final reply to the customer is an explanation about the handling and closing of the complaint case, and it should include an apology for the inconvenience to the customer, the root cause analysis of the problem and corrective and preventive actions. To make this part of the process more efficient, there should be a deadline set for the submission of the final answer, and reminders when the reply is due, which should be features of the ERP system.

INDIRECT COMPLAINT MANAGEMENT

1. Complaint Analysis

Task: quantitative complaint analysis, qualitative complaint analysis

Responsibility: quality manager

The tasks in the complaint analysis phase include quantitative complaint analysis and qualitative complaint analysis, and these are the tasks of the quality manager. There was practically no indirect complaint management process in place at the case company at all before the researcher started working as quality manager. The current ERP system does not enable the generation of statistics or reports and entering data into excel files for statistics and analyses is laborious. This is where updates to the ERP system will be the most beneficial.

It is important to use and analyse the information potential obtained from customer complaints to capture “the voice of the customer” and move from problem diagnosis to problem prevention. To effectively utilise the information contained in complaints, the complete complaint volume must be analysed. The quantitative analyses the organisation’s management need include the absolute and relative frequency distribution of the complaints based on problem type, i.e. bending mistake, sales mistake, programming mistake, etc, the frequency distribution by location, and the frequency distribution by customers.

The thorough examination of each individual case and a methodical cause-and-effect analysis are the main goals of qualitative complaint analysis. To achieve this, a thorough investigation of each case within a problem category is necessary. In order to achieve this at the case company, the information for analysis must be available, i.e. it must be recorded in the ERP system accurately and in detail. The ERP system must be updated, so that the complaints can be sorted by different categories.

2. Complaint management controlling

Task: complaint rate

Responsibility: quality manager

Task: complaint costs: quality manager

Responsibility: quality manager

At the complaint management controlling stage, the complaint rate should be monitored at the case company. The complaint rate indicates the percentage of customers who complain in relation to all customers. At the case company this should be measured by the ratio of order lines for which a complaint has been filed to all order lines within a certain time period. This is one of the metrics that the company's management wants to monitor in regard to complaint management. This statistic should be made available from the ERP. At the moment the number of order lines within a certain time period is available from the ERP system, but the number of order lines for which a complaint has been filed to must be calculated manually and information must be processed in Excel. Another metric the company's management wants to monitor is the complaint costs. In addition to monitoring the total complaint costs within a certain time period, the costs should also be monitored by location and by failure type, as well as the complaint handling costs in relation to turnover. This information should also be retrievable automatically from the system. At the moment, this information can be entered on the complaint form but there is no possibility to generate statistics or reports and the data must be processed in excel.

3. Complaint reporting

Task: reporting

Responsibility: quality manager

Determining which analyses, quantitative and qualitative, should be prepared at which intervals and for which internal customers is a key task at complaint reporting stage. The results from complaint controlling should be summarised

in a report so that they can be presented to the company's management. The management wants reports on the total costs of handling complaints, costs by department and error type, and costs by location. Additionally, the complaint rate should be reported as well as the complaint handling costs in relation to turnover. The interval of reporting should be monthly. Currently, these reports require a lot of work since the information has to be processed in excel. Detailed complaint information should also be reported to the staff to enable organisational learning. The possibility to generate reports by departments in the ERP system would improve the distribution of complaint information.

4. Use of complaint information

Task: improve operations, develop solutions to problems

Responsibility: quality team

One of the main objectives of complaint management is making sure that complaint information is used for improvement measures. The aim is to prevent customers' problems from reoccurring in the future and improve customer satisfaction. In order to fully utilise the complaint information, several people should have access to it and the knowledge and expertise of people from different departments should be used when analysing and evaluating complaints. The problems should be discussed from various perspectives and people's opinions should be heard when developing potential solutions. The case company should consider establishing a quality improvement team or a quality circle that would meet on a regular basis to identify, analyse, and solve quality-related problems within the organisation. With the help of the ERP system, the complaint information would be easily accessible.

8 CONCLUSION

Complaint management is a fundamental element of both successful business operations and customer service. It is a way to obtain valuable information about customers and customer dissatisfaction as well as to identify operational weaknesses and areas for improvement. By efficiently handling complaints and eliminating the causes that lead to them, organisations can improve customer satisfaction and strengthen customer loyalty and make long-term improvements that will lead to better financial results.

The aim of this thesis was to find out how the case company's complaint management process could be improved with the help of the ERP system. In order to achieve this goal, the current state of the process and the problems within it needed to be investigated. The study was carried out as qualitative research. The research methods included interviews, observation of the process and studying documents. The interviews were carried out as semi-structured themed interviews. The qualitative research method was chosen since it would enable the gathering of comprehensive, detailed information on the topic and enable the generation of in-depth understanding of the process. The chosen research methods were well suited to this study because they provided reliable information about the operation of the process. Prior to the empirical research was conducted, theory that was important to the study was reviewed. This included books and scientific articles on complaint management, process management and ERP systems. Semi-structured interviews were chosen as the main data collection method to allow room for flexibility and to be able to gain insight into the participants' views and opinions and to explore research questions.

With the information gathered from the interviews, observation of the process and studying documents, the current state of the process was analysed, and the strengths and weaknesses of the process, and areas for improvement were identified. The strengths of the process related to the quick execution of direct complaint management tasks and a good complaint form template in the

ERP system that could enable a more efficient process if used correctly. The overall process is very customer-oriented, and customers' problems are usually resolved quickly. The identified weaknesses included lack of knowledge regarding roles and responsibilities, inefficient recording of complaints, lack of possibility to generate reports and statistics for analysis and the overall poor implementation of the process and work instruction. Based on the research results, it can be stated that parts of the case company's complaint management process work well, but there are areas that are in need of improvement. Some of those improvements can be made by making changes and improvements to the ERP system but some of the problems in the process are a result of a lack of proper implementation.

This study concluded with recommendations for improvement and integration of the complaints management process into the organisation's ERP system. Proposals for improvement were created based on the identified areas of improvement and knowledge of the best practices identified from literature review. In the new complaint management process, customer orientation, speed, thorough recording of initial information, clear division of responsibilities and reporting of complaint information to the company's management were considered the most important aspects. Implementation of improvement proposals was not part of this research and the possible implementation depends on the decisions of the organisation's management. If the decision is made to implement these development ideas, special attention should be paid to making sure employees are informed of the changes to the process and ensuring that responsibilities are defined clearly, and that people are made aware of their roles in the process. By implementing the proposed improvements, the case company can make the complaint management process more efficient and obtain reliable data about customer dissatisfaction and operational inefficiencies and thus enable fact-based decision-making, continuous improvement of operations, and better financial results.

As a future research recommendation, once the improvement suggestions have been successfully implemented and the process works as desired, it would be beneficial to further investigate how complaint management

information can best be utilised in organisational learning and improving operations and processes.

REFERENCES

Adams, J., Khan, H. T. A., & Raeside, R. (2007). *Research methods for business and social science students* (Second edition.). Sage Publications.

Adams, W. C. (2015). *Conducting Semi-Structured Interviews*.
<https://doi.org/10.1002/9781119171386.ch19>

Aloini, D., Dulmin, R., & Mininno, V. (2007). Risk management in ERP project introduction: Review of the literature. *Information & Management*, 44(6), 547-567.

Ang, L. & Buttle, F. (2006). Customer retention management processes. *European journal of marketing*, 40(1/2), 83-99.
<https://doi.org/10.1108/03090560610637329>

Beheshti, H. M. (2006). What managers should know about ERP/ERP II. *Management research news*, 29(4), 184-193.
<https://doi.org/10.1108/01409170610665040>

Boutros, T. & Cardella, J. (2016). *The basics of process improvement*. CRC Press, Taylor & Francis Group.

Bowen, G. A. (2009). Document Analysis as a Qualitative Research Method. *Qualitative research journal*, 9(2), 27-40.
<https://doi.org/10.3316/QRJ0902027>

Dillard, JF & Yuthas, K. (2006). 'Enterprise resource planning systems and communicative action', *Critical Perspectives on Accounting*, vol. 17, pp. 202-223.

Effey, T. & Schmitt, R. (2011). Efficient analysis, handling and use of customer complaints. https://doi.org/10.1007/978-3-642-23860-4_78

Flanigan, E. (1995). *Process improvement: Enhancing your organization's effectiveness*. Crisp

Hirsjärvi, S., Remes, P., & Sajavaara, P. (2007). *Tutki ja kirjoita* (13. osin uud. laitos.). Tammi.

Homburg, C. & Fürst, A. (2007). See no evil, hear no evil, speak no evil: A study of defensive organizational behavior towards customer.
<https://doi.org/10.1007/s11747-006-0009-x>

ISO 10002:2018, *Quality management – Customer satisfaction – Guidelines for complaint handling in organizations*. (2018). International Organization for Standardization. <https://www.iso.org/standard/71580.html>

Johnston, R. (2001). Linking complaint management to profit. *International journal of service industry management*, 12(1), 60-69.

<https://doi.org/10.1108/09564230110382772>

Johnston, R. & Mehra, S. (2002). Best-Practice Complaint Management. *Academy of Management perspectives*, 16(4), 145-154.

<https://doi.org/10.5465/AME.2002.8951342>

Klotz, L., Horman, M., Bi, H. H. & Bechtel, J. (2008). The impact of process mapping on transparency. *International journal of productivity and performance management*, 57(8), 623-636.

<https://doi.org/10.1108/17410400810916053>

Lecklin, O. (2002). Laatu yrityksen menestystekijänä (4. uud. p.). Kauppa-kaari.

Linder, A., Schmitt, S. & Schmitt, R. (2014). Technical complaint management from a quality perspective. *Total quality management & business excellence*, 25(7-8), 865-875. <https://doi.org/10.1080/14783363.2014.906111>

Martinsuo, M. and Blomqvist, M. (2010). Process Modelling for Improved Performance. Aalto University, School of Science and Technology, Department of Industrial Engineering and Management, Teaching Material 2010/1, Espoo. Available at: <https://aaltodoc.aalto.fi/bitstream/handle/123456789/4850/isbn9789526033792.pdf?sequence=1&isAllowed=y> [Accessed 10.2.2024]

Monk, E. F. & Wagner, B. J. (2013). Concepts in enterprise resource planning (4th ed., International ed.). Course Technology/Cengage Learning.

Parthasarthy, S. (2007). Enterprise resource planning (ERP): A managerial and technical perspective. New Age International (P) Ltd., Publishers.

Saunders, M. N. K., Lewis, P., & Thornhill, A. (2023). Research methods for business students (Ninth edition.). Pearson Education Limited.

Schierholz, R. (2007). Mobile Customer Relationship Management.

Smith, A. K., Bolton, R. N. & Wagner, J. (1999). A Model of Customer Satisfaction with Service Encounters Involving Failure and Recovery. *Journal of marketing research*, 36(3), 356. <https://doi.org/10.2307/3152082>

Stauss, B., Seidel, W. (2004). Complaint management: The Heart of CRM, South-Western Educational Pub.

Stauss, B. & Seidel, W. (2019). Effective Complaint Management: The Business Case for Customer Satisfaction (second edition). Springer.

<https://doi.org/10.1007/978-3-319-98705-7>

Taylor, S. J., Bogdan, R. & DeVault, M. L. (2016). Introduction to qualitative research methods: A guidebook and resource (Fourth edition.). Wiley.

Tuertmann, R., Ruessmann, M., Schroeder, M., Linder, A. & Schmitt, R. (2016). Challenges and design of a data-oriented complaint and failure management. *Total quality management & business excellence*, 27(7-8), 885-896. <https://doi.org/10.1080/14783363.2016.1188000>

Vos, J., Huitema, G. & de Lange-Ros, E. (2008). How organisations can learn from complaints. *TQM journal*, 20(1), 8-17. <https://doi.org/10.1108/09544780810842866>