



Joel Hautamäki

Recommendations to Improve the Basic Assembly Service Sales Process

Metropolia University of Applied Sciences

Master of Engineering

Industrial Management

Master's Thesis

May 1 2022

Preface

It has been five years since I got my bachelor's degree and here I am almost at the finish line with my master's degree. I always thought that the bachelor's degree was not enough for me, and I wanted to study more. One year ago, when I was browsing studying opportunities, I found the industrial management program and I read the content of it and decided to apply. While the deadline to apply was close, I managed to fill all the papers and finish the assignments and eventually accepted to the program.

Combining work and study was not the easiest thing to do. Fridays and Saturdays were spent at the Metropolia campus in the lectures and rest of the weekend and evenings after work were spent on assignments and thesis. For making this possible and being supportive and flexible I want to thank the case company. Thank you Sami and Pekka.

Finishing the studies would not have possible without support from home. Special thanks for this go to Sini. Thank you for being there for me and giving me time to focus on my studies. This would not be possible without you. I want to give a special recognition to Ben, for making me to think something else than studies. It sure was needed at some stages.

I want to thank my Thesis instructor Dr. Thomas Rohweder for the guidance and M.A. Sonja Holappa for helping with professional language. I also want to thank Dr. Juha Haimala and Dr. James Collins for the great courses and professionalism of the industrial management program.

Finishing all the courses and Thesis in one year was not easy. Describing the program with one word would be intensive. While this milestone is achieved, I am already looking for what the future holds for me.

Joel Hautamäki

Vantaa

May 1, 2022

Abstract

Author: Joel Hautamäki
Title: Recommendations to Improve the Basic Assembly Service Sales Process
Number of Pages: 77 pages + 1 appendices
Date: 1 May 2022

Degree: Master of Engineering
Degree Programme: Industrial Management
Professional Major: Service Management
Supervisors: Dr. Thomas Rohweder, Principal Lecturer
M.A. Sonja Holappa, Senior Lecturer

The objective of this study is to propose improvement recommendations to the basic assembly service sales process. The current process covers all type of assemblies the case company offers, while the requirements for the basic assemblies are different. Due to this reason, the sales process regarding basic assemblies is too complex and time consuming. The study proposes improvement recommendations but implementing the improvement recommendations is out of scope.

The research approach of this study is design research, and it includes four stages. First stage of the study is the current state analysis, where the process is analysed to discover strengths and weaknesses of the process. The second stage of the study is the literature review. During this stage, academic literature is searched to answer the discovered weaknesses. The literature review forms the conceptual framework of this study. Third stage of this study is co-creating initial improvement recommendations based on the current state analysis and the literature review. Fourth stage of this study is to receive feedback from the relevant stakeholders. Based on their feedback, adjustments are made, and final improvement recommendations created.

The current state analysis discovered the strengths and weaknesses of the process, which were then categorized into three categories. The findings were from different areas of the process but easily categorized. The categories were Communication, Roles & Responsibilities and Data & Documentation. Data & documentation category was left out of this study in order the Author to finish the study on given time.

The outcome of this study is the final improvement recommendations. Once implemented, it allows the case company to work more efficiently with the basic assemblies leaving more time on the system assemblies where the strategic intention is. The implemented recommendations boost the case company's performance and clarifies roles and responsibilities which benefit all the functions in the company and ultimately customers as well.

Keywords: Communication, Process improvement, Knowledge transfer, RACI, Pricing

Contents

Preface

Abstract

List of Figures

List of Tables

List of Abbreviations

1	Introduction	1
1.1	Business Context	1
1.2	Business Challenge, Objective and Outcome	2
1.3	Thesis Outline	3
2	Project Plan	4
2.1	Research Approach	4
2.2	Research Design	5
2.3	Data Plan	7
3	Analysis of the Current Basic Assembly Service Sales Process	11
3.1	Overview of the Current State Analysis Stage	11
3.2	Description and Illustration of the Current Basic Assembly Service Sales Process	13
3.2.1	Clarifying Customer Requirements	15
3.2.2	Capabilities	16
3.2.3	Project Plan and Documentation	17
3.2.4	Quotation Processing	21
3.2.5	Quotation Delivery	24
3.2.6	Quotation Follow-up	25
3.2.7	Order Processing	27
3.2.8	Key Performance Indicators	28
3.3	Summary of the Findings	29
3.4	Key Findings to Elaborate	30
4	Improvement Ideas from Relevant Literature	32
4.1	Communication	32
4.1.1	Efficient Knowledge Sharing and Transferring	32

4.1.2	Delivering Value to the Customers with Process Ownership	34
4.1.3	Defining Pricing Principles	36
4.1.4	Engaging Customer with Value Creation	41
4.2	Roles & Responsibilities	42
4.2.1	RACI- matrix	43
4.3	Conceptual Framework	44
5	Co-creating Improvement Recommendations	46
5.1	Overview of Co-creating Improvement Recommendations Stage	46
5.2	Description of the Recommendations Creation	47
5.2.1	Recommendations for Knowledge Sharing and Transferring	47
5.2.2	Recommendations for Process Ownership	48
5.2.3	Recommendations for Pricing	50
5.2.4	Recommendations for Quotation Walkthrough	53
5.2.5	Recommendations for Roles & Responsibilities	54
5.3	Summaries of the Initial Improvement Recommendations	57
6	Feedback on the Initial Improvement Recommendations	60
6.1	Overview of the Feedback Stage	60
6.2	Feedback Received on the Initial Improvement Recommendations	61
6.3	Summary of the Final Recommendations	64
7	Conclusions	66
7.1	Executive Summary	66
7.2	Practical Next Step Recommendations	68
7.3	Self-Evaluation of the Study	71
7.3.1	Credibility	72
7.3.2	Logic	73
7.3.3	Relevance	74
7.4	Closing Words	75
	References	76
	Appendices	
	Appendix 1: Interview questions during the current state analysis	

List of Figures

Figure 1. Research design of this study	6
Figure 2. Assembly sales process map	14
Figure 3. Project folder structure.....	18
Figure 4. PTS document project description	19
Figure 5. PTS quotation documents.....	23
Figure 6. Simplified view of the process (Martinsuo and Blomqvist 2010: 8)	35
Figure 7. Price sensitivity factors (Dolan, 1995: 178).....	38
Figure 8. The dangerous “strategic accounts” (Dolan, 1995: 182).....	41
Figure 9. RACI- matrix template (Haworth, nd).....	43
Figure 10. Conceptual framework of the study	44
Figure 11. RACI- matrix for the identified weaknesses	55
Figure 12. Initial improvement recommendations for Communication	57
Figure 13. Initial improvement recommendations for Roles & Responsibilities .	59

List of Tables

Table 1. Data 1 collection	7
Table 2. Data 2 and Data 3 collection	9
Table 3. Summary of the findings	29
Table 4. Key findings to elaborate.....	30
Table 5. Changes made to the initial recommendations	64
Table 6. Summary of the final recommendations.....	65

List of Abbreviations

BoM:	Bill of Material
BP:	Business Partner
CSA:	Current State Analysis
CRM:	Customer Relationship Management
DMS:	Document Management System
ERP:	Enterprise Resource Planning
FRQ:	Factory Request for Quote
HMIS:	Hazardous Materials Identification System
KPI:	Key Performance Indicator
PO:	Purchase Order
RSC:	Regional Stock Check

1 Introduction

Organization's operations are based on processes. Processes define how organizations operate in different areas and set guidelines how specific work should be carried out. Effective processes support organizations' strategies.

Customers these days expect to be served quickly when they have expressed a need for a certain product or service. Answering back after an appropriate time creates value and it is important for a customer to get the answer quickly in this hectic world. While it is important that processes support strategy it is also important to measure the performance in order to develop processes.

This Master's Thesis provides improvement recommendations to the current sales process regarding basic assemblies to work more efficiently and serve customers better.

1.1 Business Context

The case company of this Thesis is an authorized distributor of the world's leading instrumentation products manufacturer. In addition, the corporate company provides services which the distributors can utilize and sell to their customers. The case company operates in Finland and the Baltic countries and its sales and service center is located in Vantaa, Finland. Globally there are more than 200 sales and service centers in 70 countries.

The case company employs over 20 people and keeps growing. Over the years the company has been known as a product supplier but during the last 10 years it has put more effort to services. For the case company, services are the important piece of strategy. Strong investments in its employees and facilities indicates it is moving to that direction. Such investments are aligned with the case company's strategy. Therefore, the case company's processes must be in place in order to perform and meet the set sales targets.

1.2 Business Challenge, Objective and Outcome

A year ago, the company moved to a completely new business system, SAP Business One. The corporate company announced all the distributors of this change years in advance. Since the new system would change the way of working remarkably, the case company decided not to make any significant changes to processes until the new system was familiar and running as planned.

At the start the case company was facing challenges in the sales process regarding assembly sales. The case company has segmented assemblies it offers into two segments, basic assemblies and system assemblies. The current process tries to cover these both, making the basic assembly sales very slow and complex. Due to this complex process, the work starts piling up and takes more time away from the system assemblies where the time is needed.

Since the case company is rather small and resources limited, the persons who are making the assembly sales quotations are also responsible for doing 3D design, drawings and all the other necessary documentation for the production. Services such as the case company's assembly sales, is a strategic decision and while system assemblies are more complicated and time-consuming projects, it is crucial to find a solution to improve the process. While basic and system assemblies are both part of the case company's service portfolio, the case company's strategic focus is on the system assemblies. To execute the strategy, it is critical to find improvement recommendations to the basic assembly service sales process.

The objective of this study is to propose improvement recommendations to the basic assembly service sales process and the outcome of the study is the recommendations to improve the basic assembly service sales process. The outcome helps the case company to focus on strategically underlined system assemblies and work more efficiently with the basic assemblies.

1.3 Thesis Outline

The study does not create a new process, it analyses the current sales process and proposes improvement recommendations for it. The study is limited to the sales process and does not analyse the production or delivery phases.

This study contains seven sections. The first section is the introduction to the study followed by the project plan. The project plan describes how the project was planned, data collected and specific research approach chosen. The third section describes the current state analysis and its findings. The fourth section analyses the findings from the current state analysis through relevant literature and outlines the conceptual framework of the study. The fifth section presents the initial improvement recommendations for the process. In the sixth section the initial improvement recommendations receive feedback from relevant stakeholders. The seventh section is for conclusions and self-evaluation of the study.

The next section outlines the project plan, including the research approach and design as well as data collection.

2 Project Plan

The previous section introduced the business challenge, objective and outcome. This section introduces the chosen research approach and design first, followed by data plan.

2.1 Research Approach

According to Saunders et al. (2016) a continuum can be drawn between all business and management research projects based on their purpose and context. Some research needs wider understanding to expand knowledge of process of business and management. This type of research is called basic research. The basic research creates value to society but doesn't consider a specific problem in an organization (Saunders et. al., 2016: 9-10).

Saunders et al. (2016) points out that for a specific challenge in the organization, applied research serves the purpose better. The applied research focuses on the organization's specific problem while the aim of basic research is to find a wider solution for a general purpose. While the findings of the basic research have value to society in general, the applied research brings practical relevance to the managers in the organization (Saunders et. al., 2016: 9-10).

According to Kananen (2013) rather than having its own research methodology, design research is an approach that consists of several different methods used in response to a given situation or objective for development. The result of combining development and research produces functional and practical solutions. Kananen (2013) also points out that organizations are improving their operations on a daily basis. The difference between just improving organizations' operations and science is that science is documented, using relevant scientific methods to produce new knowledge (Kananen, 2013: 20-22).

Since the focus of this study is to propose improvement recommendations to the basic assembly service sales process in the case company, the applied research

is selected for research design and use of qualitative methods. The applied research was chosen based on the objective of the study since it is focusing on proposing improvement recommendations to the case company's process not like basic research where the focus is wider but does not take specific matters into consideration. Although the new produced knowledge of the study focuses only on the specific challenges faced by the case company and it is drawn from existing academic literature, it is still new knowledge for the study context.

Since the study focuses to identify problems in the process and to propose improvement recommendations, the qualitative data collection was chosen over quantitative approach. Findings of the study are words and sentences while quantitative research is based on the numbers. The objective is to propose improvement recommendation to the basic assembly service sales process and the outcome is recommendations to improve the basic assembly service sales process; this study does not include the implementation of the recommendations to the process.

2.2 Research Design

The study consists of four stages. The identified business challenge is the starting point, and the objective defines the steps needed to be taken in order to reach the desired outcome. Figure 1 illustrates the Research design of the study.

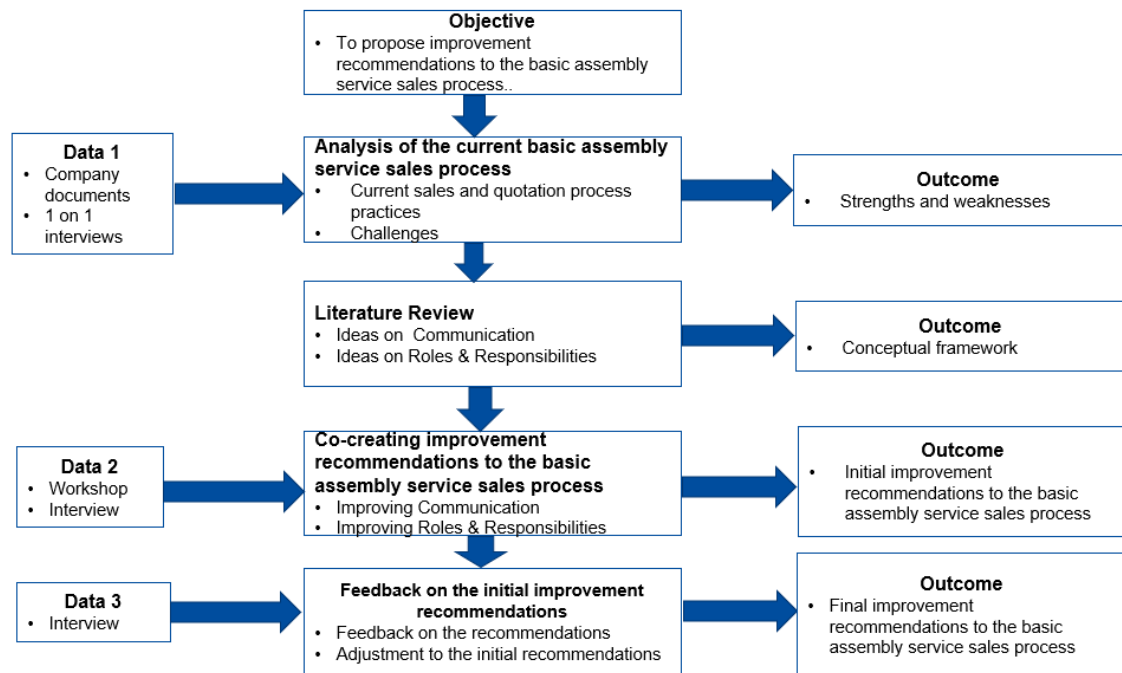


Figure 1. Research design of this study

As seen in Figure 1 the study starts with analysing the current basic assembly service sales process. At this stage it is mandatory to go through the case company's internal documents, such as quality, processes and corporate policies to distributors to understand the case company's current situation. Based on the knowledge gained from the documents, one-to-one interviews were carried out. The informants who were interviewed work in different functions and departments but still are highly related to the process. After analysing the internal documents and interviewing relevant stakeholders, the strengths and weaknesses were discovered and summarized.

The study's next stage is finding the best practises and ideas from the relevant academic literature. Based on the findings of the current state analysis, the academic literature was researched to answer the discovered weaknesses. This forms the conceptual framework for the study.

The third stage is to improve the current weaknesses in the basic assembly service sales process identified in the current state analysis stage according to the findings from relevant literature. Relevant stakeholders were gathered to a

workshop to co-create initial improvement recommendations. Also, one-to-one interview was held.

The last stage of this study is the feedback stage. Initial improvement recommendations to the process were introduced to the Data 1 informants. After receiving feedback on the initial improvement recommendations, adjustments were made. The outcome of the stage is the final improvement recommendations to the basic assembly service sales process.

2.3 Data Plan

The data used and collected in this study is from various sources. Since the case company is a distributor to the corporate company, the corporate company has set policies and guidelines for the assembly sales which were necessary to take into consideration when defining the case company's internal processes. The case company's internal process and quality documents were also examined prior to interviewing the stakeholders related to the process. Table 1 presents the Data 1 collection that needed to gather in order to finish the current state analysis.

Table 1. Data 1 collection

Data 1 - Current State Analysis					
#	Source	Data type	Topic, description	Date, length	Documented as
1	Application Engineer	Interview (Online Teams)	Process operation according to standardized questions	28.12.2021, 1h	Recording
2	Field Engineer	Interview (Online Teams)	Process operation according to standardized questions	28.12.2021, 40min	Recording
3	Order Processing Specialist	One-to-one Interview	Process operation according to standardized questions	29.12.2021, 1h 32min	Recording
4	Sales Manager	Interview (Online Teams)	Process operation according to standardized questions	29.12.2021, 1h 15min	Recording

Data 1 - Current State Analysis					
#	Source	Data type	Topic, description	Date, length	Documented as
5	Quality Manager	Interview (Online Teams)	Process operation according to standardized questions	30.12.2021, 1h 20min	Recording
6	Managing Director	One-to-one Interview	Process operation according to standardized questions	30.12.2021, 1h 17min	Recording
7	Process Owner	One-to-one Interview	Process operation according to standardized questions	31.12.2021, 1h 30min	Recording
8	SAP Instructions for Assemblies, documented in internal DMS	Internal document (Word File)	SAP Instructions for Assemblies, 61 pages	Accessed 21 Dec 2021	6.2-1-INS Custom Solutions SAP Instructions.docx
9	Assembly Sales Process, documented in internal DMS	Internal document (Word File)	Assembly Sales Process, 10 pages	Accessed 21 Dec 2021	6.2.-1-PRO Custom Solutions Sales Process.docx
10	Order processing, documented in internal DMS	Internal document (Word File)	Order processing process regarding assemblies, 4 pages	Accessed 22 Dec 2022	6.2.-2-PRO Custom Solutions Order Processing.docx
11	Assembly Service and Product Modification Policy, documented in internal intranet	Internal document (Word File)	Assembly Service and Product Modification Policy, 12 pages	Accessed 22 Dec 2021	SI-00810.docx
12	Project calculations, documented in internal DMS	Internal document (Excel files)	Project calculations, 1 sheet/calculation	Accessed 23 Dec 2021	LASK-HELSEI-XXX.xlsx
13	Concept Review Process, documented in internal intranet	Internal document (Word File)	Concept Review Process, 2 pages	Accessed 23 Dec 2021	SI-00800.docx
14	Quality Manual, documented in internal DMS	Internal document (Word File)	Quality Manual	Accessed 23 Dec 2021	Quality manual.docx

As seen in Table 1, the data was gathered from the existing process, project price calculations, quality and policy documents. In addition, interviews were carried out. The informants to the interviews were chosen based on their roles and experience of the current process. The study aimed to have a wide view from different perspectives to discover the strengths and weaknesses of the existing

process. Structured interviews were carried out with standardized open-ended questions made in advance. The interviews were carried out either with face-to-face meetings or with Teams meetings. Each meeting was recorded and lasted approximately over an hour. Instead of field notes the author decided to record each interview session so that the focus was fully on the interviews and later listening to recordings and summarizing the key discoveries of the interviews. The second and third phase of data collection, Data 2 and Data 3, are presented in Table 2, co-creating improvement recommendations to the basic assembly service sales process and feedback on the initial improvement recommendations.

Table 2. Data 2 and Data 3 collection

Data 2 - Co-creating improvement recommendations to the basic assembly service sales process					
#	Source	Data type	Topic, description	Date, length	Documented as
1	Application Engineer	Workshop within the company's premises	Communication and roles & responsibilities	17.3.2022 / 1h 30min	Recording
2	Field Engineer	Workshop within the company's premises	Communication and roles & responsibilities	17.3.2022 / 1h 30min	Recording
3	Process Owner	Workshop within the company's premises	Communication and roles & responsibilities	17.3.2022 / 1h 30min	Recording
		Interview within the company's premises	Roles & responsibilities	21.3.2022 / 20min	Field notes
Data 3 - Feedback on the initial improvement recommendations					
#	Source	Data type	Topic, description	Date, length	Documented
	Data 1 informants	Interview within the company's premises	Initial improvement recommendations	28.3.2022 / 1h 15min	Recording

In order to collect Data 2, workshop and one-to-one interview were facilitated. Data 2 participants were mostly the same as in Data 1. Together with the informants, initial improvement recommendations to the basic assembly service sales process were created.

Data 3 was formed from the feedback received from the Data 1 informants about the initial improvement recommendations to the basic assembly service sales process. Data 3 is also presented in Table 2. The initial improvement recommendations were presented to the Data 1 informants in the case company's premises. For those informants who were not in the office Teams meeting was set for them to join the meeting. Adjustments to the initial improvement recommendations were made based on the feedback received.

The findings of the current state analysis and examination of the case company's current processes are presented in the next section of this study.

3 Analysis of the Current Basic Assembly Service Sales Process

This section contains the current state analysis for the basic assembly service sales process and examines the findings and divides them into strengths and weaknesses. The data plan was introduced in the previous section and collected in this section.

In this stage, the existing sales process is analysed with the company's internal documents and interviews. Findings of the current state analysis are listed to strengths and weaknesses and categorized by theme.

3.1 Overview of the Current State Analysis Stage

The objective of this study was to propose improvement recommendation to the basic assembly service sales process in order to execute more efficiently the case company's strategy to increase service sales. The data collection was started going through the case company's existing documents related to the assembly sales. Such documents were quality manual, project price calculations, distributor policies, corporate guideline documents, SAP instructions, current sales process and order processing process documents. After gaining data and better understanding from existing documents, relevant stakeholders to the current process were identified. The identified stakeholders involved in the process were sales manager, process owner, application engineer, field engineer, quality manager, order processing specialist and managing director.

The purpose to interview people from different roles was to have a deeper understanding of the current process and the stakeholders were chosen based on their role in the process. The sales manager is responsible for all the sales and is part of the management team who establishes the strategies. While the strategies play a key role and sets the sales targets, processes must be working so that it supports the strategic intention. The process owner has the responsibility for the process to work and at the same time develop it. The

process owner has created the process since the corporate company announced to distributors the new service capability and ever since the process owner has been working with the process. The process owner is also part of the management team.

The quality manager's responsibilities are to make sure everything is made according to the corporate company's policies towards distributors and documented properly. Measuring the internal and external issues and sharing the information throughout the company is included in the responsibilities. The application engineer's job is to provide the sales quotation with the necessary documentation. The process concerns the application engineer the most since the process is the guideline with the steps needed to take before sending the sales quotation. For the challenging customer cases field engineer's assistance is needed. The field engineer defines and, on some occasions makes specific calculations to choose a correct product for the customer. Later, the field engineer checks the documents made by the application engineer and gives an approval to send the quotation to the customer. The managing director is responsible for overall performance of the company and similar to the sales manager and the process owner, he is part of the management team. Long history in the company and wide knowledge of the operations and how corporate policies effect on distributor processes makes him an relevant informant. Lastly the order processing specialist handles and confirms the order and lets the application engineer know if some sudden changes or disruptions have taken place in lead times.

Each stakeholder was invited to a one-to-one interview. The interviews were held either in the conference room in the case company's premises or in a Microsoft Teams meeting. The Teams meetings were held since the case company has set a hybrid model for working due to Covid-19 pandemic situation. Also, some of the employees work full time from home due to long distances to the case company's location. The interview questions were pre-planned, and each interview had the same standardized questions. The order for the interviews was the following: application engineer, field engineer, order processing specialist, sales manager,

quality manager, managing director and lastly process owner. The key informants were interviewed last since they were the ones who created the process together.

Each meeting was scheduled to last for an hour, however there appeared to be more discussion than expected so the meetings lasted longer. Interestingly during the interviews, the same answers kept coming from different informants. During the interviews the informants tended to suggest improvement ideas after giving the answer to the challenge they have faced in the process. The interview questions are presented in the Appendix 1.

3.2 Description and Illustration of the Current Basic Assembly Service Sales Process

The current sales process for each type of assembly the case company offers follow the same process. Since some of the product lines that the case company offers has a possibility to modify in a production cell with few additional components is defined as basic assembly. As it goes from there to more complex assembly it is called as system assembly. The process was already mapped, and it was analysed step by step with each informant. The process map is presented in Figure 2 below. Detailed information and findings are explained in following sub-sections.

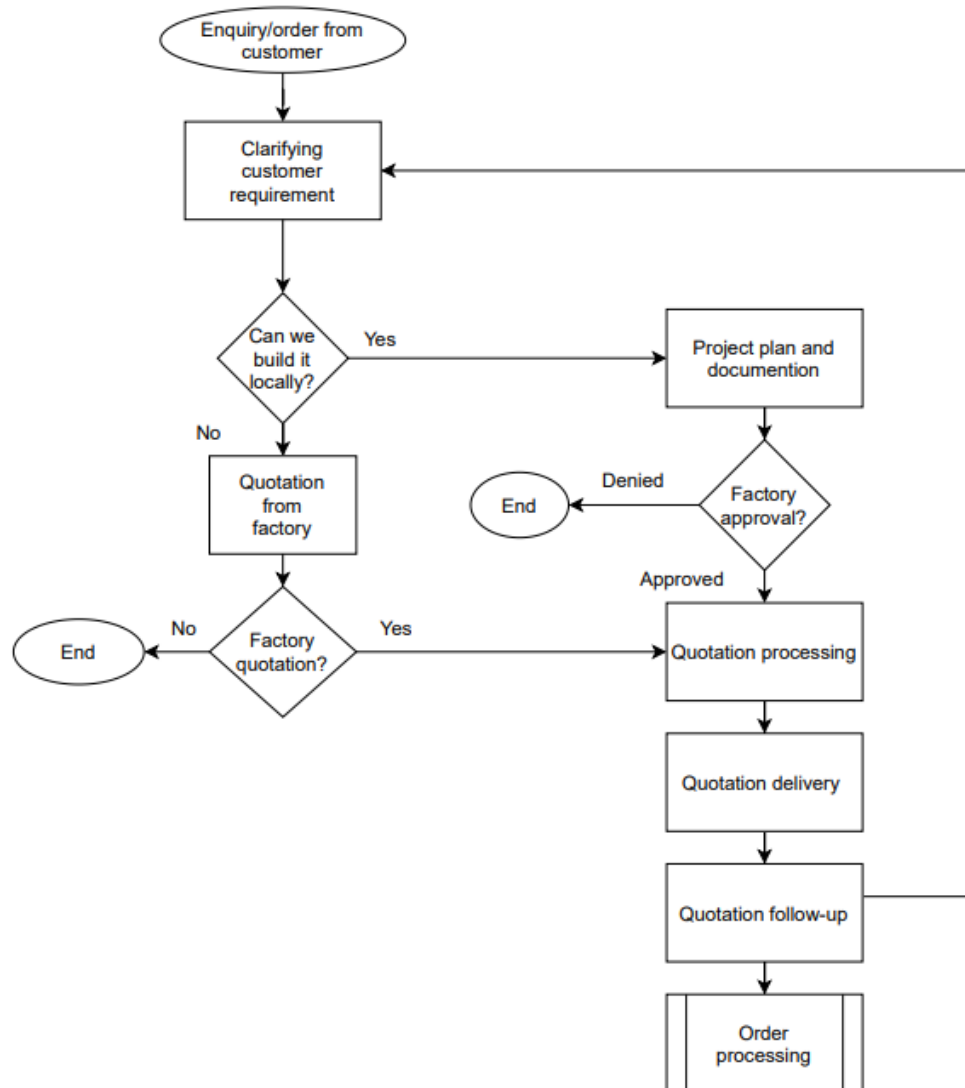


Figure 2. Assembly sales process map

Figure 2 presents the assembly sales process map. It starts with enquiry from the customer and ends to the order processing. Before reaching the order processing phase, multiple other phases must be carried out. Each phase of the process is presented in the following sub sections.

As discussed in general level about the current sales process with the informants without going to specific details, the process was considered to be wide, detailed and comprehensive. However, the process serves rather well in terms of system assemblies but not that well for the basic assemblies. Informants summed up their general opinions with following comments:

“Our process is not up to date since the corporate policies keep changing. The current process tries to cover both system and basic assemblies, which in case of basic assemblies causes unnecessary work.” Data 1: Informant 6

“I think the current process is very wide and comprehensive entity.”
Data 1: Informant 3

“It is reliable process with low qualitative risks.” Data 1: Informant 4

3.2.1 Clarifying Customer Requirements

The sales process itself starts with an enquiry from a customer. The enquiry can be a phone call, email or walk-in customer. Whether the type of enquiry it is, the aim is to provide high quality customer experience for the customer. To reach the high-quality customer service, each customer communication is systematically documented. According to the case company’s vision, there are multiple factors that needs to be recognized to provide such service. Those factors are understanding the customer’s field and application, need and the role of the business partner (BP) regarding the contact.

Depending how the customer has contacted the case company proper documentation should be done. In case of a phone call, the agreed matters are mainly documented to the enterprise resource planning system (ERP) and email contact are stored in the document management system (DMS). However, during the current state analysis, it was noted and criticized that there are differences between the sales department and the assembly sales department how they keep record of customer communication. While the sales department whose role is mainly to answer for customer enquiries documents the activities to the customer relationship management system (CRM) which is integrated to the SAP, the assembly sales department documents the activities to the separate Word project document called PTS. One of the informants noted following:

“Customer communication regarding phone calls and meetings is only on assembly sales team’s possession.” Data 1: Informant 1

This Word document works as a check list to check if the case company is capable to assemble such assembly according to corporate policies. While the document includes the necessary information that needs to be asked from the customer, it also works as a document where the agreed matters with the customers have been documented. Only the assembly sales team has access to this document while the account managers don't. Since the case company is highly focusing on services such as assembly sales, it is critical for the account managers to see what has been agreed with their customers in order to reach the set sales targets.

The sales department is mainly responsible for the enquiries that the case company receives. Most of the enquiries are product selling related. Some of the enquiries hold a potential for assembly sales and it is account manager's responsibility to figure out that opportunity. When the opportunity is identified the account manager passes the information for the assembly sales team to provide the sales quotation and the necessary documentation. During interviews it was noted that the information received from the sales department is often too narrow:

"Often the information received from the sales department is insufficient for basic assemblies." Data 1: Informant 1

Basic information is often missing making it difficult for the assembly sales team to define components suitable for customer's application. While the process clearly states that sales department is responsible to gather needed information before passing it to the assembly sales team.

3.2.2 Capabilities

On some occasions case company's capabilities are not enough. Basic assemblies are rather simple assemblies but, in some cases, assistance is needed. The process map for the assembly sales does not consider buying service from another distributor who has the equipment and capabilities to provide the needed service, instead it guides to contact the corporate straight away. Most recent capabilities that case company has not been able to deliver

are high quantity assemblies with tight tolerances. In the history corporate facilities were the only one where was possible to buy it. Recently the message towards distributors has been to work more collaboratively with the other distributors, taking the workload off the corporate where they can focus on more complicated systems and products.

Requesting a quote from another distributor requires an approval from the corporate. Detailed information about customer's application needs to be submitted to get the approval to order the assemblies from another distributor. The responsibility doing this fall for the assembly sales team. The approval is made in the corporate's intra websites. After finishing the request, it needs to be approved by a manager before submitting it to the corporate for review. During the interviews it was noted that if the corporate does not accept the request or requires more information, the information of this notification does not reach the sender, while if it is approved a notification message comes as an email. Since the corporate is in the US, handling the request goes for the next day. While waiting for the information other work is being made. Currently the only way to check the status is to log in to the system and doing this relies on person's memory.

3.2.3 Project Plan and Documentation

When customer's application is known, all the necessary information gathered and capabilities allow the case company to provide the sales quotation for the customer, project planning and documentation starts. The case company considers each assembly as a project. For a new project new project folder is opened into Sharepoint, where all the case company's projects are. The new folder's name is opened based on the running number of projects and with the case company's abbreviation which in this case is HELSI. If the customer has already defined a name for their assembly, it may be used with HELSI prefix. The project folder includes several template documents which will be filled before the quotation can be sent to the customer. The structure of the project folder is presented in Figure 3 below.

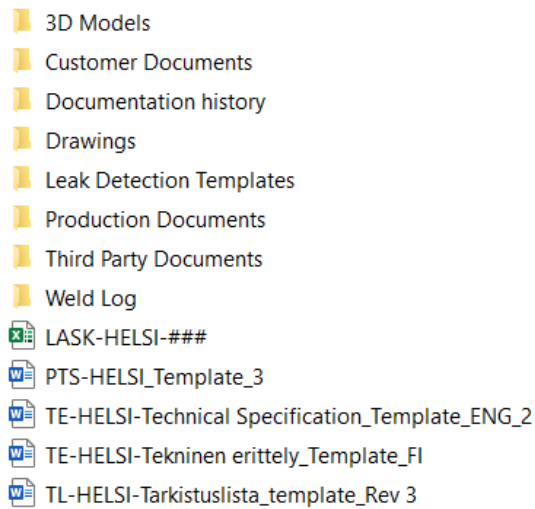


Figure 3. Project folder structure

Figure 3 presents the project folder structure. The main documents to provide a sales quotation are project price calculation, PTS- document and technical specification. On some occasions 3D-model and drawings are needed as well, depending on the customer. Each document is a template where all the information will be manually filled. Some of the documents are production related documents, which does not apply when defining documents for the sales quotation. Such document for instance is TL-HELSE, which is detailed work instructions for the technician. The basic assemblies mainly consist of the products which the case company as distributor sells. Sometimes third-party products are needed, and they are documented to the project folder. Such document may be brochures, instructions or dimensional drawings which will be attached to the sales quotation documentation.

The PTS document ensures that all quality system and customer requirements are met. Each section of the document must be filled and approved. The person who is working on the project fills the document and once it is ready, someone from the assembly sales team checks the document and approves it. Most often approving the documents has fallen for the field engineer. Figure 4 describes the customer's application and the process parameters in the PTS document.

Project Description (Customer Requirements)

		Approved By	Date
HELSI product	HELSI-#####		
Customer			
Project's name			
Customer Requirements	<ul style="list-style-type: none"> • What is the assembly planned to do? • What is the customer's application? • a description of where the assembly is used 		

Project Parameters

		Approved By	Date
Media(s)			
Design / work pressure			
Min-max design / work temperature			
Testing, approval, and material certificate requirements			
Documentation requirements			
Other			

Approval Evaluation


		Approved By	Date
Media HMIS classification			
			
SI-00810 Assembly Service and Product Modification Policy			
SI-00806 Feasibility Assessment Guideline			
SI-00800 gathering and reviewing customer requirements			
Approval number (when required)			

Figure 4. PTS document project description

Figure 4 presents project description, project parameter and approval evaluation of the PTS document with the steps needed to be filled and approved. Once the customer's process conditions are known, it is assembly sales responsibility to evaluate if the assembly needs an approval from the corporate. The evaluation is done in two steps, checking the HMIS rating and corporate policy guidelines. The HMIS, Hazardous Materials Information System categorizes media's features into four segments: health, flammability, reactivity and personal protection. The rating range is numbered from 0 to 4. 0 means there is no significant risk and 4 there is a massive risk. Since the policy requires that all assemblies should be leak tested before delivery and policy also defines what type of leak test should be performed for each rating. The leak test method is mentioned in the technical specification sent to the customer with the quotation.

If the distributor does not have the required equipment and process for the more hazardous medias, the approval request for the simpler test method must be made and sent to the corporate for a review. In the end of the PTS document, customer communication is summarized. All the agreed matters such as yearly needs and changes made to original quotation is listed.

When customer requirements are clear and documented to the PTS document, design phase starts. Based on the background information received from the customer, most suitable components are selected for the assembly. When the components have been selected, technical specification is being made. The technical specification is a document which includes detailed information how the assembly will be manufactured, bill of material (BoM), customer specified components, testing method, level of cleanliness and in the end of the document there is a customer approval section and slots who created the document and who approved it. Responsible person of the project from the assembly sales team fills this information and once ready someone else from the team will check and approve it.

During interviews and reviewing policies, the technical specification regarding basic assemblies is not required, while for the system assemblies it is. It was considered as a very manual and time-consuming step:

“The time and effort to provide a basic assembly sales quotation might in some cases take equal amount of time as system assembly sales quotation.” Data 1: Informant 1

After finishing the technical specification price for the assembly is being calculated. To calculate a price for the project separate Excel calculator is used. The Excel is connected to SAP to get the prices from the system. In addition to get component prices the Excel also includes calculation function for the work itself. Since the assemblies the case company puts together are customer tailored and often requires special items. The special items are quoted from the factory with factory request for quote (FRQ). For the standard items regional stock check (RSC) is being made to see the component availability. In the special item

case, the Excel file cannot get the price if the item has not been opened to the system or the FRQ is not accepted. Once opened and/or accepted, the calculation user must remember to refresh the database in the Excel to get the component price. Defining the price for the work itself is based on the application engineer's evaluation. Once calculation is finished it is saved under the project folder.

After reviewing the old calculations regarding basic assemblies and interviewing the informants who mainly make project calculations and review them, inconsistent pricing was noted. The informants have been calculating on the component level very alike, but difference was made in defining the work. The reviewed calculations were similar assemblies with equal number of connections to be made, but the calculated time and price for the work varied.

“While double-checking the pricing Excels, I have noted inconsistent pricing between the application engineers especially estimating time and cost for the work.” Data 1: Informant 2

Teamwork within the assembly sales team was considered as one of the key strengths. Each quotation and received PO are a result of a teamwork. The assembly sales team is in the same room in the company's premises, so the communication is made easy. Due to the Covid-19 pandemic, the company is working in hybrid model, so it is rare that everybody is at the office same time. Despite, communication is made easy with the Teams.

3.2.4 Quotation Processing

The sales quotation itself is processed in SAP. For the new assembly, part number must be opened to the system. The part number is based on the running number and the HELSI prefix. For the new assembly or a new component, SAP includes various templates depending on the case. Opening a new item requires short description and bill of materials. When the assembly is considered as a basic assembly the bill of material is always done exactly as it is supposed to be. In case of system assemblies, it is often left empty the since bill of material is not

often in its final form when giving the sales quotation and unnecessary work is wanted to be avoided. To analyse assembly sales, certain parameters are set for PowerBI. It allows the managers to see visually how the sales has developed.

With newly opened item can proceed to a sales quotation. Corresponding business partner and a contact person is chosen. The HELSI item is now added to the quotation. In the pricing phase, the lead times were checked, based on that information and future production workload, the application engineer defines the current lead time for the project and manually fills it to corresponding field. At the same time the application engineer copies the calculated price for the project from the Excel calculation and pastes it into the quotation. Since the current process defines that for all assemblies should have a technical specification, the quotation refers to that document. The referring is manually written to the special instructions field.

After finishing all the quotation steps, the application engineer saves the quotation and lets the assembly sales team know about it with a Teams group message. The quotation and all the document related to it must go through another checking round before it can be sent to the customer. Someone from the team checks it and puts his initials to the PTS document when approved. According to corporate policies and interviews the PTS document is not a requirement. Currently it has been used to ensure high quality outcome. When the document was created the purpose of it was considered for the system assemblies. Since the current process carries out both system and basic assemblies, filling the document applies to both. The quotation check list from the PTS document is presented in Figure 5.

Quotation Documents

	Approved by	Date
Quotation number		
Technical Specification		
Drawings checked (if needed for the quotation)		
Packing and Delivery General Packaging Requirements.pdf		
Calculation checked		
HELSI product opened to the system		
Necessary attachments to the quotation		
Quotation stored to the DMS		

Figure 5. PTS quotation documents

Figure 5 presents the PTS document's check list for the sales quotation. Each of the presented steps needs to be filled and approved before sending the sales quotation to the customer. Once sent, the email with attachments needs to be stored to the DMS. Two informants commented the PTS document with following statements:

“The PTS document ensures high quality outcome. It is debatable if such document is needed for the basic assemblies.” Data 1:
Informant 5

“The PTS document is not a requirement from the corporate. However, the system parameters and quotation document must be approved by someone else prior sending the quotation.” Data 1:
Informant 7

Processing the sales quotation in SAP was considered as an advantage compared to case company's previous ERP. Although processing the sales quotation in SAP is more complicated than it was in the previous ERP, it enables better understanding how the customers buy specific products and services with exact part numbers and quantities. It also enables better view for the production.

The person who is making the assembly sales quotation can easily see what the current and future workload is and based on the information define the lead-time for the assembly sales quotation. One of the informants summed up the current situation with following comment:

“We have been using the SAP for a short period of time and now are getting familiar with it and we are aware that there are functions in the systems that has not been utilized as efficiently as could.”

Data 1: Informant 6

During interviews the double-checking phase was discussed and if it is necessary regarding basic assemblies since the basic assemblies are very simple compared to system assemblies where the bill of material has a long list of different components from different manufacturers. One of the informants pointed out following comment:

“There is documentation in many places, and it is difficult to keep track on them.” Data 1: Informant 1

The informants were not aware if there are different checking requirements for the basic assemblies and the policy itself gives a general guideline. Surprisingly, the topic was discussed in distributors’ quality management meeting with other distributors and the message was that all the assembly sales quotations must be checked by someone else. However, jumping between different documents and systems was considered exhausting.

3.2.5 Quotation Delivery

The quotation is sent to the customer via email. SAP is connected to Outlook and since in the quotation processing phase the business partner and contact person is chosen, the SAP gathers the contact information from the contact person and feeds that information for Outlook. New email with contact person’s email in place and the quotation pdf attached. Other necessary documents for the quotation are attached to the email from the project folder.

Most often the assembly sales opportunity is identified by the sales department. The process states, that the person who identified the opportunity should be in the copy field of the email. The sent quotation with the documentation to the customer is stored to the DMS. The quotation is indexed to DMS with a quotation number, HELSI number and dates.

The quotation delivery part of the process did not bring up any alarming weaknesses. Roles and responsibilities are clear and actions to carry out the phase were clear as well. It was reminded in the interview that all customer communication carried out via email should be stored to DMS as well.

Sending the quotation led to a discussion with one of the informants that after sending the sales quotation it should be gone through with the customer. The informant stated following:

“Quotation walkthrough works as first step towards quotation follow-up. It allows to understand customer’s thoughts about the offered solution and in a way commit the customer to make a purchase decision.” Data 1: Informant 4

While it was discussed do the basic assemblies need this step and only system assemblies should go through with the customer According to the informant, all assemblies should be gone through with the customer. However, the quotation walkthrough is not defined in the process and roles and responsibilities are not either defined.

3.2.6 Quotation Follow-up

Whether the sales quotation is related to a single component selling or assembly selling, management team has recently launched a new process, quotation follow-up. The quotation follow-up in assembly sales is included to the current process. Purpose of the quotation follow-up is to ensure that the quotation turns into an order or to understand why the customer did not buy it. Suggested approach to discuss about it is either a phone call or a Teams meeting. The

quotation's status in SAP is either open, closed or cancelled. In terms of open status, the quotation is added to the system and sent to the customer, but customer has not placed order based on the quotation. The sales quotation is typically valid for 14 days. Closed status means that the quotation has turned in to an order and quotation is closed. Cancelled, the quotation has not led to an order and the quotation is closed.

Each employee who is related to sales despite the department, has personal widget in SAP called "My Follow-Up Quotes". The widget indicates the quotations which are no longer valid, and follow-up needs to be carried out. Since the SAP has integrated CRM, activity based on the sales quotation is documented to the system. The documented activity has a reason why the quotation will be closed or why the quotation's valid until date is extended. For extending the valid until date, the sales quotation must be updated, sent to the customer and stored to the DMS. At this phase if the customer wants change something regarding the assembly, the process gets back to the starting point. Each stage is documented and approved before the updated quotation can be sent.

The current process does not clearly point out whose responsibility is to contact the customer regarding quotation follow-up. While it was unclear in the process, it was unclear for the informants as well during interviews. Answers varied from another, and mutual understanding of the responsibility was missing:

"Quotation sender should be the one who makes the quotation follow-up." Data 1: Informant 1

"It has not been clearly defined is it account manager's responsibility who identified the opportunity or the person from the assembly sales team who sent the quotation responsibility to follow-up the sent quotation." Data 1: Informant 4

"Responsibility for the quotation follow-up belongs to the person who identified the opportunity." Data 1: Informant 7

The associate who adds the sales quotation to the SAP and sends it to the customer will have the marking in the "My Follow-Up Quotes" when the sales

quotation is not valid anymore. While the account manager who has been talking with the customer about the customer requirements and passed the information to the assembly sales team does not. The account manager who identified the opportunity is in the copy field of the email but does not have any indicator to remember to contact the customer.

3.2.7 Order Processing

When the customer has placed a purchase order (PO), assembly sales team fills the last page of PTS document which concerns order notes. Once finished the customer service can process the order. For the basic assemblies the BoM is already finished and checked during the quotation phase. The application engineer's job is to make the production documents ready. Such documents are 3D model, drawings and working instructions. The expectation is to finish all the documents right after receiving the PO. In some cases, work must be prioritized since there are other quotation requests waiting. The components regarding the assembly can be purchased before the production documents are finished since the production can start the earliest when component have been received. The customer service confirms the order once the corporate and supplier have confirmed the delivery dates.

During interviews it was noted from two informants that during order processing phase the assembly instruction document is always made manually from beginning.

“We are constantly doing the same production documents all over again.” Data 1: Informant 6

“It is not efficient to do the documents always from beginning” Data 1: Informant 1

However, the identified product lines that are identified as basic assemblies have a similar assembly instructions in order to put assembly together. Also, according to policies, a basic assembly does not require 3D model or drawing, written instruction is enough.

The company does not get many reclamations regarding assembly sales and customers' needs have been answered. One of the informants stated following:

“The assembly sales team clarifies the customer requirements very deeply which has led to a minimal number of reclamations.” Data 1: Informant 5

Informants also pointed out that customers appreciate that they are kept posted of each phase of the process. If during order processing sudden changes have been noticed which affect to the whole assembly, customer is let known of this matter and discussed if for instance a long lead-time is acceptable or if an alternative solution is needed.

3.2.8 Key Performance Indicators

The case company's measurement regarding assemblies is number of quotations and orders and value of the quotations and orders. Both are visualised in Power BI on weekly basis.

The case company's focus is on the continuous development. In order to develop its operations, the company keeps service call records. The service call records keep track of internal and external errors. The service call can be a nonconformance, return or corporate evaluation. Each problem has several subtypes and call types in the subcategories, which is selected based on the most appropriate option each time. The service call can be related to other documents and activities in SAP. The service calls create metrics and analytics for the quality system and continuous improving. Quality manager goes through each service call once a month and shares the summary of the service calls within the company and how the problems were solved.

During interviews it was noted that internal problems occurred in assembly sales were barely listed as service calls. The actions to overcome the problems are often accomplished in a hurry and the changes done are not often documented

as service call. Also, the summary of service calls is shared to the company but are not reviewed in a team to avoid same mistakes in the future.

Informants were aware that providing an assembly sales quotation takes lot of time and they were curious to gain more data about it. However, measuring such data was considered challenging with the current tools.

3.3 Summary of the Findings

The strengths and weaknesses discovered during the current state analysis were listed in Table 3 below. The source column was added to point out where the information came from.

Table 3. Summary of the findings

Strengths	Source
Comprehensive and detailed process	Interview and internal documents
Communication towards customers	Interview
New ERP	Interview
Thorough documentation	Interview
Teamwork within the assembly sales team	Interview
Weaknesses	Source
Agreed matters with customer only available for assembly sales team	Interview and internal documents
The current process is unclear for the sales department	Interview
Inconsistent pricing between application engineers	Interview and internal documents
No valid definition for the quotation walkthrough with the customer	Interview
Unclear responsibilities regarding quotation follow-up	Interview and internal documents
No valid definition who will double check the necessary documentation and where to sign approval	Interview
Lagging service call records	Interview
No data how much time have been spent providing a quotation	Interview
Required but repeatable documentation done manually from beginning	Internal documents
Unnecessary documentation	Interview and internal documents

As shown in Table 3, five strengths and ten weaknesses were identified during the current state analysis. Interestingly, the identified weaknesses are from different phases of the process. The weaknesses are not ranked in any order but can be distributed into categories.

3.4 Key Findings to Elaborate

Table 4 presents the findings of the current state analysis categorized into four categories: Communication, Roles & Responsibilities, Data & Documentation and Strengths. The first two categories are the focus of this study and will be reviewed in the literature section. Data & Documentation was left out of this study since this study would go too wide to carry out within the given time. Still, they are relevant weaknesses that should be solved.

Table 4. Key findings to elaborate

CSA WEAKNESSES	
Communication	Agreed matters with customer only available for assembly sales team
	The current process is unclear for the sales department
	Inconsistent pricing between application engineers
	No valid definition for the quotation walkthrough with the customer
Roles and Responsibilities	Unclear responsibilities regarding quotation follow-up
	Unclear responsibilities regarding quotation follow-up
Data & Documentation	Lagging service call records
	No data how much time have been spent providing a quotation
	Required but repeatable documentation done manually from beginning
	Unnecessary documentation
Strengths	Comprehensive and detailed process
	Communication towards customers
	New ERP
	Thorough documentation
	Teamwork

The first category, communication, includes four weaknesses which is the most between the selected weakness categories. The second category, Roles & Responsibilities include two weaknesses. Improvement recommendations are searched from the relevant academic literature to improve each weakness.

In Section 4, improvement ideas for the selected weaknesses are searched from the relevant academic literature. The literature review is performed with a particular focus on finding improvement ideas that can be applied to the identified weaknesses of the process.

4 Improvement Ideas from Relevant Literature

In Section 3, the findings of the current state analysis were listed and categorized. For this study two categories and their weaknesses were chosen. In this Section, the relevant academic literature was searched and reviewed based on the findings of Section 3. The academic literature forms the conceptual framework of the study.

This section discusses best practices, ideas and existing knowledge related to the findings of the CSA. The weaknesses that were categorized in Section 3 into two categories are Communication and Roles & Responsibilities. The categorized headings have six subheadings to discuss more deeply on the identified weaknesses. Each subsection starts with a description of the relevant idea followed by discussion and importance for the study. The last section summarizes the knowledge drawn from the literature in a visual format, the conceptual framework.

4.1 Communication

Organizations communicate differently with different platforms within and outside of the organization. It is important for the relevant stakeholders to receive and have the needed information to carry out their work. The following four subsections discuss efficient knowledge sharing and transferring, delivering value to the customers with process ownership, engaging the customer with value creation and pricing principles.

4.1.1 Efficient Knowledge Sharing and Transferring

Knowledge and transferring the knowledge play a key role for companies to gain competitive advantage. There is a positive impact on the relationship between sharing the knowledge and utilizing it in the company. Positive relationship between these two factors means it improves the quality of work and at the same time it improves the company's performance. Knowledge transfer between

associates can be defined as the inflow of knowledge from one to another, the person understanding the transferred knowledge and later utilizes the transferred information (Hudcova, 2014: 50-52). When people have the necessary knowledge how to carry out their work, the company has better chances to execute their strategies. However, the tools for the knowledge sharing must be defined in order to knowledge transfer effectively.

Davenport et al. (1998: 45-48) summarizes four broad types of objectives regarding successful knowledge management projects:

1. Set up knowledge archives.
2. Improve knowledge availability.
3. Enhance knowledge environment.
4. Use knowledge as an asset.

Knowledge should be stored in a way that people can retrieve the knowledge from various documents. Storing knowledge to the agreed platform eases the document searching in case of customer refers to an older conversation or agreed matters (Davenport et al., 1998: 44-45). Since the knowledge received in terms of customer case can be an email, phone call, face to face discussion or Teams meeting, depending on the case storing method and platform should be defined.

Since knowledge has to be stored, the people who are involved in the customer case should also have access to the knowledge. In order to transfer knowledge from one person to another, you have to find the person who has the knowledge you need. Accessing the database where the knowledge is stored there is no need to rely on a person's memory. (Davenport et al., 1998: 46-47). Once the knowledge is stored and corresponding people have access to it, there is no need to waste resources trying to find the person with the knowledge. Also accessing the knowledge in these modern days is crucial since different departments of the company may be located around the globe.

Creating an environment that facilitates the creation, transfer and usage of knowledge is considered to be the third objective towards successful knowledge management. When a company puts effort to enhance the knowledge environment, it at the same time improves the company's performance leading to better customer satisfaction. (Davenport et al., 1998: 47). The environment in these days is considered to be technical platform such as document management system or ERP. Davenport et al (1998: 47) also emphasizes the importance of the platform's structure and formality. Structured systems allow the associates easily to dig out the knowledge they are looking for. While the systems allow the fancy way to create, share and use the knowledge, it is crucial to define the search parameters and common rules how to operate the system. Clear understanding where and how to get the needed knowledge shortens much appreciated time and effort spent finding the source of knowledge and leads the associate to the knowledge which improves decision making.

The fourth step towards successful knowledge management is to manage the knowledge as an asset. Knowledge itself does not have monetary value but using the knowledge in an effective way generates more profits or saves expenses for the company or customer (Davenport et al., 1998: 48). With shared knowledge of best practises and projects that did not go as well as planned the associate can easily analyse them and provide knowledge further, leading to a better customer relationship in the future projects.

4.1.2 Delivering Value to the Customers with Process Ownership

The main purpose of the business process is to generate profit for the organization and at the same time it should create value for the customer. While there are also processes which do not generate any profit, it is especially important for the business processes to have defined targets and an objective which should be analysed how they are performing. For this purpose, organisations need to gather feedback from their processes in order to manage and develop them. (Martinsuo and Blomqvist 2010: 1-6).

A process is a chain of activities that adds value to the customer. In order to add value for the customer to reach the desired outcome which matches with customer requirements and the solution the organisation is able to provide, a series of activities that utilizes the company's resources are used. Resources can mean materials, workforce, capacity, capital, tools or knowledge. (Martinsuo and Blomqvist 2010: 1-6). Since the process intent is to add value, it is extremely important that the process is understood within the organization. Added value is not valid if the outcome of the process does not meet with the customer requirements, vice versa it weakens the relationship between the supplier and customer and for the next project the customer may consider other alternatives. In Figure 6 a simplified view of the process is presented.

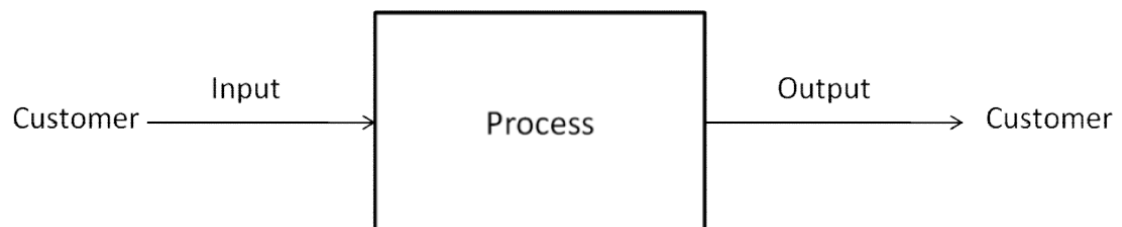


Figure 6. Simplified view of the process (Martinsuo and Blomqvist 2010: 8)

Figure 6 presents the simplified view of the process. It starts with the input from the customer which goes through the company's process and eventually the outcome of the process is delivered to the customer. According to Hammer and Stanton (1999) in order to process work properly, it needs a process owner. A process owner's responsibility is to design the process, validate the performance of the process and transfer the knowledge to the associates who are involved in the process. It is important to regularly talk to the associates related to the process and hear their ideas and concerns about the process. (Hammer and Stanton, 1999: 111). Naturally the process can not be developed if it does not get any feedback. The process may seem good on the screen, but the feedback received from the frontline associates is essential for the process to evolve. In addition, it is process owner's responsibility to maintain and develop the process since the business conditions change and evolve.

Organisations have different departments which operate according to different processes. However sometimes processes overlap each other. Since different business processes have different requirements, it may cause confusion and misunderstanding for the associates who are not on the daily basis used to work for the certain process. According to Hammer and Stanton (1999) collaboration between different process owners has a positive effect on process performance. While the business processes vary from another depending on the department, the purpose is the same: it must generate profit. Since some of the associates are involved in multiple business processes, the process owners from different departments can share their insights on what has been proven to work and what has not. Utilizing best practices and standardizing processes increases an organisation's flexibility to answer customer needs more efficiently. (Hammer and Stanton, 1999: 114-115).

4.1.3 Defining Pricing Principles

The price of the product or service is one of the key elements for the customer to make a purchase decision. Pricing is one of the most challenging tasks for the managers to define. It is easy to give a price for a service but whether the price is attractive for the customer and at a same time is profitable for the organization is a different story. When defining pricing policies, it is important to focus on the process over the outcome. (Dolan, 1995: 174). The outcome is the price, but the process defines the steps needed to take to reach the price. In order to price correctly, a variety of factors must be carefully managed.

There are two qualities regarding successful pricing: marketing strategy and coordinated process. With marketing strategy, the intent is to give a customer the impression that he can easily do business with the company and in return he gets the product or service that matches his need. Since different companies have different pricings strategies, the customer has to consider the added value of the more expensive one. Pricing policies come directly from the marketing strategy. The synergy between pricing and marketing strategy is critical factor for the success. (Dolan, 1995: 174-175).

The second quality factor for successful pricing is coordinated process. There are three factors that should be considered when coordinating a pricing process: objective, all associates understand the objective and motivation to work towards the objective. Without the pricing objective the associate keeps pricing according to their best knowledge. If the common objective is missing, it leads to inconsistent pricing between those associates who are responsible for pricing the service or product. Understanding the coordinated pricing process leads the associates for better performance which can be seen as more profitable sales results. (Dolan, 1995: 175). The sales and profit define how the organization is carrying out their strategy. When the pre-defined targets are met or exceeded the companies often give bonuses to the associates as a reward. Reaching the targets makes the associates feel that they are doing things right and the job is meaningful.

In his study, Dolan (1995: 175-183) has defined eight steps for better pricing.

1. Find out what your customers value about your products or services.
2. Define customer segments.
3. Assess customer's price sensitivity.
4. Determine the optimal pricing structure.
5. Consider competitors' reaction.
6. Monitor prices realized at the transaction level.
7. Evaluate the emotional reaction of customers.
8. Analyse whether the returns are worth cost to serve.

The biggest part of pricing a service is product cost. Since markets keeps evolving and raw materials have been steadily going upwards, the price of the product goes the same way. Pricing managers should not first consider the price, instead they should consider what value the service or product brings for the customer (Dolan, 1995: 175-176). Naturally there are variations between prices in competition, the product or service must bring something extra in order the customer to choose the solution. In other words, differentiate. However, it is

debatable what the customer prefers, quality, price or lead time for instance. In the end, the product or service must match with the customer's challenge.

Dolan (1995) suggests that customers should be segmented, meaning that key customers have a better pricing level than the average prospects. The key customers are the ones who regularly buy products and services from the supplier and the average prospects seldomly. (Dolan, 1995: 176-177). Maintaining the relationship with key customers and to keep business going on, it is important to do so. Naturally, the supplier does not sell the products or services at a loss and in the long run customized pricing has a positive boost to the company's profitability and continuum in the business.

Since a price is the crucial factor for the customer to make the purchase decision but not the only factor, Dolan (1995: 178) has identified three sublevels that are affecting customer's price sensitivity presented in Figure 7.

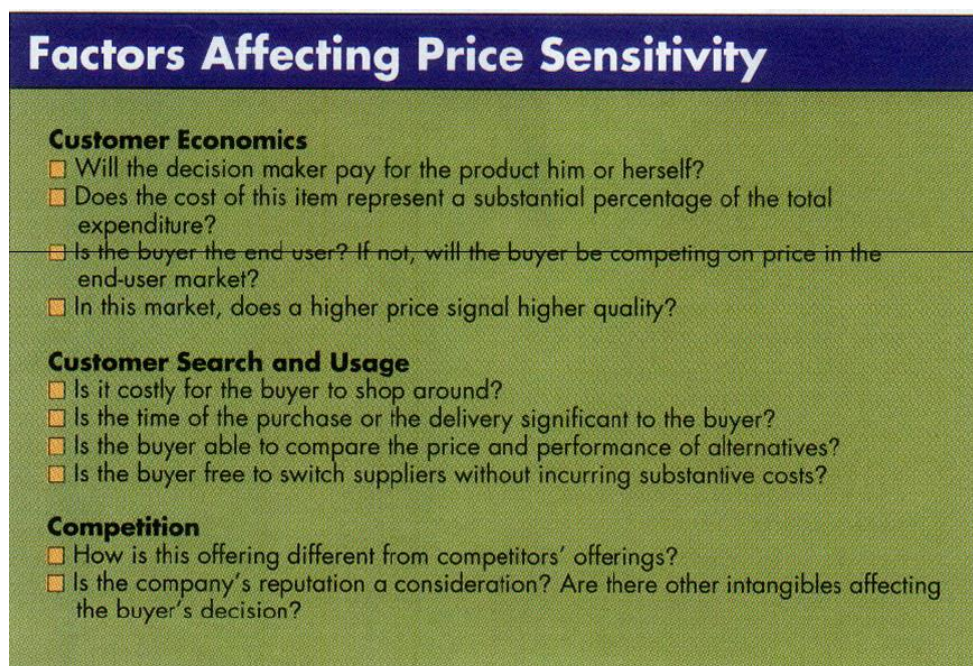


Figure 7. Price sensitivity factors (Dolan, 1995: 178)

Figure 7 presents customer economics, customer search and usage and competition as factors affecting to price sensitivity. Each of the heading has pullet

points that should be considered when defining pricing for the service or product. Customer economics gives pressure for the pricing if the needed service or product has significant total value in customer's project. Customer search and usage determines can the customer easily view and compare prices and availability of the product or service. On some occasion price is not seen as the primary factor for customer to make a purchase decision, instead getting the product or service is more important. Lastly if the product or service do not differentiate from the competitors' offerings, it has a negative impact on the sales. (Dolan, 1995: 178).

There are two important issues regarding to optimal pricing structure: quantity discounts and bundle pricing. Quantity discounts are often noted in manufacturing business. Producing a single unit versus multiple units, the unit price for the larger quantities is cheaper. Bundle pricing is used to give the service a fixed price which includes the agreed matters. (Dolan, 1995: 180-181). Combining these two factors is important to increase the volumes sold. The customer gets the products or services with better prices and the supplier sales and profits increase.

Pricing also should have a competitive perspective. When defining pricing for a certain service or product, the competitor's possible reaction should be considered and an action plan to answer the competitor's response. To remain competitive, the organization should also consider how the new price affects the industry's profitability. (Dolan, 1995: 180-181).

According to Dolan (1995) organizations should analyse the realised prices at the transaction level. While there may be one list price for a certain product or service, depending on the segmentation the price may vary. The revenue earned from the sales may have influenced returns, damage claim or the customer may have special requirements how to handle their orders. (Dolan, 1995: 181-182). The realized price should be analysed afterwards, in order to remain profitable and not losing market shares.

It is critical to understand what the customers think about the prices in a long term and short term as well. Every sale made creates an image how the customer thinks and talks about the organization. Considering if the customers think the price of the service is overpriced, the message that they send forward to the potential customers has a negative impact on the business (Dolan, 1995: 182). That's why it is crucial to go through the quotation with the customer to explain the content of the quotation and which factors makes the overall price.

As mentioned earlier, pricing is a very important element for the customers and for the suppliers. Some of the customers are big organizations with massive requirements such as special customized products, just in time delivery and small order quantities. On top of that they are often pushing to get to the better pricing level and requiring discounts. For those accounts the cost to serve gets bigger and organizations are losing money on them. (Dolan, 1995: 182). It is important that organizations find a pricing level for each account to match their needs. Balancing between the cost to serve and price received is not an easy task, but something to consider when defining the pricing level for specific customer. Figure 8 presents the ideal situation of the cost to serve, and price received. If the requirements from the customer side are challenging and require a lot to carry out, the price for it should be according to that.

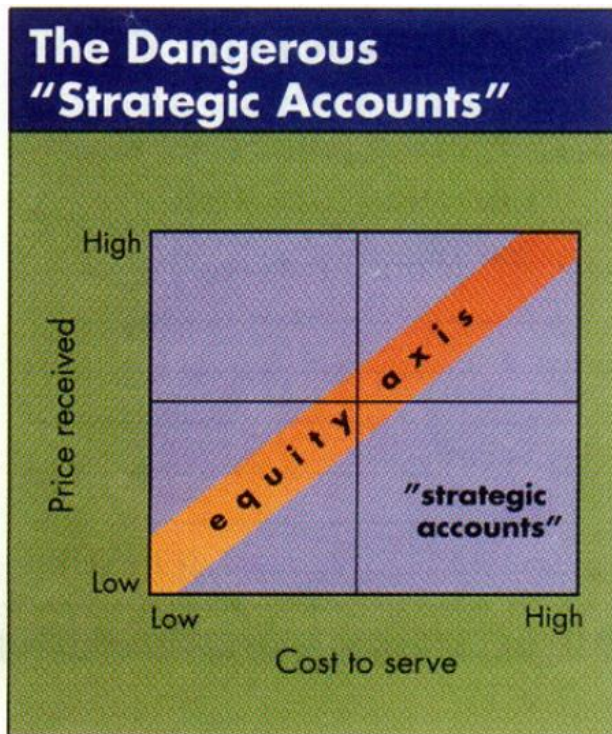


Figure 8. The dangerous "strategic accounts" (Dolan, 1995: 182)

According to Doolan (2015) if the work is done always the same way, the fixed fee should be applied. The fixed fee approach can be applied if the requirement for the work is known in advance and there is no room for surprises. Such services are often rather simple. In comparison for the larger projects, some of the steps to carry out during the quotation stage may be unclear, therefore budget price type of approach is justified. (Doolan 2015: 12-20). Naturally for the larger quantity projects where the fixed fee for the work is applied, the pricing associate should consider volume discounts and in which customer segment customer has been placed in order to reach better pricing yet remaining competitive.

4.1.4 Engaging Customer with Value Creation

Through the development of effective relationships with key customers and customer segments, CRM is a cross-functional, strategic approach for adding value to shareholders. It typically involves identifying appropriate relationships with key customers and customer segments, acquiring and sharing the knowledge of the customers and with effective use of data gathered leading to a

superior customer experience. (Payne and Frow, 2013: 26). Naturally understanding the customers and their needs creates value to both stakeholders. With common understanding how each stakeholder benefit from another strengthens the relationship and engages them to do business together in the future.

In order to increase customer satisfaction and maintain a good relationship with the customer, it is important to understand the customer and competitors, using the knowledge proactively (Payne and Frow, 2013: 26). Naturally there is competition in every business, and it is crucial for the organisations to understand what the customer values. A proactive customer-centric approach helps the supplier where they stand in the market and works as a step towards a better customer relationship. Whether the information received is good or bad feedback, it is still valuable since the company can analyse the information and do better in that section in future.

According to Stein and Andersen (2016) there are four points to bring to the customer dialogues: discovery, positioning, alignment, and differentiation. With discovery, the aim is to understand customer needs and challenges, alignment makes the connection between the organisation and the customer and positioning the offered service/product matches with the need of the customer. The combination of these three is differentiation (Stein and Andersen, 2016). Naturally in business it is crucial to differentiate from competitors. Explaining these factors to the customer raises the opportunity to engage the customer with the offered solution. While the offered solution is thoroughly explained and possible questions or concerns answered, the customer feels more comfortable knowing the content and at same time the organization receives more information from the customer

4.2 Roles & Responsibilities

Roles and responsibilities are important to be defined in order for the company to operate effectively according to their processes. The following subsection

introduces the RACI- matrix and how it helps organisations to define roles and responsibilities in individual level.

4.2.1 RACI- matrix

RACI- matrix is used for defining roles and responsibilities for individuals in visualized form. RACI stands for responsible, accountable, consulted and informed. Responsible associate can be defined how deeply he is involved to specified activity. If he is mainly working on it, he is defined responsible. Accountable associate has the authority over the activity and there should be only one associate defined as accountable. However, the person who is defined as responsible can also be defined as accountable. Consulted is the associate who has the expertise on the activity. He is consulted prior the activity can move forward. Lastly informed associate is let known when the activity moves forward. The activity does not need an evaluation or feedback from the informed associate. Informed can be multiple associates. (Jacka and Keller, 2009: 234). The RACI model should be used in advance to plan everyone's roles and responsibilities as the time comes for the project, so everyone knows their roles and responsibilities in order to accomplish tasks. (Haworth, nd). Figure 9 presents the RACI- matrix template.

Project tasks	Role 1	Role 2	Role 3	Role 4	Role 5	Role 6	Role 7	Role 8	Role 9	Role 10
Phase										
Task / Deliverable										
Task / Deliverable										
Phase										
Task / Deliverable										
Task / Deliverable										
Task / Deliverable										
Task / Deliverable										
Phase										
Task / Deliverable										
Task / Deliverable										
Task / Deliverable										

R	Responsible
A	Accountable
C	Consulted
I	Informed

Figure 9. RACI- matrix template (Haworth, nd).

Figure 9 presents the RACI- matrix. On the left side of the matrix tasks/deliverables are described under a certain work phase. For the individual task, certain associate is set. Based on task and role of the associate, task is ranked according to responsible, accountable, consulted or informed.

4.3 Conceptual Framework

In this section improvement ideas from the relevant literature were discussed. Figure 10 presents the conceptual framework of the study in visualized form.

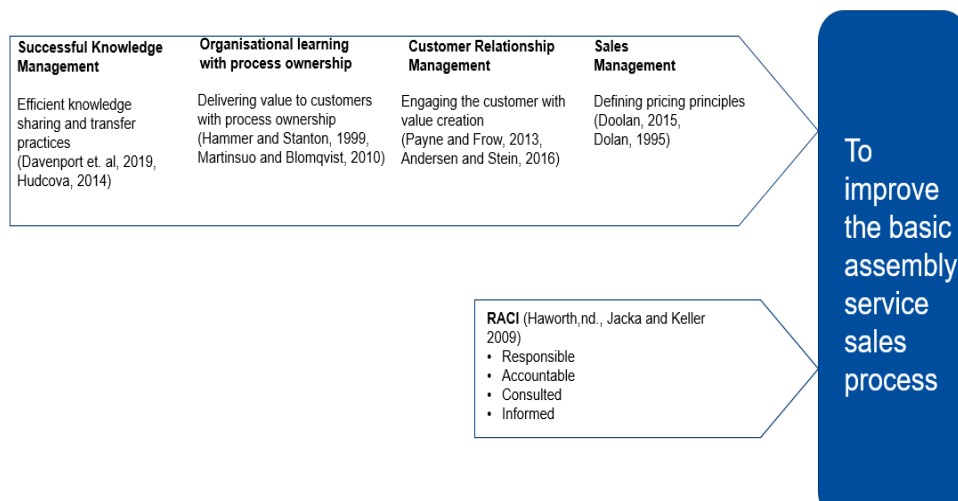


Figure 10. Conceptual framework of the study

As shown in Figure 10, the conceptual framework is divided into two categories based on the findings of the current state analysis. Communication category includes best practices and ideas regarding sharing and transferring knowledge efficiently, delivering value with process ownership, engaging the customer with value creation and defining pricing principles. Roles and responsibilities include the RACI- matrix where tasks and related stakeholders are listed. Based on task and role of the associate, task is ranked according to responsible, accountable, consulted or informed.

In Section 5, the conceptual framework is utilized for co-creating initial improvement recommendations to the basic assembly service sales process. The

conceptual framework is utilized to answer the weaknesses discovered in the current state analysis, while at the same time utilizing the discovered strengths. Together with the conceptual framework and discovered strengths, the key stakeholders co-create the improvement recommendations to answer the discovered weaknesses.

5 Co-creating Improvement Recommendations

This section describes the co-creation of the improvement recommendations to the basic assembly service sales process. In order to co-create the recommendations, a workshop and one-to-one interview were carried out. The combination of the findings from the current state analysis and conceptual framework forms the foundation for the initial improvement recommendations for this study. This section includes overview of this data stage and summaries of the improvement recommendations with detailed description.

5.1 Overview of Co-creating Improvement Recommendations Stage

The initial improvement recommendations were co-created in a workshop and individual stakeholder interview. To enrich the conversation and crystallize the purpose of the study, the structure of this study was explained to the informants including business challenge, objective, current state analysis and conceptual framework. The objective of this study was to propose improvement recommendations to the basic assembly service sales process and in order to get there, process was analysed to discover current strengths and weaknesses and with that data, academic literature was searched to answer the discovered weaknesses. After introducing the study, the discovered weaknesses were shown to the informants to be discussed one weakness at a time.

Discussion of each weakness category was carried out in the workshop and further discussion was continued in one-to-one interview. Co-creating the initial improvement recommendations included discussion and arguments. The informants chosen to the workshop, were those associates who are primarily related to the weaknesses and since the process concerns them the most, the discussions were active and rich. The informants were application engineer, field engineer and process owner.

The workshop and one-to-one interview were held at the case company's premises. Each meeting was recorded and transcribed after the meeting. After

analysing the recordings, the results were documented. To follow the same logic as the study has demonstrated, the initial improvement recommendations were categorized according to corresponding categories.

5.2 Description of the Recommendations Creation

The following five subsections describe the co-creation of the initial recommendations in detail. The initial improvement recommendations are based on the data collection from workshop and individual interview.

5.2.1 Recommendations for Knowledge Sharing and Transferring

During the workshop it was discussed that all account managers should have access to the database where the agreed matters with a customer has been documented. Since the current way of documenting customer communication does not allow the account managers to see this, it is rather difficult for them to improve their sales records and keep up with agreed matters regarding basic assembly sales. Although if the account managers have access to the PTS Word document where each agreed matter is listed, there is a possibility that they don't know how to search the specific document. Secondly the document is Microsoft Word based and it is editable.

“Reason why the account managers do not have access to the assembly document folder is purely because we do not want the documents to be mixed up. Although the management team is aware of this problem and common platform for both departments should be defined.” Data 2: Informant 3

It is a valid point. The knowledge that the assembly sales team holds by themselves does not benefit the account managers. To maximize the knowledge how the customers behave and what they value and to synergize the collaboration between account managers and assembly sales team it was suggested to have a standardized platform for sharing and transferring knowledge.

“It would be beneficial for the sales department and assembly sales department to have standardized way of sharing and transferring knowledge.” Data 2: Informant 1

The case company is currently using SAP for its daily business operations. The platform includes CRM function which is being used to document phone calls and meeting discussion and follow up actions for those. The CRM function is familiar for all the sales associates regardless of the department they are working on. Since the CRM is familiar, the transition from the Word document to SAP’s CRM would not require hours of training and learning something new, instead it is more of a mindset change. While the account managers have been using the CRM since the day the case company started to use SAP, the parameters for finding certain phone calls or meeting summary are already in place. Regardless of the sales department, the activities, outbound or inbound should be concentrated to the one specific place where all the stakeholders have access, and they can easily find what they are looking for.

During the workshop it was also recognized that one way to increase the knowledge within both sales departments is to bring up strategically important customer cases into the weekly sales meeting. It enables more interactive conversations with the management and account managers than just reading from the CRM.

5.2.2 Recommendations for Process Ownership

During the workshop the process ownership was discussed. Discussion was steered towards account managers’ actions and how they communicate possible opportunity to sell assemblies instead of component selling. During the workshop one of the informants noted:

“I don’t think account managers fully understand our capabilities. It may put the account manager into difficult situation if something has been promised but in reality, it is not possible to make happen.”
Data 2: Informant 2

The workshop co-created two initial recommendations regarding process ownership. Firstly, the account managers need more training regarding case company's capabilities. The case company want to be seen as a trusted partner to its customers and that heavily counts on professionalism of those associates who are mainly in touch with the customers.

“The corporate policies define how our process is built. The associates who are involved to the process should be frequently trained.” Data 2: Informant 3

The second initial recommendation idea was also related to training but in the point of view of the process. All the associates should be frequently trained, not just the account managers but the associates who are full time working with the process related activities. The workshop group noted that if both departments have sufficient understanding of the process, the job becomes more pleasant, and the end result is what customer expects or even exceeded. Some of the account managers are new in their position so naturally they do not know all the detail in the process. It is especially important for them to have a proper training in order them to suggest assembly solutions for the customers.

Since the case company's process are tightly linked to the corporate policies and the policies change at least once a year, it is extremely important to keep the associates up to date of the changes. The changes naturally require training before associates can start acting according to it. The workshop informants were aware of this, and they felt they have been informed sufficiently. However, the workshop proposed recommendation idea to involve the account managers to the training sessions and their feedback regarding the process and changes would be highly appreciated.

“Feedback is a crucial factor in terms of continuous development where we are heading. It is difficult develop the process if no one brings up development ideas.” Data 2: Informant 3

After the workshop, the process was discussed individually with one of the informants. The discussion's aim was to reveal how to utilize other sales and service centers around the globe in terms of process ownership and development and how their collaboration between different departments work. The informant suggested following:

“We could utilize the intranet. Corporate and other sales and service associates have access there and you can ask questions in the discussion boards.” Data 2: Informant 3

In general, the discussion boards are active. Questions may be asked or older discussions read, and best practices shared. Since the corporate policies are the same for all the sales and service centers, there must be something that the case company can utilize and vice versa.

5.2.3 Recommendations for Pricing

During the workshop, pricing a basic assembly was widely discussed. To decide a price for the basic assembly, various of matters should be considered. The workshop started with defining the objective for pricing.

“Services is one of our biggest focus points in our strategy. The objective is to reach strategic sales targets and pricing plays key element there.” Data 2: Informant 3

Clearly the objective in the case company is to follow the strategy and the strategy should be always considered when defining the pricing for the basic assemblies and more importantly the objective should be understood among the associates. As the associates are working towards common goal, the success in sales becomes meaningful and atmosphere is positive, things are done correctly.

The workshop continued to discuss how the customers sees the case company's products. The answer was very straightforward, the products that the case company offers are industry leading components in quality and availability. The

workshop informants also noted that the components are easy to install. The components are highly appreciated and known in the industry.

“Combining quality products, certified technician and assembly service puts us to the good position in the market.” Data 2:
Informant 1

The workshop discussed about different pricing levels between customers. The case company has already segmented its customers to different pricing lists based on their yearly purchases, future needs and potential. Basic assembly's price is calculated based on the corresponding price list. However, if the customer is subcontractor and is working with the strategic customer of the case company, the SAP's calculation does not realize it and tries to give wrong price list.

“For the subcontractors who are working with our strategic customers, the calculation must be done in Excel in order to get correct price list for them.” Data 2: Informant 3

The workshop continued to discuss about price sensitivity factors. Informants were aware that the offered components are one of the most expensive ones in the industry. The informants considered that the case company cannot compete with prices but in quality, availability and customer service. The competitors have similar products which may look outside the same, but in terms of quality the case company has a competitive advantage. While the competitors offer similar components, they do not offer the assembly service. The competitors were considered to be subcontractors, who are not end users but manufactures the assemblies for the end customer. Often such subcontractors do more than just the assembly in customers' premises, which in the point of view of the case company is out of scope. The reason why the case company expects the salesmen to go through the quotations with the customer is to get the insights from the customer what they value the most.

“The question how much the customer is ready to pay for the service is unknown.” Data 2: Informant 3

The case company buys products from the corporate company. The corporate has set prices for the component, and it is the case company's decision makers responsibility to decide how much they want profit out of it. Since there are multiple product lines, there are also multiple volume discount categories. During the workshop it was highly suggested that the basic assemblies should have a fixed fee regarding the assembly time. Since the identified basic assemblies are always assembled same way, the fixed fee is justified to use. The possible discounts should be applied when the customer is strategically important and volumes for the components allow to lower the expenses.

“In a single off case the standardized fixed price for the work is justified. But when the customer is strategically important and volumes high, assembling basic assemblies in series is faster. Therefore, the assembly time can be less and at a same time volume discounts can be applied.” Data 2: Informant 3

The workshop briefly discussed about competitors' reaction to price changes. The workshop recognized that the case company cannot affect to price changes since the corporate company is the one who manufactures the components, and the case company buys them and wants a certain sales margin. The sales and service centers are let known of the price changes in advance which leaves preparation time for the account managers to go this through with the customers. Since a major part of basic assembly's price consists of corporate manufactured components and rest is work, it is extremely important to communicate this to the customer with proper reasoning why the prices change. Especially if the assembly is repeatably ordered.

The prices realized in transaction level was highly liked idea to understand and see how many of the quoted basic assemblies turned out to be orders and did they include some unexpected costs. The workshop informants considered this to be done prior deciding a fixed fee for the identified basic assemblies. Informants agreed that there are not many of cases where internal or external problems occurred at least what they have heard of, but they strongly suggested to analyse prices realized in transaction level. One of the informants noted:

“The calculation for the work is theoretical, I am not sure if the estimated time matched with the realized time in production.” Data 2: Informant 2

Regarding estimated time and realized time, the workshop informants recommendation was to ask feedback on the technician how much time he spends assembling certain basic assembly.

The workshop informants discussed what the customers expect from the case company in terms of assembly service since the components used in these assemblies are one of the most expensive ones in the industry but at the same time the components are high quality. To avoid the situation where the customer thinks the service is overpriced and sending the negative message to potential future customers, the workshop strongly suggests going through the quotation with the customer and give detailed information how the total price for the basic assembly is formed.

Since some of the customers who are defined as strategic customers have better pricing lists, but they also have more requirements than the others. In terms of pricing, the component prices are already in the system, but total price of the assembly should be defined according to requirements of the strategic customer. The workshop noted that often the tough requirements are related to the system assemblies, which in this study is out of scope.

5.2.4 Recommendations for Quotation Walkthrough

The workshop continued to discuss about going through the quotation with the customer. At a beginning of the workshop one of the informants noted:

“We have been going through the content of quotation in terms of system assemblies, but not so much for the basic assemblies.” Data 2: Informant 1

It was argued is it necessary to go through the quotation when it concerns basic assemblies. Although the basic assemblies are not complicated as the system

assemblies are, the discussion focus should not be only technical aspect but to understand how the customer thinks about the price, delivery time, are they comparing different suppliers' quotations and other relevant data that benefits the case company to improve their work. It does not only benefit the case company but also the customer. The customer understands the content of the quotation and does it solve the problem. The informants commented the benefits of going through the quotation with following statements:

“If we don't go through the quotation, we don't know what the thinking about the quotation and the company.” Data 2: Informant 3

“Quotation walkthrough helps us to understand the industry better and we get more info out of the customers and what they value.”
Data 2: Informant 2

“Quotation walkthrough adds values to the customer, since we can detailly show how the offered solution solves customer's problem”.
Data 2: Informant 1

The workshop noted that going through the quotation is highly linked to defining pricing for basic assemblies and not just pricing, it helps the case company to understand where they stand in terms of competition. It may appear that basic assemblies are not complicated assemblies for the case company, since the associates are on daily basis working with them. However, the assemblies may be complicated for the customer who has not been dealing with such assemblies before. Therefore, the workshop noted that it is extremely important to go through the sales quotation with the customer.

The workshop agreed that the customer and the case company both benefit from this. The recommendation idea to improve this section is to define it as mandatory task to the quotation delivery phase of the process.

5.2.5 Recommendations for Roles & Responsibilities

The workshop was introduced with RACI- matrix. The RACI- matrix was not familiar to the workshop informants, but the concept sounded promising to them.

The workshop filled the steps according to process but only regarding the discovered weaknesses from CSA. The filled RACI- matrix is presented in Figure 11.

<h3>RACI Matrix</h3> <p>Basic Assembly Service Sales Process</p>		<h3>Roles and Responsibilities</h3> <p>Responsible, Accountable, Consulted, Informed</p>												
		ROLES				Name or Role								
		Application Engineer 1	Field Engineer	Technical Development Manager		Sales Manager	Account Manager 1	Account Manager 2	Account Manager 3	Customer 1	Customer 2	Customer 3	Customer 4	Customer 5
Deliverable or Task	Status	Assembly Sales Team				Sales Team			External					
Quotation Processing														
Open the assembly item to the SAP		R				I	A							
Calculate price with SAP		R					A							
Fill the background information		R					A							
Add sales quotation to the SAP		R				I	A							
Inform the associates that the sales quotation and documents are ready to be checked		R	I	I	I	I	A							
Check BOM, calculation and background information		A	R			I	A							
Inform the person who has added the quotation to the SAP that documents are approved		A	R	I	I	I	I							
Quotation Delivery														
Send the sales quotation to the customer		R					I			I				
Save the sent email and attachments to the DMS		R												
Go through the content of the sales quotation with the customer		R				I				I				
Document the outcome of the quotation walkthrough to the CRM		R				I								
Quotation Follow-Up														
Check the status of the quotation		R					I			I				
Update/close the quotation		R					I			I				

Figure 11. RACI- matrix for the identified weaknesses

Figure 11 presents the RACI-matrix filled by the Data 2 informants. The main tasks related to quotation processing, quotation delivery and quotation follow-up were listed. In addition, the workshop informants included the quotation walkthrough as one of the steps for the quotation delivery. As expected, most of the responsible tasks falls for the application engineer and the account manager is accountable that the work is done. Consultancy was not needed during quotation processing, quotation delivery or quotation follow-up phases. Consulted actions were considered to be needed when defining corresponding component selection. The workshop informants discussed widely around whose responsibility is to carry out the quotation follow-up.

“Quotation follow-up should be defined based on the type of an assembly we are dealing with. In case of a basic assembly, the account managers are capable to carry out the follow-up but for the complicated system assemblies the application engineer should do it.” Data 2: Informant 3

So far, the application engineer has prepared all the documents for the sales quotation and once approved by someone from the assembly sales team, the application engineer sends the quotation and puts the account manager to the copy field of an email. The workshop discussed a lot around this topic since if the application engineer sends the quotation, the SAP automatically sets a task for the application engineer to carry out the follow-up after certain period of time. Since there is conflict between the argument that account manager's responsibility is to carry out the follow-up and system says the application should do it, the workshop proposed that the quotation sender should be the one who contacts the customer if the quotation has not turned into order. Otherwise, it would require a manual clicking in multiple different places in SAP to get the follow-up task for the account manager. Although, the account manager is not doing the follow-up, he should be informed when the quotation is being sent.

Since the initial improvement recommendation for the pricing was that the calculation is done within SAP and the basic assemblies do not require PTS document or technical specification, however the background information received from the customer should be mentioned somewhere and a responsible associate to be defined to approve the quotation. Since if the pricing activity is moved from Excel to SAP, the workshop proposed to have the background information also in the SAP. The background information for the basic assemblies would be pressure, temperature, media, quoted by and approved by. SAP has a function for this which is called Opening and Closing Remarks, where the background information text can be saved as predefined text and fill according to customer's application information. All the informants considered this to be beneficial and one of them noted:

“When the information is concentrated into one place, there is no need to jump between documents” Data 2: Informant 2

While the proposal for the place where the necessary information should be was clear, the workshop informants discussed who has the authority to approve the assembly. One of the informants suggested following:

“The corporate has certification program for assembling different types of component and services as well. The person who can approve the quotation should have corresponding course accomplished” Data 2: Informant 1

The workshop informants considered this to be beneficial since the certification program gives a proper understanding for certain product or service. The certification program courses can be done within the corporate’s intranet, so there is no need to go physically to the training session. The recommendation for the associates who can approve basic assembly quotations were suggested to be from the assembly sales team.

5.3 Summaries of the Initial Improvement Recommendations

Figure 12 presents the co-created initial improvement recommendations regarding communication.

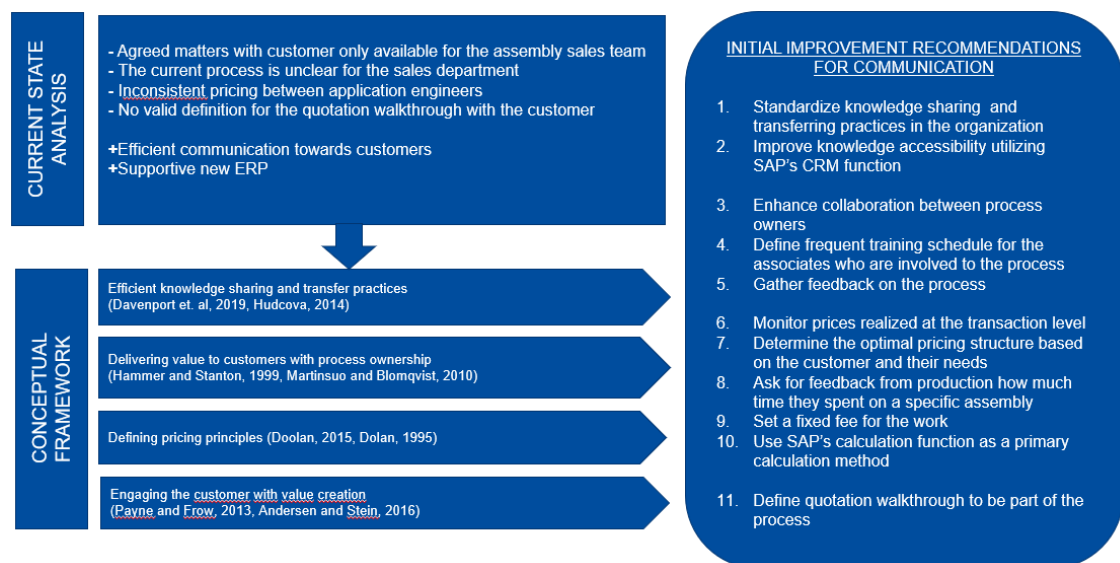


Figure 12. Initial improvement recommendations for Communication

As seen in Figure 12, out of four identified weaknesses, the workshop managed to co-create 11 improvement recommendations to the communication. With the weakness number one, the workshop co-created two recommendation proposals. Standardizing knowledge sharing and transferring practices in organization and improving knowledge accessibility utilizing SAP’s CRM function.

Since the sales department already uses the SAP's CRM for keeping track of customer communication, it would be natural if the assembly sales team would do so as well. With the previous ERP this was not possible. Also concentrating the customer communication into one place eases the navigation when trying to find specific information.

For the second weakness, the workshop co-created three improvement recommendations: enhance collaboration between process owners, define frequent training schedule for the associates involved to the process and gather feedback. Each one of the proposed improvement recommendations aims for understanding the process, maintain the understanding the process and continuously develop the process. Also, understanding the company's capabilities was included to the process training.

For the third weakness, the workshop co-created five improvement recommendations: monitor prices realized at the transaction level, determine the optimal pricing structure, ask for feedback from the production how much time they spent on a specific assembly, use SAP's calculation as a primary calculation method and set a fixed fee on the work. Together they form a chain of actions and the outcome of it is fixed fee for the work.

For the fourth weakness, the workshop co-created one improvement recommendation: define the quotation walkthrough as a mandatory task to the quotation delivery phase of the process. The proposal also has a perspective of understanding the customer pricing sensitivity but also engaging the customer to do business with the company.

Figure 13 presents the co-created initial improvement recommendations regarding communication.

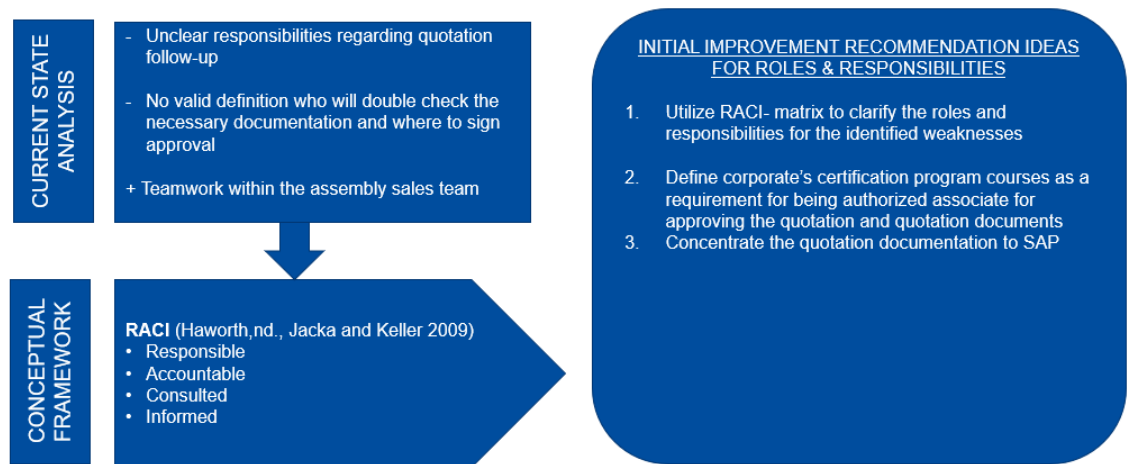


Figure 13. Initial improvement recommendations for Roles & Responsibilities

As seen in Figure 13, out of two identified weaknesses the workshop co-created three initial improvement recommendations. The workshop proposed to utilize the RACI- matrix to clarify roles and responsibilities for the identified weaknesses and filled the matrix. In order to approve the sales quotation, the workshop proposed to accomplish certain corporate's certification program courses. With accomplished courses, the associate is authorized to approve the sales quotation regarding basic assemblies. While the workshop proposed to concentrate the pricing calculation and customer communication to SAP, the workshop proposed to have customer's application's background information listed to the sales quotation.

The initial improvement recommendations were successfully made. The workshop informants were active and eager to find improvement recommendations to the current process. 14 initial improvement recommendations were co-created to answer the discovered weaknesses from the current state analysis. The feedback stage on the initial improvement recommendations is presented in Section 6.

6 Feedback on the Initial Improvement Recommendations

Section 6 describes the feedback received and adjustments made to the co-created initial improvement recommendations. Section 6 gives the overview of this data stage in general level. Then the feedback of the initial recommendation ideas is presented and finally the final recommendation with adjustments is described.

6.1 Overview of the Feedback Stage

The feedback of the initial recommendation ideas was carried out presenting the recommendation ideas to Data 1 informants. Data 1 informants were chosen since they are highly involved to the process and some of the informants are in managerial positions. The presentation was presented in the case company's premises and the feedback received was mainly from the managers. Some of the informants were working from home and to make possible for them to join the meeting, Teams meeting was arranged alongside with the actual meeting.

The feedback stage was started with introducing the structure of the study starting with the business challenge, the objective and the outcome of the study. The findings of the current state analysis were introduced with explanation why certain discovered weaknesses were left out of the study. Followed by the current state analysis literature review was introduced and lastly the co-created initial improvement recommendations based on the CSA and literature reviews was introduced. Since the findings were categorized into two separate categories, they were individually discussed. The feedback stage was recorded for the same purpose as the other Data stages, to fully focus on the actual meeting and immediately after meeting transcribe it. Based on the feedback received on Data 3, the initial improvement recommendations were adjusted. The adjusted recommendations form the final recommendations for this study.

6.2 Feedback Received on the Initial Improvement Recommendations

The feedback received after presenting the co-created improvement recommendations were positive. Especially the presenting the study stage by stage was recognized since the informants noticed the logic and importance of the study. One of the informants complimented the study with following comment:

“I have to give you credit for doing this. Taking us to be part of this study has put our minds to focus on the challenges we are facing.”

Data 3: Informant 7

Sharing and transferring the knowledge was discussed in detail. The recommendation idea to standardize the knowledge sharing and transferring practises in the case company was mutually approved but moving the customer communication from PTS document to SAP’s CRM did not receive support. The informant grounded the reasoning why it is not accepted with following statement:

“SAP’s CRM does not benefit us we planned it would. Due to this reason, we are not changing the way we are sharing and transferring knowledge since the whole CRM function is going to change as we change the platform.” Data 3: Informant 6

The management has realized that the SAP’s integrated CRM does not serve the purpose as they expected when the SAP was taken to use. Due to this reason, management is looking for other CRM platform to replace the current one and has already identified one potential platform, which at the same time serves customer relationship management, marketing functions and websites. The informants agreed that all the departments should document phone call and meetings in the same manner, but since the whole CRM platform is going to change completely it was considered to be unnecessary to develop SAP’s CRM function regarding basic assemblies. However, the standardized way of sharing and transferring knowledge was strongly supported and should be considered for the new CRM.

The process ownership was next discussed. The co-created recommendations were to enhance the collaboration between process owners, define a frequent

training schedule for the associates who are involved to the process and gather feedback on the process. Mainly the recommendation ideas were approved as they were but instead of just frequent training of the current process, the adjustment was to train the associates also when the corporate policy changes. One of the informants noted:

“The corporate policies change once a year and our processes are built on them. It is extremely important to keep all the associate up to date of the changes.” Data 3: Informant 6

Frequency of the training was also discussed since the co-created initial recommendation idea did not describe it. At least for the changes in the policy requires once a year training but to maintain the understanding of the process and its requirements should be reminded and trained frequently. The level of frequency was not determined, but ideas were raised:

“The process training can take place during weekly sales meeting. It does not have to occur on weekly basis, but it is good place to remind and train the process related associates since they are all in the meeting.” Data 3: Informant 6

Co-created recommendations related to pricing were highly appreciated. Going through the old orders in transaction level was considered very important in order to understand if there have been unexpected or hidden costs. Other thing that the informants liked was to participate the technician to be part of the pricing process. The technician is the one who puts the assembly together, therefore he has the best knowledge how much time was spent on a specific assembly. While the costs and time defined in production in place, the recommendation idea is to set a fixed for the work. The informants agreed that in case of a strategic customer and large quantities, the discount volumes can be applied and working with series of same basic assemblies is more cost-efficient than working with a single unit. Also, replacing the Excel calculator with SAP’s calculation was approved.

Co-created recommendation going through the quotation content with customer was considered very important stage, since it has major benefits for the customer and for the case company. The initial improvement recommendation to define the

quotation walkthrough as a mandatory task to the quotation delivery phase of the process was approved.

The concept of RACI- matrix was introduced to the informants during the presentation. The RACI- matrix was a new concept for those who were not part of co-creating the initial recommendation proposal. The co-created recommendation idea was to utilize the RACI- matrix to clarify the roles and responsibilities for the identified weaknesses. The RACI- matrix was filled based on the uncertain responsibilities during Data 2 and introduced to feedback informants. The informants agreed on the filled matrix but a need for the matrix was questioned:

“How does this benefit us to do better in the future?” Data 3:
Informant 7

It is a solid question and the informants discussed about it. Most of the informants considered this to be beneficial for example to add it to the process as a quick look. If the associate is new in the company, he can quickly look the task and who is responsible to carry out the task and who should be informed. Once explained the importance and relevance of the RACI- matrix the proposal was agreed. In addition, since the RACI- matrix was filled based on the weaknesses, it was suggested that the RACI- matrix should be filled to cover the whole process and pilot it firstly on the basic assembly sales process and if proven to work, then apply to the other processes as well.

Since the roles and responsibilities were approved as they were, separate matter related to approving the quotation and where to sign approval was discussed. The recommendation idea was to define corporate's certification program courses as a requirement for being an authorized associate for approving the quotation and quotation documents. Since the recommendations steer to concentrate the sales activities to the SAP, the background information from customer's application was proposed to put there as well. All the informants considered this to be useful and logical.

6.3 Summary of the Final Recommendations

The feedback received and adjustments made to initial recommendation ideas are presented in Table 5 below.

Table 5. Changes made to the initial recommendations

CHANGES MADE TO THE INITIAL RECOMMENDATIONS		
Category	Initial Recommendation	Final
Communication	Improve knowledge accessibility utilizing SAP's CRM function	A new CRM platform coming up. SAP's CRM function will not be developed further.
	Define frequent training schedule for the associates who are involved to the process	Frequent training to maintain the understanding of the process and when the process changes
Roles & Responsibilities	Utilize RACI- matrix to clarify the roles and responsibilities for the identified weaknesses	Utilize the RACI- matrix to cover the whole process

As seen in Table 5, the first recommendation idea was not approved, since the company has identified that the current CRM does not serve its purpose as hoped and an alternative option is under a review. For the second recommendation adjustment was made to clarify when the training is needed. For the third initial recommendation idea was to cover the whole process with RACI- matrix instead of only with the identified weaknesses.

Table 6 summarizes the final recommendation ideas. Adjusted and changed initial recommendation ideas are presented in Table 5 and included to the final recommendations in Table 6.

Table 6. Summary of the final recommendations

SUMMARY OF THE FINAL RECOMMENDATIONS	
Category	Initial Recommendation Idea
Communication	Standardize knowledge sharing and transferring practices in the organization
	Enhance collaboration between process owners
	Define frequent training schedule for the associates who are involved to the process
	Gather feedback on the process
	Monitor prices realized at the transaction level
	Determine the optimal pricing structure based on the customer and their needs
	Ask for feedback from production how much time they spent on a specific assembly
	Set a fixed fee for the work
	Use SAP's calculation function as a primary calculation method
	Define quotation walkthrough to be part of the process
	Define quotation walkthrough to be part of the process
Roles & Responsibilities	Utilize RACI- matrix to clarify the roles and responsibilities for the whole process
	Define corporate's certification program courses as a requirement for being authorized associate for approving the quotation and quotation documents
	Concentrate the quotation documentation to SAP

The feedback stage was carried out as planned. The initial improvement recommendations were carefully thought, discussed and common atmosphere for change was positive. Due to strong collaboration with the key informants, there were only few changes that needed adjustments. Surprisingly the CRM change came up during the feedback stage and not during the current state analysis. Although utilizing the SAP's integrated CRM recommendation idea was not approved, still the first recommendation regarding standardizing the knowledge sharing and transferring practises applies to the new CRM.

The last section of this study summarizes the work and sets steps towards improved process. The last section also provides self-evaluation for this study.

7 Conclusions

The last section of this study includes executive summary, practical next step recommendations to put the final recommendations in action, self-evaluation of this study and closing words.

7.1 Executive Summary

The objective of this study is to propose improvement recommendations to the basic assembly service sales process and the outcome of this study is the recommendations to improve the basic assembly service sales process. The final recommendations allow the case company to implement the recommendations to the process and that way enables more efficient way of working

This study contains four stages to answer the established business challenge. The first stage is to analyse current process. The basic assembly service sales process was analysed through the case company's and corporate company's policies and quality documents. Based on the knowledge gained from the documents, interviews were conducted to different stakeholders from different roles who are involved to the process. After the current state analysis, the strengths and weaknesses were identified. Based on the findings the relevant literature was searched to answer the weaknesses. Followed by the relevant literature, improvement recommendations to the process were co-created in a workshop and individual interview. During this stage different stakeholders got together for the workshop to co-create initial improvement recommendations. In the last stage, the initial improvement recommendations were introduced to the Data 1 informants to receive feedback. Based on the feedback, corrections and adjustments were made, and final recommendations formed.

The current state analysis was carried out with one-to-one meetings. Based on the interviews strengths and weaknesses were discovered. The discovered findings were then categorized to the following categories: Communication, Roles & Responsibilities, Data & Documentation and Strengths. In order to finish this

study on given time and to keep the work manageable, data & documentation was left out of this study.

Based on the chosen weaknesses, the relevant academic literature was searched to answer the weaknesses. The literature review forms the conceptual framework of this study.

The initial improvement recommendations were co-created in one workshop and in one separate interview. The workshop started with going through the business challenge, objective and outcome, moving to the findings discovered during the current state analysis and introducing the conceptual framework and its content. First, the weaknesses in communication category were discussed and then moving to roles and responsibilities where the RACI-matrix was introduced. After introducing the RACI-matrix, the workshop filled the matrix. Individual one-to-one meeting was established to discuss more deeply about details of the initial improvement recommendation regarding process ownership. Total of 14 initial improvement recommendations were co-created.

The feedback on the initial improvement recommendations was received from Data 1 informants. The whole study was presented to the informants step by step to understand why this study is relevant and what is the logic behind it. After presenting the co-created initial improvement recommendations, the informants gave their feedback and comments. The feedback was very positive and supportive. Especially the presentation itself gained gratitude, since it clearly pointed how this study has evolved from business challenge to the initial improvement recommendations. Out of 14 proposed improvement recommendations two of the initial recommendations were adjusted and one was not approved. The not approved recommendation was to put the customer communication to the SAP's CRM as the other organization does. Due to the upcoming new CRM, the case company does not want to change the way of doing since the whole customer relationship management process and platform is going to change totally.

The final recommendations create a solid foundation to improve the actions around the process. Once implemented the recommendations boost the case company's performance and clarifies individuals' roles and responsibilities which benefit all the functions in the company and ultimately customers as well.

7.2 Practical Next Step Recommendations

Taking the final improvement recommendations into action, the management should consider for the upcoming new CRM that it is transparent within the case company. The associates can easily find the knowledge they are looking for and utilize it when communicating with the customers. For the knowledge findability parameters and linking different activities together should be defined. The change from the current CRM to new one is a huge implementation project, where these matters are only small pieces but very important to consider.

In order all the relevant associates to understand the sales process regarding basic assemblies, the process owner should create the schedule for the trainings and make sure that the associates have the sufficient understanding of the process and capabilities. Since the process is rather frequently gone through with the assembly sales team, the account managers should be involved to the process training. Once the policy changes, the process owner makes the updates to the process and goes through those with the assembly sales and the account managers. Once the updates are trained to the associates and associates adopted the new knowledge, it is crucial to ask for feedback from both departments. Frequent training to maintain the understanding of the process and as it changes is crucial for the company to move towards its strategy. The process cannot be developed if it does not get any feedback. Also, since the policy is same for all the sales and service centers, collaboration between other process owners is highly suggested. Utilizing the case company's intranet would be a great starting point and continue from there with Teams meeting for deeper details and discussion would be beneficial to share best practices.

To reach the optimal fixed fee for the work, the assembly sales team and finance department should analyse the delivered orders. It helps to understand if there have been hidden costs that the assembly sales team has not been aware of. Secondly, the feedback from the production is important. The current way of estimating the work is purely theoretical, while the technician has the best knowledge how much time has been spent on a specific basic assembly. For the large quantity projects and when it concerns strategic customer, optimal pricing structure should be defined which takes in to count volume discounts and customer segment's price list. Based on mentioned considerations, the case company should define a fixed fee for the work, which can be used for low order quantity cases. The company should give up on the Excel calculator when the customer case concerns basic assemblies and use SAP's calculation instead. When all the pricing steps have been taken and analysed, the managers should review how the changes impact on sales and profitability. The results can not be reviewed right after changes, since it requires certain period of time and sample size to be comparable. Also gathering information constantly from the customers gives the management short term view how the customers think about new prices.

Including the quotation walkthrough to be part of the process should be added to quotation delivery phase of the process. Naturally if the process is updated, the relevant stakeholder should be informed and trained. Since the purpose of it is to engage the customer to do business with the case company, by explaining detailly the content of the quotation. It also allows to the case company to hear if the offered solution matches with customer's need and understand customer's price sensitivity. Doing this it also helps the company to understand is the current pricing on the right track.

To cover the whole basic assembly service sales process with the RACI- matrix, other workshop to do so should be established and account managers should be involved in this. By doing so it would enrich the conversation and give more perspective from other department. Adding it to the process as a quick look and piloting the RACI-matrix in the basic assembly service sales process enables to

quickly see the listed tasks from different areas of the process and who is responsible, accountable, consulted and informed during each stage.

For the authorized associate for approving the sales quotation, the corresponding certification program courses should be defined. Some of the assembly sales team has accomplished some courses but it should be checked that corresponding courses are up to date. The courses have expiration dates so that is also a matter that the process owner should consider and check. Since the recommendation to check the sales quotation was accepted to carry out in SAP, the SAP instructions and process should be updated, which comes again to the process change and training.

Findings from the current state analysis categorized under Data & Documentation were left out of this study but they are still remarkable aspects that should be considered to improve the process. The company cannot develop their processes if service calls are not made when the mistake is done. It is not just writing the service call but going through the mistake with relevant stakeholders to learn why the mistake was done and how can we avoid the same mistake in the future. For managers to follow and analyse how much time was spent providing a sales quotation is a little bit tricky thing to do. Current system does not support this or at least it has not been studied enough to understand if there is possibility to do so. After all, time equals to money and such information would be beneficial to know. Currently when providing the sales quotation, technical specification is manually prepared and sent to the customer. While the company gets repeatedly similar basic assembly quotation requests they are always done manually from beginning. Although the technical specification is not a must document to do regarding basic assemblies, it would be beneficial for the customer at least to see bill of material since the case company's part numbering does not tell the customer the content of the sales quotation. The case company could review an opportunity to utilize SAP's sales quotation document and combine these documents. It would minimize the waste and leave time for the other tasks.

7.3 Self-Evaluation of the Study

The initial business problem for the case company was a complex process regarding the basic assemblies. Based on the business problem objective to propose improvement recommendations was set. The outcome, recommendations to improve the basic assembly service sales process was formed from the co-created proposals which received feedback and were adjusted in Section 6. Although one of the proposed recommendations was left out, the informants understood its importance and it will be noted when defining parameters and instructions for the new CRM platform. Each identified weakness was answered with the improvement recommendation; therefore the objective of this study was fulfilled.

The final recommendations are specifically co-created and adjusted to answer the identified weaknesses. Some may wonder if every possible weakness was discovered and answered correctly. The purpose for the current state analysis was to involve different associates from different departments and roles to get a wide perspective to discover the strengths and weaknesses of the process. Although the informants for the current state analysis were chosen based on their roles to the process, the study cannot promise that every possible weakness or strength was discovered. Still, the objective of this study is successfully completed. The answers the current state analysis provided were repeated by the different informants, although their roles varied from another. The co-created improvement recommendations that received feedback and got adjusted are aligned with the objective of this study.

The author of this study is one of the case company's application engineers and part of the assembly sales team. Since the study concerns the author's daily work and the author has been working according to the process for several years, it was natural and beneficial to analyse the basic assembly service sales process. While the author already held some knowledge and opinions on the process, they were not mentioned during data collection. Instead, the author stayed neutral and steered conversations so that none of the informants' opinions were not

influenced with author's opinions. In sense of creditability each data collection session was recorded and analysed after each session.

Identifying the key stakeholder related to the process was fairly easy but during the current state analysis the informants were eager to propose solutions to addressed business challenge. Also, during the current state analysis some of the informants started to ask questions from the author and the discussion had to be steered back to the track. First interviews were quite difficult since the author of this study is not experienced in any sort of research interviews. As the interviews progressed, the author had a better understanding how to steer the conversation and interviews went smoother and had richer content. After the current state analysis, the sales and service centers' quality managers had a meeting and surprisingly some of the discovered weaknesses from the current state analysis were discussed in the meeting, meaning other service and sales centers are dealing with the same problems and the results of the current state analysis are credible, relevant and probably partially transferrable to the other sales and service centers.

The study is evaluated according to credibility, logic and relevance. Each of the evaluation criteria is described in following subsections according to academic literature and explained how they are linked to this study.

7.3.1 Credibility

According to Kananen (2013) reliability and validity are the factors that define Thesis's credibility. By reliability it is meant that if the research is carried out once again same results would occur and by validity correct matters are searched related to business challenge and objective. Kananen (2013) also points out that documentation is one of the most important things in sense of creditability. (Kananen, 2013:189).

According to Saldana (2011) in qualitative research it is important to convince the reader that the work is carried out correctly in terms of methodology. Gathering

data from multiple sources gives wider perspective for the analysis and enhances the credibility and trustworthiness of the study. In order to get there, how much time was spent on a specific interview or workshop and who were the informants should be mentioned. Saldana (2011) states that credible qualitative research has relevant literature for the identified problem, and it is cited according to agreed citing method. (Saldana et al., 2011: 135).

In this study Data 1 was collected from multiple sources such as internal documents and interviews with different stakeholder from different departments to get a wider understanding of the process. For Data 2, a workshop and an individual interview was established. The outcome of the workshop was then utilized in the individual face to face meeting for deeper understanding. Each meeting was recorded and transcribed after the meeting.

For Data 1 the informants were chosen from different departments and roles within the company. As the strengths and weaknesses were listed and categorized, the most suitable informants to answer those weaknesses were chosen for Data 2. For Data 3, the informants from Data 1 were chosen. The informants were from different positions, some of were in managerial position with an authority make decisions and some of them were co-workers.

For the conceptual framework, the literature was chosen to answer the weaknesses discovered in the current state analysis. The chosen literature was cited according to Harvard reference style.

7.3.2 Logic

According to Meriam-Webster (2022) logic is defined as “a particular mode of reasoning viewed as valid or faulty”. For this study logic applies in terms of structure of the study, which is presented in Figure 1 research design of this study. Each stage is introduced first, processed and in the end the outcome of the stage presented. Last sentences of the chapter briefly introduce what the next

stage includes, and the study continues gradually forward from the outcomes of the previous sections.

The study starts with introducing the business challenge, objective and outcome. As the objective is to propose improvement recommendations to the basic assembly service sales process, the open-ended questions to the current state analysis were defined. As the current state analysis revealed the strengths and weaknesses of the process, relevant academic literature was searched to answer those weaknesses. With the key concepts and ideas in mind, the workshop and one face to face interview to co-create initial improvement recommendations was established. The co-created initial improvement recommendations were then introduced to Data 1 informants for feedback and based on the feedback, the initial improvement recommendations were adjusted to the final recommendations. The logic of this study clearly shows how different actions take place in specific order and ultimately results as an outcome of the study.

7.3.3 Relevance

According to Mizzaro (1997) relevance of the study manifests itself when the identified problem needs more information to solve the problem. (Mizzaro, 1997: 811). Macagano (2019) states that relevance is a crucial factor in terms of quality of argumentation (Macagano, 2019: 1).

The case company has successfully been a trusted component supplier for its customers many years. The case company's strategic target is to gain more growth with providing services and it has been doing so for the last 10 years. Although the company has been focusing on the sales process which covers all type of assemblies, it has not focused on the basic assemblies and their different requirements which come from the corporate's policies.

The relevance of this study reflects fully to the case company's strategy and also for the content of the study. Implementing the final recommendations allow the relevant associates to perform more efficiently towards sales targets. It also

allows more clear and structured way of working as the associates are trained according to process and RACI-matrix indicates in a simple visual way each associates tasks and how they are involved to the task. Also analysing the orders in transaction level, going through the sales quotation with the customer and asking feedback from the production how much time is spent on a specific basic assembly creates initial foundation to the fixed fee for the work. As the fixed fee is the final outcome after going through multiple aspects, the application engineers do not have to overthink what the price for the work will be and customers receive the sales quotation priced exactly the same way apart from application engineers. Although there are a price differences in components since customers are segmented with different price lists but the fixed fee for the work remains the apart from the segment.

7.4 Closing Words

Industrial management Thesis projects have a clear objective and outcome. The objective of this Thesis is to propose improvement recommendations to the basic assembly service sales process and the outcome is the improvement recommendations. Implementing the recommendations, the case company is moving more efficiently towards its strategic targets and the associates around the process understand their roles and responsibilities.

References

Davenport, T., Long, D. & Beers, M. (1998). *Successful Knowledge Management Projects*. Sloan Management Review. 2. 43-57.

Dolan, R. J. (1995). *How do you know when the price is right?* Harvard Business Review, 73(5), pp. 174-183.

Doolan, K. (2015). *Mastering services pricing*. Harlow, England: Pearson.

Hammer, M. & Stanton, S. (1999). *How process enterprises really work*. Harvard Business Review, 77(6), pp. 108–118.

Haworth, S., n.d. *RACI Chart Template For Project Managers + Example & How-To*. [online] The Digital Project Manager. Available at: <<https://thedigitalprojectmanager.com/raci-chart-made-simple/>> [Accessed 13 March 2022].

Hudcova, S. (2014). *Tools of Internal Communication from Knowledge Transfer Perspective*. Journal of Competitiveness, 6(4), pp.50–62.

Jacka, J. and Keller, P., 2009. *Business Process Mapping*. 2nd ed. Hoboken, N.J.: Wiley.

Kananen, J. (2013). *Design research (applied action research) as thesis research: A practical guide for thesis research*. Jyväskylä: Jyväskylän ammattikorkeakoulu.

Martinsuo, M. & 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.

Macagno, F. (2019). *Coding Relevance*. Learning, Culture and Social Interaction, p.100349.

Merriam-Webster (2022) Merriam-Webster.com, "logic" Available from: <https://www.merriam-webster.com/dictionary/logic> [Accessed 16 April 2022].

Mizzaro, S. (1997). *Relevance: The whole history*. Journal of the American Society for Information Science, 48(9), pp. 810-832.

Payne, A. & Frow, P. (2013). *Strategic Customer Management: Integrating Relationship Marketing and CRM*. Cambridge: Cambridge University Press.

Saldana, J., Leavy, P., & Beretvas, N. (2011). *Fundamentals of Qualitative Research*. Oxford University Press, Incorporated, USA. Available from: <https://ebookcentral.proquest.com> (Accessed 16 April 2020).

Saunders, M., Lewis, P. & Thornhill, A. (2016). *Research methods for business students*. 7th ed. Harlow: Pearson Education.

Stein, D. and Andersen, S., 2016. *Beyond the Sales Process*. [online] O'Reilly Online Learning. Available at: <https://learning.oreilly.com/library/view/beyond-the-sales/9780814437162/> [Accessed 13 March 2022].

Interview questions during the current state analysis

1. How do you feel about the current sales process regarding basic assemblies?
2. What are the most challenging tasks that needs improvement?
3. What are the strengths of the current process?
4. How would you develop the process?
5. How is the performance of the basic assembly process measured and are the current KPIs efficient enough?
6. How can we make sure if improvements are made that the quality of the work won't suffer?
7. How can we utilize SAP and the process to work better together?
8. Why does the assembly sales team get insufficient information from the account managers?
9. What are the key areas where the individual roles are unclear?