



Pavel Fesko

# Identifying Sales Opportunities of Service Contracts Throughout the Equipment Lifecycle

Master's Degree

Degree Programme in Business Informatics

Master's Thesis

15.11.2023

## Abstract

Author: Pavel Fesko  
Title: Identifying the Sales Opportunities of Service Contracts Throughout the Equipment Lifecycle  
Number of Pages: 76 pages  
Date: 15 November 2023

Degree: Master of Business Administration  
Degree Programme: Business Informatics

Instructor: Antti Hovi, Senior Lecturer  
Zinaida Grabovskaia, PhL, Senior Lecturer

The thesis focused on identifying sales opportunities for contractual services throughout the equipment lifecycle for the machinery company. The thesis was triggered by low attainment rate of contracts to the equipment and low revenue derived from contractual services in general.

The study is conducted using Applied action research methodology and mainly uses qualitative research methods, with some elements of quantitative data. The study is done through various data collection methods, such as internal documentation analysis, stakeholders' interviews, customer survey, and conducted in three phases, namely the current state analysis, existing knowledge review, initial proposal building and its validation.

The current state analysis revealed that there are three main challenges related to sales. First of all, linking right contracts to the right customers, second, utilizing all available touchpoints that occur throughout the equipment lifecycle and automating sales processes. To improve these weaknesses, the study looked for suggestions from the literature and best practice on how to approach these issues. Suggestions from the literature pointed out the ways how to conduct customer segmentation, automate sales processes and utilize data to activate all touchpoints for sales processes.

The proposal was developed by addressing the challenges revealed in CSA, incorporating related available knowledge and best practice, and co-creating with the key stakeholders. All these inputs led to proposals on how to improve current sales activities of contractual services throughout the equipment's lifecycle. The outcome of the thesis is a list of proposals for the case company, following which it should increase the sale of contractual services for cranes.

Keywords Lifecycle, sales, touchpoints, automation

## Contents

1	Introduction	1
1.1	Business Context	1
1.2	Business Challenge, Objective and Outcome	2
1.3	Thesis Outline	3
2	Method and Material	4
2.1	Research methodology	4
2.2	Research Design	6
2.3	Data Collection and Analysis	8
3	Current State Analysis of the Case company's Contractual Services	11
3.1	Overview of the Current State Analysis (CSA)	11
3.2	Description of the current Contractual service and its elements	12
3.3	Description of the Equipment Lifecycle and Its Key Touchpoints	16
3.4	Analysis of the Equipment Lifecycle and Its Key Touchpoints	18
3.5	Description of the Current Sales Processes for the Contractual Services	20
3.6	Analysis of the Customer Survey	21
	<i>Contractual service knowledge</i>	22
	<i>Contractual service Usage</i>	23
	<i>Most popular contractual services</i>	24
	<i>X-Pro portal</i>	25
	<i>Satisfaction rate</i>	26
	<i>Service continuity</i>	27
3.7	Analysis & Key Findings from the CSA	29
3.7.1	Contractual services	29
3.7.2	Lifecycle	29
3.7.3	Sales practices	30
3.7.4	Survey results	31
	<i>Service Awareness</i>	31
	<i>Repair services</i>	32
	<i>Termination Rate</i>	32
3.8	Summary of Current State Analysis	33
3.9	Selected Focus Areas	34
4	Best Practice on Identifying Sales Opportunities Based on the Life Cycle	36

4.1	Customer Segmentation	36
4.1.1	Methodologies of Customer Segmentation	36
4.1.2	Segmentation procedure	39
4.2	Touchpoints	41
4.2.1	Customer Journey Map	41
4.3	Sales Automation	45
4.3.1	CRM in Sales	47
4.3.2	Sales Automation deployment process	48
4.4	Conceptual Framework	50
5	Building Proposal for Contractual services sales improvements	52
5.1	Overview of the Proposal Building Stage	52
5.2	Findings from Data 2 (pulling together CSA, CF, and Data 2 for the Proposal)	53
5.3	Initial Proposal for Sales improvement	56
5.3.1	Customer Segmentation	56
5.3.2	Sales Touchpoints	59
5.3.3	Sales Automation	63
5.4	Summary of the Initial Proposal	66
6	Validation of the Proposal	69
6.1	Overview of the Validation Stage	69
6.2	Developments to the Proposal (based on Data Collection 3)	70
7	Conclusion	73
7.1	Executive Summary	73
7.2	Thesis Evaluation	74
7.3	Closing Words	75
8	References	1
9	LIST OF APPENDICES	1
9.1	Appendix 1	1
9.2	Appendix 2	1
9.3	Appendix 3	1
9.4	Appendix 4	1

## 1 Introduction

In the business world, companies are constantly looking for various ways to create additional revenue streams and sustain business growth. Heavy machineries play a vital role across different sectors and understanding the significance of sales opportunities within the equipment lifecycle of the machinery is a key element for a successful business growth. In such a competitive business, where each equipment sales and potential lead counts, identifying sales opportunities around the equipment lifecycle is not just a high potential for a business, but a core of the company strategy in many aspects.

Successful businesses employ strategic analysis on the life cycles of all of their products and act on that analysis to ensure relevance and maximize earnings (Guinn, 2022). Product lifecycles are usually used by analysts, managers, and marketing experts to identify touchpoints with its customers to up-sell complementary products, redesign packaging, offer after-sales service contracts and many more. For heavy machinery business the biggest revenue opportunities around the product lifecycle are the spare parts sales and providence of various contractual services, which help to prolong the equipment usage by providing on-time maintenance and on-site equipment health checks.

This thesis explores the sales opportunities around the equipment lifecycle of a case company`s equipment by identifying the customer profile of equipment users, mapping the sales & buying processes, and quantifying the sales opportunities

### 1.1 Business Context

The case company of this thesis is originally a Swedish company which produces a heavy on-road hydraulic cranes. Hydraulic crane is a complicated Hi-Tech machinery which is used on a heavy-duty fields and require constant maintenance and performance monitoring by its users. crane refers to a truck, which has a crane either at the rear or just behind the cabin which is used to load and unload goods from the truck`s deck (Cottingham, 2023).

Hydraulic cranes as any other products have their own lifecycle and to prolong the lifecycle and maintain original performance these machines require services. The case company has four main service products: Spare parts offering, Accessories, Digital solutions, and service contracts. Service contracts include three different contract types. The goal of these service contracts is to secure the original high performance, safe operations, and uptime of the equipment. Spare parts sales play a vital role in the company's strategy and profitability. To make sure that spare parts are accessible anytime company has developed 24/7 e-commerce store, where equipment owners can purchase needed spare parts and get them within 48 hours after placing the order. High level of accessibility of the spare parts is needed to prevent long unforeseen down-time of the equipment which in most cases is a value loss for its users.

The accessories portfolio of the case company includes a wide range of mounting accessories and crane application tools that help to optimize the performance of the crane and unlock its full potential (Internal documentation, 2023). Additionally, a Digital solutions package involves five different digital products, where VR Training simulator and fleet connection are the main one.

The case company's equipment has a strong potential for increasing its service sales with its wide range of equipment throughout the equipment's lifecycle. The company's vision is to get 40% of its total revenue throughout services (Internal documentation, 2011) by year 2025.

## 1.2 Business Challenge, Objective and Outcome

The case company's sales team has been analyzing the servicing contracts sales for its equipment throughout the equipment's lifecycle and concluded that the current sales per unit are significantly lower than the company could potentially have. The company is interested in conducting a study to identify potential sales opportunities for contractual services that might occur throughout the equipment's lifecycle.

As described earlier, the case company has a wide range of different services, which are based on different brand models and are being offered on 84 markets. Each market has its own strategy and metrics to follow. To narrow it down, this study focuses on the Finnish market only and analyzes the sales opportunities around contractual services for the cranes (LC) segment for direct channel.

As a result, the Objective of this thesis is *to develop a Proposal how to improve the current sales activities of contractual services based on the equipment lifecycle*. The outcome of this thesis is *a Proposal how to improve the current sales activities of contractual services based on the equipment lifecycle*. By implementing these proposals, the case company should increase the sale of contractual services for cranes.

### 1.3 Thesis Outline

This thesis is made of seven sections. Section 1 outlines the structure of the study as well as highlighting the business challenges, objectives, and outcomes. Section 2 outlines the study's methodology. In the third section, the current state analysis (CSA) of the business was conducted. This part sheds light on the current situation of the contractual services. The main goal was to identify the strengths and weaknesses of the product (especially weaknesses), which can be improved in the short and long term. Next, the analysis of the equipment's lifecycle was conducted. Section 4 explores available knowledge and best practices pertinent to service improvement. Section 5 presents the preliminary list of proposals, and Section 6 validates the initial proposal. The final section (Section 7) provides a comprehensive summary of the conclusions drawn from the thesis.

## 2 Method and Material

This section describes the research approach, research design, and data collection and analysis methods used in this thesis. This section starts with the general description of research families and research approaches. The research approach is followed by the research design section. Thirdly, the data collection methodology is described.

### 2.1 Research methodology

To conduct research effectively, it is important to gather and analyse information by using various approaches, methods and families. The main *research families* that are commonly used include basic research, action research and applied research. Fundamental research, or also known as basic research, aims at improving the understanding of a specific thing, event, or natural rule. This type of research is about exploring data to reveal unknown and satisfy our curiosity. Findings from basic research answer the questions like “how”, “what” and “why” and findings are usually set the groundwork for practical studies (Indeed Editorial Team, 2023). Applied research, on the contrary, is concerned with the application of theories and knowledge to practice.

There are also various options in *research methods and techniques*, tailored to the specific problems. The research problem itself will “point out” which research methodology to use as a research approach (Kananen, 2017). Choosing the right approach is crucial, since the choice will directly impact on the results the research will deliver. Saunders (Saunders, 2019) sees the methods of choosing data collection and data analysis a complex process that involves many factors. The research onion by Saunders et al. (2016) is typically used for explaining the choice of a research methodology for a study.

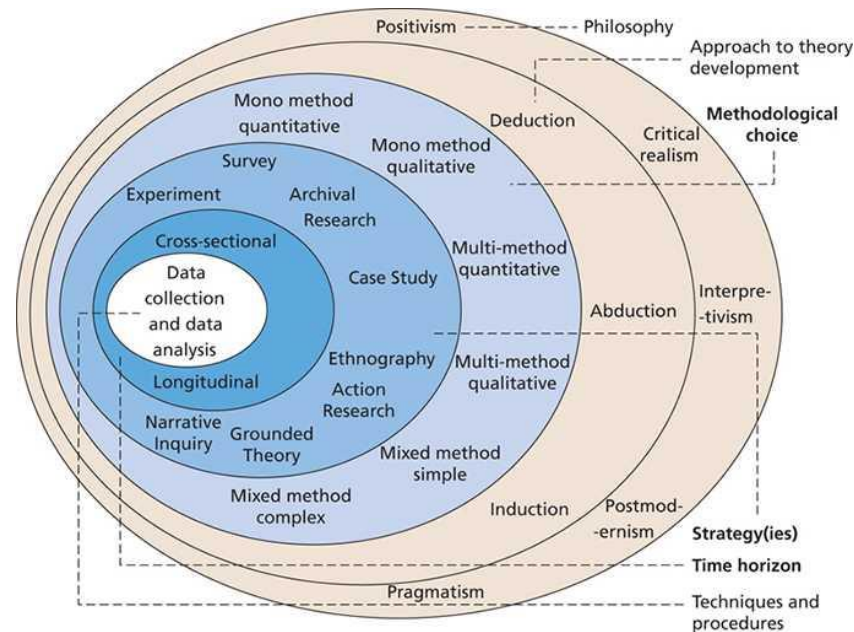


Figure 1. Research onion (Saunders, 2019)

According to Saunders (2019), the first methodological choice is between the quantitative, qualitative, or mixed methods research design. Each of these options has a different mix of elements which is supposed to be chosen based on the research target. The methodological choice and mix of its elements are illustrated on Figure 2 below.

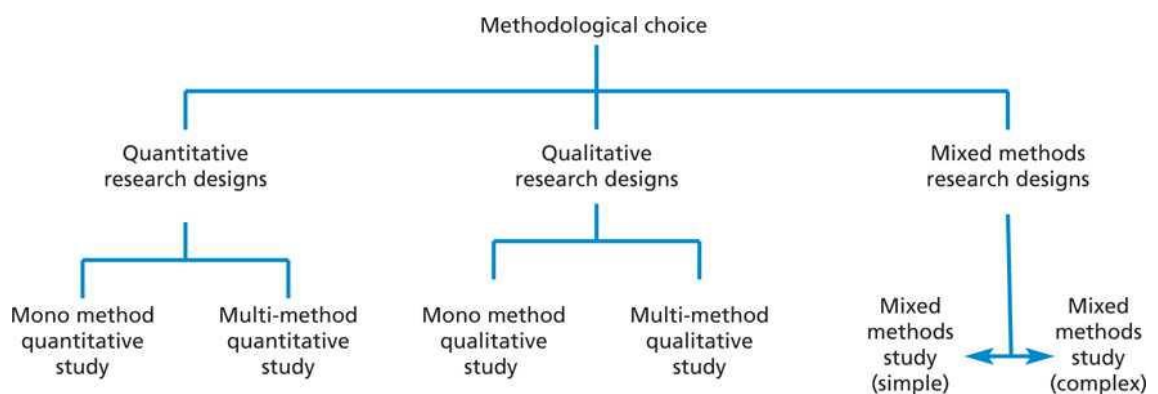


Figure 2. Methodological choice (Saunders, 2019)

Usually, research methods are categorized into qualitative and quantitative, based on the data type which is used in the research. The mixture of these methods is also known as a mixed-method research that covers advantages of both methods. Saunders (Saunders, 2019) suggests that looking into data type is one of the way to tell the difference between qualitative and quantitative research. There are two main data types:

numeric and non-numeric. Numeric data is about numbers, while non-numeric includes words, images, audio, recordings etc. Word ‘quantitative’ is sometimes used as a synonym for a data collection technique (such as a questionnaire) or data analysis procedure (such as graphs or statistics) that generates or uses numerical data.

Also, there can be distinguished various *research strategies*. For example, according to Saunders (2019), “the purpose of an Action research strategy is to promote organisational learning to produce practical outcomes through identifying issues, planning action, taking action, and evaluating action. The process of Action research is both emergent and iterative. An Action research strategy commences within a specific context and with a research question but because it works through several stages or iterations the focus of the question may change as the research develops”.

In contrast, applied action research (also known as Design research) is the process of gathering, analysing and interpreting data and insights to inspire, guide and provide improvements in specific contexts. It can employ both quantitative and qualitative research methods to help make well-informed improvement decisions. Its predecessor, Design research, brings value to any product development and design process, but it’s especially important in larger, resource intensive projects to minimize risk and create better outcomes for all. (Qualtrics, 2021).

In this thesis, the Applied action research (in the sense of Kananen 2013) is chosen as the research approach. Applied action research objects are usually products, services, processes. It is suitable as a research approach where the main purpose of the research is to propose improvements. It allows to uncover who are the main users of the product or service, the problems they are facing and the way they are using it. It has no specific method but can be a mix of different approaches, like gathering information via communication (meetings & interviews) and analyzing data to get a complete overview of the topic, especially as thesis research.

## 2.2 Research Design

The research design of this thesis is illustrated in Figure 1 below.

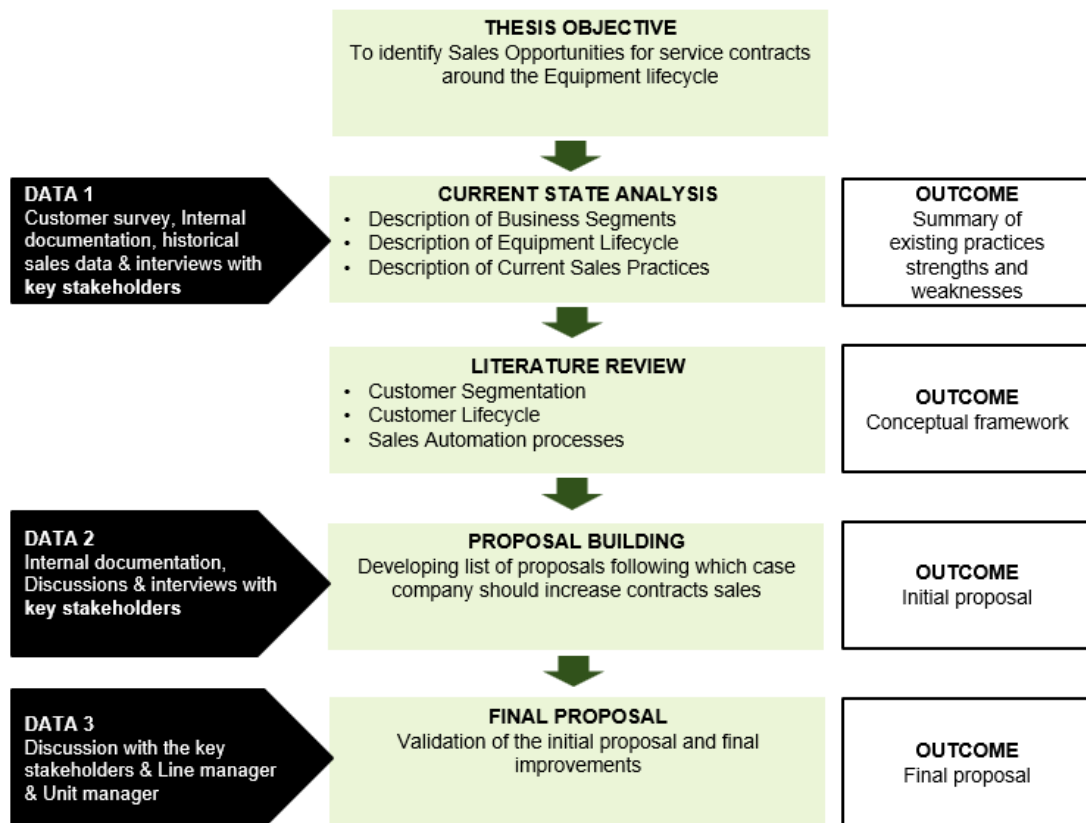


Figure 3. Research design of this thesis.

As seen from Figure 5, this thesis begins with establishing objective of the thesis to identify service sales opportunities around the equipment lifecycle. The thesis continues with the current state analysis (CSA), which includes the analysis of the customer segments, equipment lifecycle and analysis of the existing sales practices for service contracts. The customer survey as well as internal sales data are used as Data 1. The aim of the CSA is to evaluate the strengths and weaknesses of the current practices.

As next step and before building the initial proposal, a conceptual framework (CF) is established that aims to answer on the detected weaknesses from the CSA. CF involves exploring relevant literature and best practices to identify suitable concepts and tools for the proposal development. The next phase focuses on the proposal building. The initial proposal was co-created with the key stakeholders. Eventually, the initial proposal is validated with the key stakeholders. In this phase, additional information is collected through the discussion with the key stakeholders, line manager and unit manager to refine the initial proposal and make final adjustments.

## 2.3 Data Collection and Analysis

This study draws from five data sources, and the data was collected in three data collection rounds. Data was gathered via face-to-face interviews, internal data & document analysis, observations, a survey, and from interactions with customers. Data was documented either as field notes or recordings and used some internal documents for the analysis.

Table 1. Details of data collection 1-3.

	Participants / role	Data type	Topic, description	Date, length	Documented as
<b>Data 1, Current state analysis</b>					
1	Service Contract Manager	Face-to-face Interview	Overview of contractual services	15.10.2023/ 90 min	Recordings & Field notes
2	Lifecycle Manager	Face-to-face Interview	Customer Lifecycle	25.10.2023 / 90 min	Recordings & Field notes
3	Marketing Manager	Face-to-face Interview	Customer Segmentation	30.10.2023 / 90 min	Recordings & Field notes
4	Service contracts users	Customer survey	Evaluation of contractual services	Data is collected via survey link	Written form
5	Sales Data	Numerical data/Internal documents	Sales Overview	Data is collected via internal data warehouse	Data Analytics
<b>Data 2, for Proposal building</b>					
5	Line Manager	Face-to-face Interview	Co-creation of initial proposal	5.11.2023 / 90min	Internal report
6	Key stakeholders (same as Data 1)	Discussions, interviews	Co-creation	10.11.2023 / 90 min.	Recordings & Field notes
<b>Data 3, from Validation</b>					
7	Key stakeholders (3)	Group interview/ Final presentation	Validation, evaluation, final improvements	13.10.2023 / 120 min	Recordings & Field notes

As seen from Table 1, the first round of Data 1 collection focused on collecting and analyzing data for the current state analysis (CSA). To conduct this analysis, the process began with a face-to-face interview with the Service Contract Manager, who oversees service contract sales for the company in question. This discussion provided insights into the contract details and the sales team's needs and objectives. Secondly, to understand the customer life cycle the meeting with Lifecycle Manager was scheduled. This meeting provided insights on the customer journey, key touchpoints with the customer as well as data points that we collect at each stage of the lifecycle from our customers. Thirdly, to understand who the main users of the contracts are, a face-to-face meeting was initiated with the Marketing manager.

Next, the customer survey was conducted. The survey was distributed to 300 target customers via internal survey links. The customer survey was chosen as a tool to understand customer's needs, preferences and behaviors using service contracts. The

gathered information was used to identify areas for improvement which potentially might increase overall sales. The survey was given to three main groups: 1) AB1, 2) Contractual CD2, 3) Contractual RY3 users. Each customer group should be analyzed individually to have a high accuracy of the questionnaire results. Each group may have significant variations and analyzing them separately will offer a deeper understanding of each group's preferences, requirements, and the appropriate channels to use for future communication. The survey was sent to 300 customers, 100 to each contract service whose contract was activated right after the end of the standard warranty period and lasted for at least 12 months. The response rate from the customer groups was slightly different. Extended warranty: out of 100 only 56 customers replied, Contractual CD2: out of 100 only 41 customers replied, Contractual RY3: out of 100 only 74 customers replied.

Finally, to build a full picture of the current state of the contractual services, the sales data was gathered through the internal database and mapped across customer journey and customer segments. Based on that data, the main sales opportunities were detected.

Data collection 2 was done with the line manager and key stakeholder. The aim of the Data collection 2 was to co-create the initial sales opportunities within the existing journey. Data 2 was collected via live co-creation sessions and well as email discussions with the stakeholders. Collected data was stored in a form of recordings and field notes.

Data collection 3 was done with the key stakeholders. The primary goal of this phase was to validate the proposed sales opportunities as well as to amend the improvement plan before the deployment into existing journey. The final discussion was done in the meeting room in the headquarters office and lasted for two hours. Information from the meeting was saved in field notes and recordings.

Additionally, the CSA (Data 1) also utilized a variety of internal company documents and PowerPoint (PP) presentations that are listed in Table 2.

Table 2. Internal documents used in the CSA, Data 1.

	NAME OF THE DOCUMENT	# of Pages/slides	DESCRIPTION
A	Services: Reaching the Everest	39	Description of case company services
B	Service Statistics	15	Statistics about Services
C	Tool and Process Documentation	84	Detailed information about tools and processes
D	From Beginning to End	35	Internal magazine about company
E	PP: Contracts - Lifecycle touchpoints	11	Slides describing lifecycle and key touchpoints
F	PP: Contracts Value Proposition	8	Slides about Contracts value
G	PP: Case company Strategy Roadmap	25	Slides describing case companys strategy

As seen from Table 2, the internal documents for CSA include description of the case company services, statistics related to services, information about tools and processes and general company information. Also, PP presentations about Lifecycle touchpoints, contractual services value and company's strategy roadmap were used.

All textual data collected was analyzed using thematic/content analysis, a method that focuses on identifying patterns in the data to derive meaningful insights. A major part of data was analyzed for the current state analysis, to establish the current state of Contractual services. The findings from the current state analysis are presented in Section 3 below.

### **3 Current State Analysis of the Case Company's Contractual Services**

This section discusses the results from the current state analysis of the case company for its contractual services. By analyzing the obtained data, a comprehensive understanding of the current state of the contractual services sales processes and equipment lifecycle is created. The first part provides an overview of the contractual services. The second part focuses on the customer survey. The third part covers the equipment lifecycle. The fourth part describes the current sales processes. The fifth part discusses the key findings from the CSA. The final, sixth part, summarizes the strengths and weaknesses of the current Contractual state of sales and highlights the key focus areas for literature review.

#### **3.1 Overview of the Current State Analysis (CSA)**

The main goal of the CSA was to assess the current activities of the contractual services with the ultimate goal of identifying sales opportunities throughout the equipment's lifecycle. The CSA involved deep evaluation of the service processes and practices in order to identify improvement opportunities.

To gain a comprehensive understanding of the current situation, the current state analysis was conducted in six steps, each with specific focus and purpose. The data was received via customer survey, interviews, and meetings as well as company's internal documentation.

In the first stage, the thesis researcher examined the existing contractual service, its features, and functionalities. In the second step, the customer survey was conducted, to identify the customers' values, product's strengths, and weaknesses from the customers perspective. The results were analyzed and presented in visual charts. In the third step, the equipment lifecycle was studied, to identify the key touchpoints between the customer and the case company for selling Contractual services. The fourth step described the current sales processes of the case company's contractual services. Next, the data from CSA was gathered and analyzed. The final, sixth stage, is a summary of the strengths and weaknesses of the current processes which were analyzed and chosen as a Selected focus areas for the search for available knowledge and best practice in Section 4.

### 3.2 Description of the current Contractual service and its elements

In general, a Contract based service is an agreement between a company and its customer about specific services. Such a service is very common among many companies that manufacture any type of machinery. Contracts are focused on preventive maintenance and predictive maintenance depending on what is the focus point of that service. Contract based lifecycle services are combinations of different services provided by the case company. The interviews with the Contractual management were conducted and services contracts for the case company were discussed and presented below.

In the case company, the contractual service contracts were launched in 2011 and currently have over X active customers. On an annual basis, Contractual services generate X% of the company's revenue from all services. The main purpose of the service contracts is to secure the original high performance, safe operations, and uptime of the case company's equipment. According to the internal data analysis, customers with active services contracts on average have 33% less equipment breakdowns due to on-time maintenance and inspections. As a result, the equipment consistently generates revenue for their customers without unforeseen interruption. Figure 4 illustrates the Contractual services contracts difference (Appendix 1).

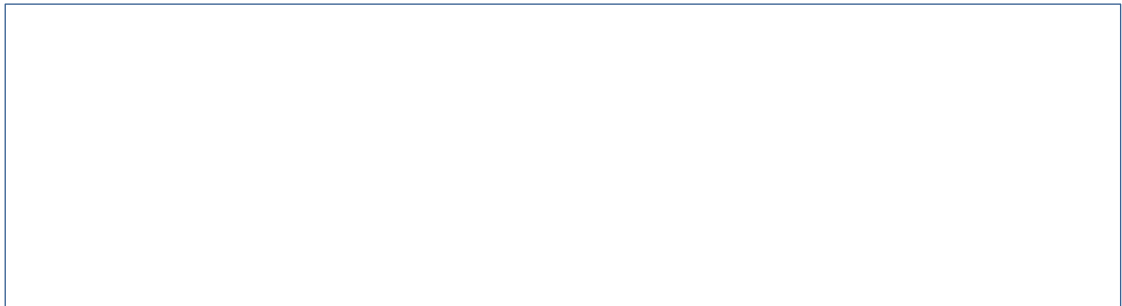


Figure 4. Contractual service agreements (internal document) (in Appendix 1).

The Contractual services portfolio includes agreements at different service levels, ranging from AB1 to CD2 and RY3 – matching the requirements of different customers. Through the service agreements, customers commit to the service network and original spare parts. The service levels include:

- *AB1*

AB1 contract provides the equipment with one additional year of the standard warranty (12 months). It covers the repair or replacement necessary to correct defects in the

materials or workmanship of products or parts manufactured or supplied by the case company that appear under the conditions of normal operation and in proper use (CASE COMPANY, 2011). It also covers the labour and material costs occurred during the repair process.

- *CD2*

CD2 contract is the agreement between equipment user and the case company for regular maintenance service following the official case company guidelines. After each service, customers receive a descriptive service reports with detail information about the steps conducted during the equipment maintenance check. CD2 includes test and replacement of hydraulic oil, Greasing and lubrication of the equipment, filters replacement, full inspection of the service.

- *RY3*

RY3 service contract covers a full planned maintenance program, inspections and required equipment repairs. It also helps to decrease the total cost of ownership (TCO). It includes the replacement of wear and tear items, e.g., slide pads, seals, bearings, and bushings as required. The condition of wear items will be checked during all service inspections. After each inspection, the case company will plan required replacements using the original case company's parts to help the customer to keep up the original performance of the equipment (CASE COMPANY, 2011)

- *X-Pro*

In order to communicate effectively with Contractual services customers, the case company created online interface called X-Pro. X-Pro is designed for handling after sales needs, including service contracts, requests, reports, and warranty claims. After purchasing the equipment, the customer automatically receives an account from X-Pro.

In X-Pro, customers can look for their service contract coverage or the warranty validity of specific equipment. In a long run, X-Pro also collects information that builds up a service history of equipment. In X-Pro portal, the case company's customer can submit any equipment related request and view the progress/status of it.

According to the internal data, there are currently over twenty thousands of active cranes on the Finnish roads. Only X% of them have an active Contractual services contract.

Based on the case study, which was done in 2022, there were about 33% fewer equipment alerts generated on a cranes that are under a Contractual services contract, resulting on minimised unplanned downtime.

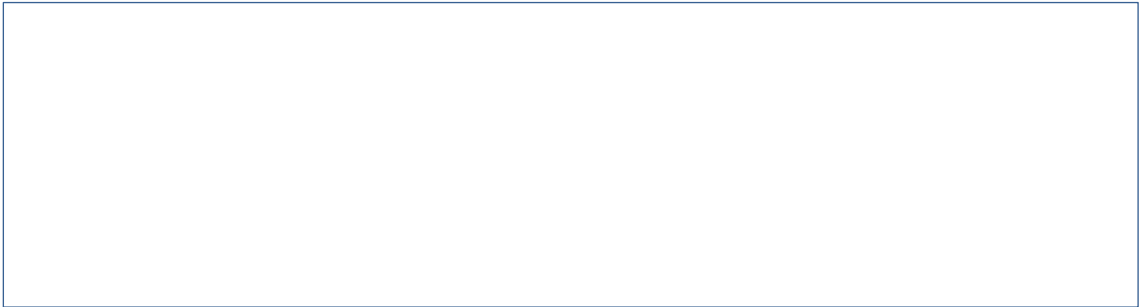


Figure 5. An example view of number of alerts through the internal system for non-Contractual, Contractual essential and R&M users (internal document) (in Appendix 2).

According to another case study performed for a specific customer group over a span of five years, the total cost of ownership of the case company crane covered by a services contract was about 20% lower than with non-contract *ad-hoc* service and repairs.

Figure 6. Comparison of cost savings of non-contract users and Contractual users over 5 years (internal document) (in Appendix 3).

On average, Contractual services' customers benefit from a 10% discount on the case company's original parts and a 15–20% discount on labour costs for work such as repairs and corrective maintenance.

Although having the services contract is extremely beneficial for the equipment owner, it is important for the case company to remain these contracts profitable. In other words, the overall income throughout services must be higher than the occurred costs of the contract.

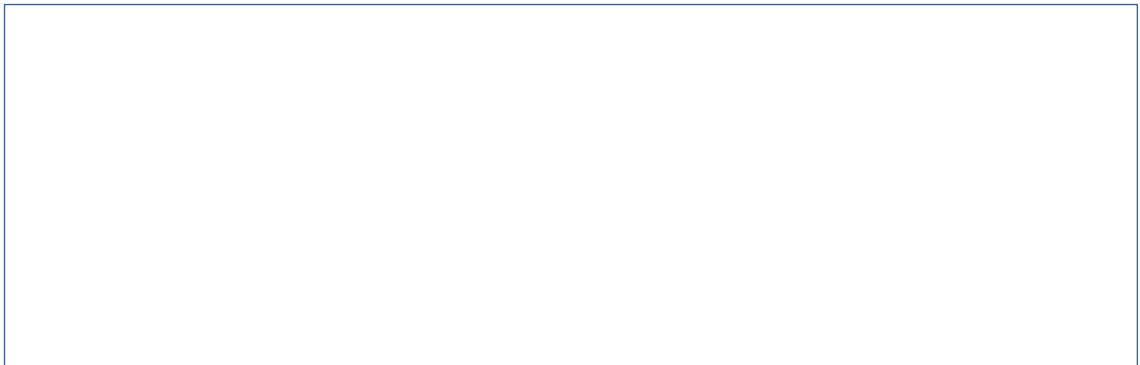


Figure 7. Contract sales elements (internal document) (in Appendix 4).

The income for the company throughout the contract is coming from four main sources:

- Spare Parts sales

During the activate contract, equipment owner is eligible for the 10% discounts on all spare parts. Since the spare parts are highly marginal, case company is strongly motivated to sell them even with high discounts. Spare parts are generating over 80% of all revenue which comes from the contractual service.

- Repair services

It is not mandatory for the non-Contractual equipment owner to have repair services at the case company workshops. Equipment owner has the right to choose workshop that suits him best based on the criteria he sets for himself. For that reason, it is important for the company to create as many as possible contractual services, because they obligate the equipment owner to visit only official case company's workshops for any repair related issues. Repair services are highly marginal for the company as well. The main

problem is that the repairing the equipment in the official company workshop is always more expensive rather than to non-official one (the same as owning a car).

- Equipment maintenance

Equipment maintenance is one of the contract's features that helps to keep a heavy equipment in reliable working order. It includes the visual and technical equipment overview to identify potential breakdowns.

- Annual Inspection

Unlike owning a personal car, heavy machinery is operating on the construction fields. Operating the heavy machinery without a proper knowledge and quality of the machine might lead to the vital cases. For that reason, heavy cranes are obliged by the law to pass annual inspections to make them eligible for operations. Annual inspections are conducted by the certified professionals on the premises. Contractual suits offers the equipment owners to pass the annual inspections and their official premises which is the part of the contract. Below, there is a description of the equipment lifecycle of the case company for the direct channel.

### 3.3 Description of the Equipment Lifecycle and Its Key Touchpoints

The Equipment lifecycle consist of four main phases: planning, acquisition, operation, and disposal. Each phase can be broken down on many other sub-phases for a more detailed lifecycle overview. Since this thesis studies the sales opportunities for contractual services, the operation stage will be covered only.

The operation stage is usually the longest stage of the full equipment lifecycle. "Operation" means using the asset for its intended purpose, and "maintenance" means carefully maintaining an asset to support its performance over time (AspenTech, 2022). Understanding the lifecycle of the equipment is essential for the machinery manufacturer since its plays a crucial role in the operational efficiency and financial health of the organizations. The longer the equipment is in use, the higher revenue it can generate for the case company and for the equipment owner.

Figure 11 demonstrates the lifecycle for the Cranes for the case company for the direct channel and its key touchpoints. The average lifecycle for the cranes, according to the internal documentation (Data 1), is 10 years. Importantly, the data for this description was gathered via interview with the Lifecycle Manager of the case company as well as via the analysis of internal documentation.

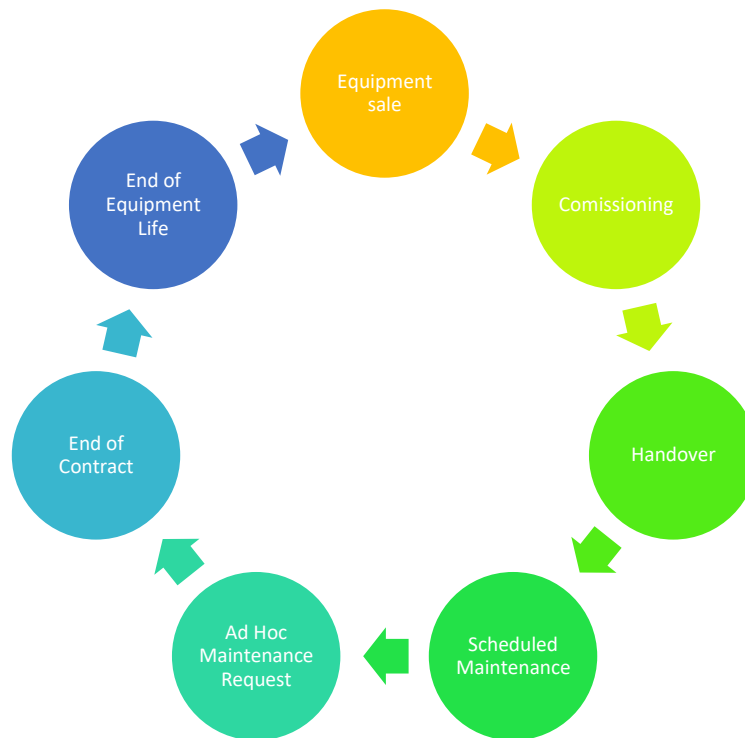


Figure 8. Crane Equipment lifecycle in the direct channel (internal document).

The first touchpoint of the Operational lifecycle stage is the Equipment sales. This marks the beginning of equipment journey with the customer. At this stage, the case company collects information about the customer (contact information, company information etc.) and the equipment (model specifications, registration etc.).

Once the payment is done, the second point of lifecycle starts, called commissioning. At this point of lifecycle, which typically lasts for four weeks, the crane is installed onto the track, configured, and tested to ensure it meets operational and safety specifications.

After tests are completed, the handover of equipment takes place. At this phase, the equipment owner is visiting the case company's sites to pick up the equipment. This

phase involves transfer of equipment documentation to the equipment owner. After the handover, the crane can be utilized.

Importantly, scheduled maintenance and inspections are regular touchpoints in the equipment lifecycle and occur multiple times throughout the full lifecycle of the equipment. These planned maintenance and inspections exist to prevent breakdowns, extend equipment lifetime, and prolong original performance.

Despite the consistent maintenance and inspections, the *ad hoc* maintenance requests also take place. These ad hoc maintenance requests arise when customer feels that the performance of the equipment is going down and something should be done to fix it.

Another touchpoint is the end of the standard warranty contract. For selling Contractual services, this touchpoint plays a significant role because at point sales representatives can start proactively offering and selling additional service contracts, such contracts like AB1 that extend standard warranty by one or two years (depending on the contract type).

The final touchpoint is the lifecycle end of life. At this moment, customers might contact the case company to get advice on how the equipment is supposed to be disposed or recycled. The case company has sustainable practices for these cases.

### 3.4 Analysis of the Equipment Lifecycle and Its Key Touchpoints

To identify potential digital sales opportunities, it is important to understand what information the case company collects at each point throughout the equipment's lifecycle. The data points were gathered via internal database exploration and mapped on Figure 12 below, which represents the equipment lifecycle and its key touchpoints.

Equipment Sales	Comissioning	Handover	Scheduled Maintenance	Ad Hoc Maintenance	Contract End	End of Life
User data		User data	Maintenance Date	Maintenance Date	Warranty End	
Company name		Handover date	Maintenance history log	Maintenance history log		
Company reg number		Warranty start date				
Company address						
Model						
Price						
Sales date						

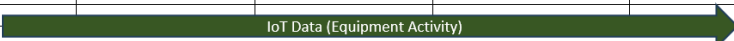


Figure 9. Equipment lifecycle and its key data points.

At each stage of the equipment lifecycle, the case company collects crucial data points about the equipment owner and equipment usage. It should be noted that each stage has over 50 data inputs and only the most applicable to the thesis were chosen and displayed on the table.

At the stage of *the equipment sale*, the company collects information about the customer (company name, company reg number, company address etc.) as well as about equipment specification which is being sold, such as price of the equipment, model, and sales date. This data forms the base for the interactions between the equipment owner and efficient equipment tracking.

*The handover* of the equipment involves the transferring of the ownership to the customers. According to the rules, equipment owner should pick up the equipment at the case company premises where he validates his ownership. This is the point where the standard equipment warranty starts. This date is important, since all cranes have standard 24-month warranty period, and this date marks the countdown for the expiration time. This touchpoint is also important because it activates all IoT sensors on the equipment. These sensors are active throughout the whole equipment life cycle. Based on these sensors, the case company can monitor the activity of the equipment (its location, crane activity and other parameters).

Next, *Maintenance* makes part of standard warranty and Contractual suit. It ensures that the equipment maintains the original performance as long as possible. At this stage, the workshop workers collect the information about what has been done during the maintenance, what was fixed and what spare parts were changed. Together, it forms the maintenance history log which is unique for each equipment and populates to the Applications and Products data system called SAP. The scheduled maintenance is scheduled by the case company based on the IoT Data. There are two main factors that trigger the scheduled maintenance: 1) number of lifts by crane and 2) distance travelled by track.

*Ad hoc* maintenance has very similar data inputs as it is just unpredictable maintenance and has same procedures. The data from the scheduled maintenance enables the case company to diagnose the issues more efficiently.

The end of contract is the touchpoint where standard warranty ends. This is crucial touchpoint for sales team to proactively offer the Contractual contracts. The most important information at this point is the end of the contract date time.

After analyzing the equipment touchpoints throughout the equipment lifecycle with key data elements, it is important now to understand the current sales practices of the case company for the contractual services. The description of the sales processes for the contractual services is described in the next section.

### 3.5 Description of the Current Sales Processes for the Contractual Services

This section provides an overview of the case company's current sales processes and roles in sales. The data for it was collected via interview with the Contractual Contract Manager and presented below.

The current sales process for the Contractual service contracts can be divided into two main categories: sales of new contracts and contracts renewal. The Contractual contract sales are performed by the sales department. The new contracts sales occur when customer is purchasing the equipment. The equipment purchase might happen in two scenarios: customer visit of the case company's physical workshop or submit purchase online. Only at the point of visiting the company's workshop, the seller of the equipment can proactively offer Contractual contracts for the equipment. Contracts cannot be purchased online due to the technical limitations of selling the contracts. When contract is purchased, the Equipment seller creates an SAP account for the customer where the future technical follow ups are made. The equipment sales touchpoint has the highest rate of sales for the Contractual contract. The current attach rate of contracts to the new equipment for the Finnish market is ~x%. The company's target to reach y% by the end 2025.

The second proactive attempt for selling the contract occurs when the standard warranty or Contractual contract expires. The renewal of the contract is not automated. Seller must manually identify the contract information for the respective contract and contact the equipment user via phone or email and offer an extension of the contract. As stated above, the contract cannot be purchased online as well as extended. The email and phone contacting acts as a reminder for the customer that he should visit the authorized

case company's workshop for the contract renewal. On the call service, sales representative might schedule a visit to the nearest authorized workshop for the renewal.

According to the internal documentation of the case company (Data 1, document A, B), Equipment seller is in charge of selling the customer contracts during the equipment sales. There is no segmentation in place, which means that equipment seller sells all contract types to potential customers without any differentiation. The service sales representative is in charge of contacting customers with expiring standard warranties and Contractual contracts and scheduling with them the workshop visits for renewal. The key owners of the contract sales and contract types were mapped on Figure 13 representing the equipment lifecycle with its key touchpoints.

	Equipment Sales	Comissioning	Handover	Scheduled Maintenance	Ad Hoc Maintenance	Contract End	End of Life
WHO	Equipment Seller					Service sales representative	
WHAT	All Types of Contract					All Types of Contract	

Figure 10. Sales owners and contract types on the lifecycle.

According to the Contractual Manager, equipment sellers are not incentivized to sell contracts. The main incentives come from selling the equipment. It creates the problem that the contract offering is not a mandatory part of the sales process.

*“Many sales representatives are not interested in offering the service contracts to the customers, because they believe that the additional cost might scare the potential customer.”*

Once the current sales processes and sales owners have been described, it is important to understand what the customer's opinion about the product is. The main findings from the customer survey are described below.

### 3.6 Analysis of the Customer Survey

The purpose of the customer survey was to gather information about the contractual services from the perspective of the services users to later analyze it for potential sales opportunities. The survey was distributed to all contract type users in Finland whose

contract is active for one year. The findings from the customer survey are presented below.

The first part of the customer survey aimed to understand how much users understand the product in general and what are the main features of the contract they usually use whenever they visit the case company's workshop. The second part covers contracts features and X-Pro portal and the third part aimed to understand the continuity intention of contract users and the reasons behind the contract termination.

#### *Contractual service knowledge*

It is important to read the contract terms to know what parts of the equipment are covered under the contract and which are not. It happens that the customers mistakenly assume certain services, like painting the crane boom that was damaged during the field operations, but in fact these type of services are not covered under any type of contracts. For that reason, customers were asked to rate their understanding of contractual services from 1 to 10.

The analysis revealed that AB1 and CD2 customers have a high level of understanding of their service contract. In contrast, RY3's average rating was lower than the other two groups. The difference could come from the fact that RY3 contract type is more complex than the other two and requires more time to understand it. These findings suggest that the information about RY3 should be more available and visible for the customers to improve their knowledge about the features and possibilities that the services provide. The general level of knowledge of the contract type features is displayed in Figure 14 below.

Contract Type	AVG Rating
AB1	8.2
CD2	9.1
RY3	6.4

Figure 11. Service knowledge per each contract type.

In this set up, providing comprehensive information about the services is crucial for the business because it encourages equipment owners to visit the workshop. A workshop

visit is a great opportunity for the business to proactively offer a range of different products, including spare parts. Due to the moderate level of understanding regarding the RY3 services, there is a possibility that it might reduce the total number of workshop visits for services.

### *Contractual service Usage*

Similarly, to the KASKO for private cars, the Contractual services contracts are non-mandatory, and customers can purchase it only in case of seeing a risk of breaking down the equipment. Although, some customers choose activating the contract, for many the service would be never needed, because during the contract duration their equipment would not break. To measure the usage of contracts, customers were asked to choose one answer between three different options: a) 0 (meaning that customer never had a chance to use any repairs that falls under the contract), b) 1-3 (meaning that customer used between one or three times the services that are covered under the contract), c) 3+ (meaning that throughout the duration of the contract, the customer used services more than three times).

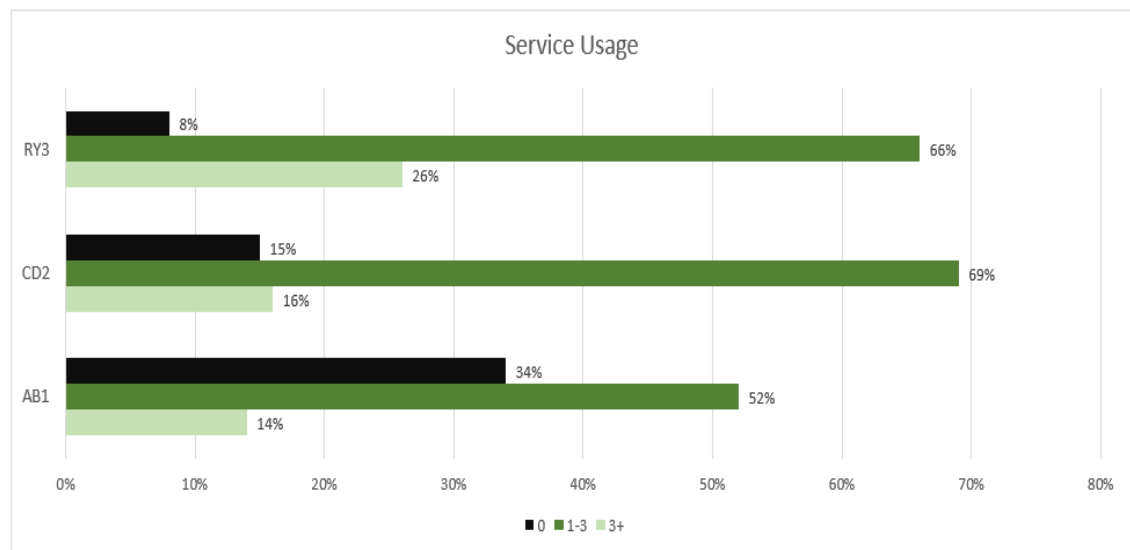


Figure 12. Service Usage by the contract type.

As shown in Figure 12, the service usage of Contractual services customers shows that RY3 and CD2 have relatively high usage rate – 66% and 69% of respondents used it 1-3 times in one year. While only 26% and 16% of respondents respectively said that they used it more than 3 times. At the same time, only 8% and 15% of respondents said that

they never used it. As stated before, the higher the number of visits to workshop, the better for the company. As can be seen, 34% of AB1 users never had a chance to utilize the contractual services they are paying for. Although, it is a free revenue stream for the company (contracts have a monthly fee), the company cannot upsell highly marginal products in the workshop, such as Oil lubricants or Spare parts (electronics), which generate much higher volumes of money than the monthly fee for the service.

To increase number of visits for the AB1 contract users, as can be concluded from this part, the case company could potentially increase number of features for AB1 contracts in order to increase service usage and also collaborate with the marketing team to create targeted campaigns which could play a crucial role in increasing awareness and usage.

### *Most popular contractual services*

To identify the most frequently used services by equipment owners under the Contractual services contracts, the customers were asked to select the services they utilized during the duration of their yearly contract.

The service usage by the contract type and service type shows the following results. Each contract type offers different level of support and coverage for equipment maintenance and repairs. Figure 16, shows the proportion of respondents within each contract type indicates utilizing specific services.

Contract Type	Inspections	Preventive maintenance	Wear and tear replacement	Repair service	Online technical consultation
AB1	0	72%	0	12%	16%
CD2	12%	64%	0%	0%	24%
RY3	26%	33%	11%	28%	2%

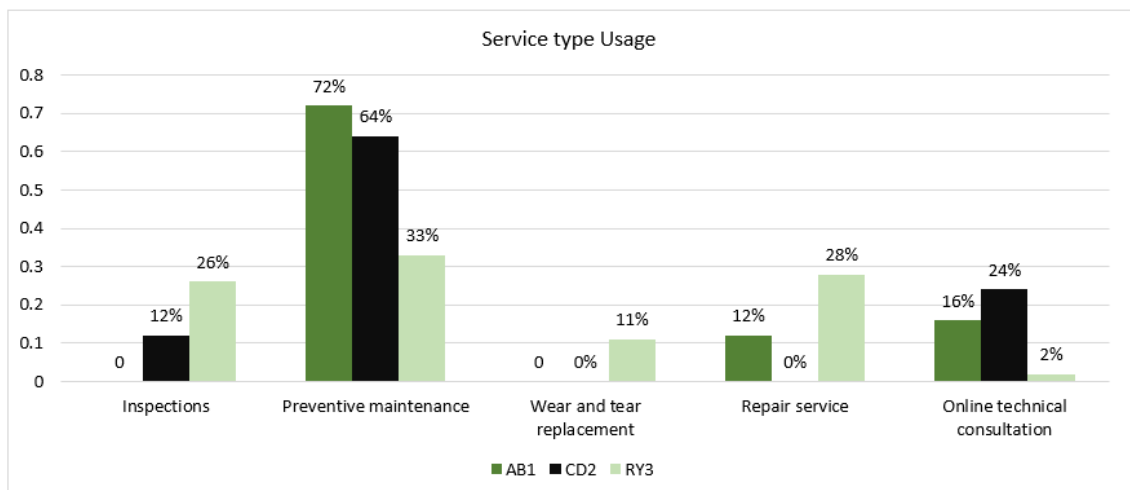


Figure 13. Service distribution.

This information shown in Figure 13 provides insights on which services are the most in demand. The data shows that preventive maintenance and online technical consultations are the most popular services that are used by all Contractual service customers.

First, the case company's *Inspections* involve annual equipment checks to proactively identify potential problems within it. CD2 contract users indicated usage of 12% while RY3 users demonstrated the highest usage rate at 26%. The reason why AB1 users are not shown in the chart is due to the fact that the service contract does not cover this type of service.

Second, *Preventive maintenance* focuses on identifying the potential risk which might occur during equipment usage and could cause its unforeseen breakdown. The highest number of survey respondents across all contract types indicated that preventive maintenance is the main service they use under Contractual service (72%, 64%, 33% in accordance with the list on the charts).

Third, *Wear and tear replacement* falls only under the RY3 service contract. For that reason, AB1 and CD2s have 0% of responses under this service type.

Fourth, *Repair service* contract covers the replacement of broken components of the equipment as well as painting of damaged details. The repair service is available only under AB1 and Repair service. 12% of AB1 customers claimed to use this type of service, while R&D 28%.

Finally, *Online technical consultation* provides remote technical support to address equipment maintenance questions. These questions usually arise when the equipment unpredictably stops properly functioning on the field. This 24/7 consultation is available for all types of service contracts. Usage rate of this type of service were observed as follows: AB1 at 16%, CD2 at 24%, and RY3 at 2%.

#### *X-Pro portal*

The X-Pro portal is the interface that helps to communicate Contractual services customers with the case company. Once the Contractual contract is activated, equipment

user is provided with the login information to the personal X-Pro online portal where customers can order necessary spare parts, schedule maintenance or inspections at case company's workshop.

In Figure 8, the customer experience with X-Pro portal was evaluated from the customer perspectives (on the scale 1 to 10). The ratings by the contract type are shown in Figure 8.

Contract Type	AVG Rating
AB1	5.5
CD2	6.1
RY3	5.8

Figure 14. X-Pro portal satisfaction (on the scale 1-10).

According to the results, the X-Pro portal ratings can be classified as moderate. None of the Contractual user groups rating it above 8, but nobody rated it below 5. Customers who have AB1contract provided an average rating of 5.5. The RY3 contract type customers provided similar to AB1average rating of 5.8. The CD2 contract type customers seem to find slightly more value in the portal with the average rating of 6.1. These provided average ratings for the web portal under different contract type groups is valuable. It can be summarized that customer satisfaction from all groups can be classified as medium.

#### *Satisfaction rate*

It is important to assess the total satisfaction rate of the contractual services because it might indicate that in order to increase sales, the contracts themselves should be improved.

Based on the survey results, the average customer's satisfaction across all contract types was very similar to each other. On average AB1users rated their satisfaction by 7.8 points, RY3 users by 8 points and CD2 got the highest satisfaction rate of 8.1 points, which is very similar to other contract types. Below, Figure 15 illustrates the satisfaction rate table by the user's contract type.

Contract Type	AVG Satisfaction
AB1	7.8
CD2	8.1
RY3	8

Figure 15. Users' satisfaction rate by the contract type.

#### *Service continuity*

Contract renewals play a major role in contract sales in general. Understanding of user's intention to extend the contractual services is part of services sales strategy and services profitability in general. The longer customer uses the contract, the higher number of workshops visits he makes. The intention of users to extend their service agreement shows that 120 customers said Yes, while 51 – No, to the question, as can be seen in Figure 16.

Contract Type	YES	NO
AB1	74%	26%
CD2	71%	29%
RY3	68%	32%

Figure 16. Contractual service extension plan

As seen from Figure 16, the highest positive response rate was across AB1 contract type – 74% (41) replied to the question positively, while 26% (15) replied negatively. After goes the CD2 contract type with 71% of positive replies (29) and 29% negative (12). For RY3 contract type, 24 customers (32%) said that they are no longer going to have Contractual on their equipment, while 68% said that they will.

The main termination reasons for the contractual services were addressed only to these customers, who responded negatively to their plan to continue the contractual service. Out of 171 respondents, only 51 said "NO" to the previous question. Figure 17 below summarized the service agreement termination reasons.

Reason	#	% of GT
Interactive Dashboard	54	32%
Increase Portal speed	46	27%
Remove Logging bugs	33	19%
Doc upload via phone	27	16%
Phone Notification	10	6%
Booking possibilities	1	1%

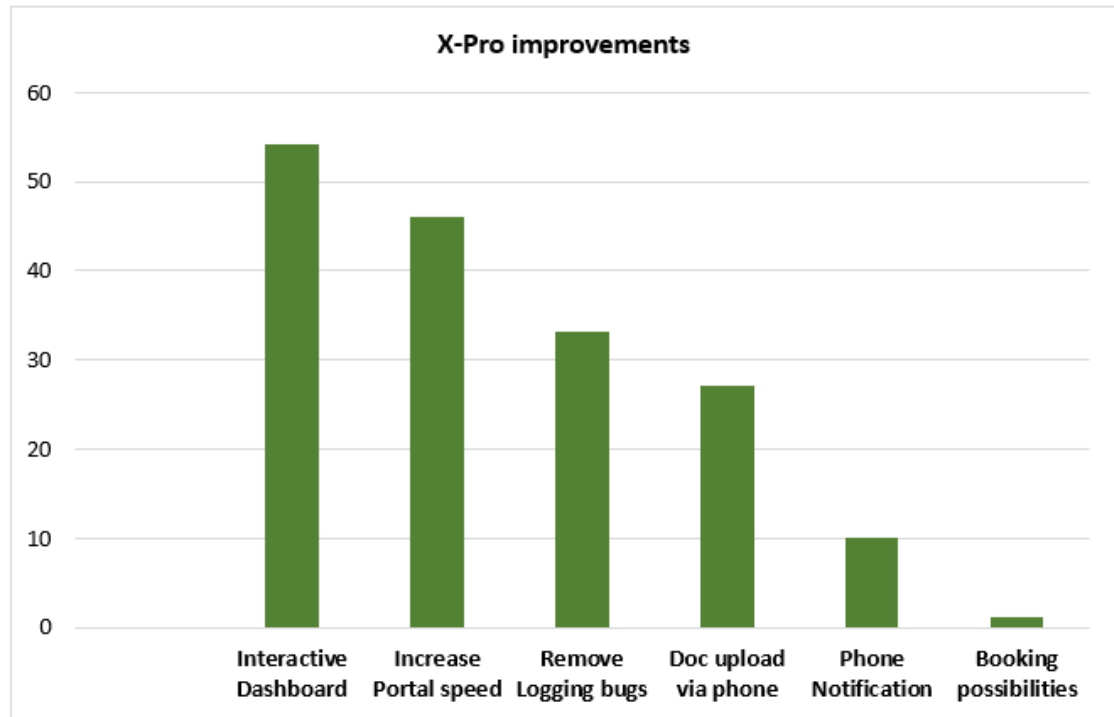


Figure 17. Contractual service termination reason.

As seen from Figure 17, the vast majority of respondents, 31 (36%) said that the main reason for the contractual services termination is the high price of the service. The second highest reason (11 respondents – 6%) for the contractual services termination is the quality of the provided services. 7 customers said that they are not planning to continue with the services due to the fact that they are selling their equipment. Only few questions said that they are terminating the contract due to slow service performance and due to the fact that they found a better service (1% each).

The next section of the thesis covers the analysis and key findings from the current state analysis.

### 3.7 Analysis & Key Findings from the CSA

The CSA was focused on defining the basic principles around the sales processes for the case company. Various tools were used in defining what is the Contractual services, what are the current sales processes, what is the lifecycle of the equipment and its touchpoint and what is the opinion of users about the contractual service.

The current state analysis also pointed out the main strengths and weaknesses of the current contractual service of the case company. The main key findings, strengths and weaknesses are summarized and described below.

#### 3.7.1 Contractual services

##### *Customer Base*

There is a high number of active cranes (LC) on the Finnish roads without attached Contractual contract. Internal data shows that out of twenty thousand activate cranes in Finland, only 11% have active contract. This presents a significant opportunity for future sales of contractual services.

##### *Revenue Streams*

According to the documentation analysis of the Contractual services, the Spare parts sales forms 81% of total sales that comes from contracts revenue streams. Although spare parts deliver high margin, there is a potential for the case company to increase sales for other elements of the services, like repair services, equipment maintenance and annual inspections. Equipment maintenance and annual inspections forms only 7% combined, while their average margin is 10% higher than for the spare parts.

#### 3.7.2 Lifecycle

##### *Defined Lifecycle*

The case company has a well-defined lifecycle of its equipment and key touchpoints associated with it. The average lifecycle for the crane is ten years. Considering the initial two-year standard warranty, there is potential for an additional eight contracts throughout

the equipment's lifespan. However, similarly to private cars, not many users would like to have an additional contract for old/aging equipment, but there is still room for an extra 4-5 contracts per equipment.

#### *Reach Data*

Throughout the equipment lifecycle, the case company collects high number of data inputs around most key touchpoints. That data includes information about the customer, information about the equipment and additionally case company can monitor in real time the activity of the cranes (track movements, lifts, and other metrics). A high number of data inputs forms a strong base for identifying potential digital sales opportunities that might occur throughout the lifecycle.

### 3.7.3 Sales practices

#### *Sales Touchpoints*

CSA revealed that the current sales practices are linked to two key touchpoints only – equipment sale and standard warranty end date. The case company does not utilize the opportunities around other key touchpoints throughout the equipment lifecycle, such as equipment handover or scheduled maintenance (workshop visit).

#### *Customer Segmentation*

The case company is aware of their cranes segments but lacks the understanding of its Contractual services customers. In the current sales process, sales representatives are offering all contract types to every potential equipment purchaser, that leads to inefficient sales process. To improve the sales conversion, the case company could identify specific customer segments for Contractual services and create targeted value-based offerings.

#### *Manual Sales processes*

The sales process for renewal contracts is not automated. CSA revealed that to schedule a contract renewal, sales representatives have to contact the customer via phone or email and agree on visit date for the case company's workshop where they can renew the expiring contract.

### *Sales Incentives*

According to the interview with the Contractual Manager, sales representatives are not incentivized selling the Contractual services contracts. Primary, bonuses come from selling the equipment itself. Given the relatively high cost of Contractual services contracts, not all sales representatives are willing to offer contracts before equipment is officially sold, as it raises the total price of the equipment and as a result lowers their chances of selling it.

#### 3.7.4 Survey results

### *Service Awareness*

According to the survey, the Contractual services customers have moderate knowledge about the services that Contractual services provides, especially RY3 customers. By increasing the knowledge about the features that customers might utilize during contract service, it can increase the number of the case company workshop visits. Service usage and workshop visits are important, because on premises the sales team can convert them into other products, like discounted crane accessories such as hooks, which are not covered by the contractual service.

### *ABC-Portal*

X-Pro portal, which is designed to provide communication between equipment users and company technicians, has received negative feedback in the conducted customer survey. According to the CSA, the X-Pro portal is perceived by the customers as poor communication tool. Among many reasons, the most common were lack of interactive dashboards, low portal speed and logging bugs, which frustrates customers. X-Pro portal also lacks service booking possibilities and phone notification alerts. In order to book a technical service, customer has to call to the service line, which is an outdated way of running successful business.

### *Repair services*

The collected data revealed that Contractual services customers do not utilize in fullest the repair services. According to the data, only 15% of customers used repair services. Contractual services contracts allow customers to purchase the case company's spare parts with x% discount. Repair services is a highly marginal service for the company that generates x% of the business revenue via selling discounted spare parts. The case company definitely could benefit from analyzing the equipment lifecycle and identifying valid touchpoints which could lead customers to the workshop for the service repair.

### *Termination Rate*

The Contract termination rate is relatively high. Analysis of the customer survey revealed that on average 25% of the customers are going to terminate their contract by the end time it expires. The main reasons for termination were poor service and high price of the contract. The company could benefit from improving pricing (i.e. proposing new prices for these who want to terminate) and by analyzing the weakness within the services to retain existing customers.

### 3.8 Summary of Current State Analysis

Table 3 summarizes the main strengths and weaknesses of the case company's contractual services.

Table 3. Strengths & Weaknesses of the current contractual services.

STRENGTHS	WEAKNESSES
Customer Base	Revenue streams
Defined Lifecycle	Sales Touchpoints
Reach Data	Manual Sales Processes
Value Understanding	Customer Segmentation
Profitability calculations	Sales Incentives
	Service Awareness
	C-Portal
	Termination Rate

As the main strength of Contractual service, it has a strong customer base for potential contractual services sales. According to the CSA, there are currently over twenty thousand of active LCs on the Finnish market and only 11% of them have an active Contractual contract. Secondly, the case company has a well-defined equipment lifecycle and identified key touchpoints to communicate with the equipment owner. Moreover, the case company collects various data points throughout the equipment lifecycle. This data has the potential to identify both digital and non-digital sales opportunities. Other strengths include clear understanding of the value that contractual services bring to the customer and clear visibility on profitability, that consists of contractual services sales flows, and its costs.

As seen from Table 3, the CSA analysis revealed more weaknesses than strengths. This observation indicates that there are numerous areas in the services that require improvement.

Among the main weaknesses is the narrow revenue streams. Current business setup primarily focuses on spare parts sales as a main revenue stream, although there are

other even more marginal services within Contractual services that can be prioritized such as maintenance and inspections. Secondly, although case company has well defined equipment lifecycle and touchpoints, it only uses two in their current sales processes. Thirdly, all sales processes are manual. Furthermore, the case company has no customer segmentation in place which makes sales representative blind while offering the service to the customer. A Salesperson should know what service to offer to what customer to be more efficient. Moreover, the case company is not incentivizing salespeople to sell contracts. The sales bonuses are coming from the equipment sales, but not contracts. The customer survey revealed that not every equipment owner fully understands what contractual services offer to them, which potentially creates skipping the workshop visit. ABC-Portal, which is used for communication between the equipment owner and the case company was rated as “poor”. Also, contracts have high termination rate.

The strengths and weaknesses of contractual services were presented and discussed with the key stakeholders. As a result, the key areas for improvement were identified. The selected focus areas are presented in the next section.

### 3.9 Selected Focus Areas

The selected focus areas have been identified based on the current state analysis, considering both its strengths and weaknesses. This analysis also took into consideration the areas where the case company has already acted and made some progress. Three areas have been selected as a result of this analysis.

#### 1. Customer Segmentation

The case company lacks the understanding of their customer segments for their contractual services. To improve the sales conversion, the case company could identify specific customer segments for Contractual services and create targeted value-based offerings.

#### 2. Sales Touchpoints

The case company has a well-defined equipment lifecycle. It collects various data points throughout the equipment's lifecycle, yet it currently only utilizes two touchpoints for proactive contracts sales. It is important to understand what value & data points can be mapped to other touchpoints that might potentially be used in finding sales opportunities.

### 3. Sales process automation

The current sales processes are fully manual. The main purpose of the sales process automation focus area is to identify the potential possibilities how to automate them by utilizing the datapoints collected throughout the equipment lifecycle and internal company's tools.

These selected areas were selected for the literature review. The literature review will explore best practices for *(1) segmenting the customers, (2) identifying additional sales touchpoints, (3) automating the sales processes.*

Section 4 will focus on the selected focus areas and discuss relevant literature, best practice, and tools. This will help the proposal building process in Section 5.

## **4 Best Practice on Identifying Sales Opportunities Based on the Life Cycle**

This section presents an overview of the theoretical concepts related to the topics of customer segmentation, identification of sales touchpoints and sales automation processes. At the end of this section, the conceptual framework is merged from the key elements of the discussed topics so as to guide the development of the improvement proposal.

### **4.1 Customer Segmentation**

Every market is a mixture of diverse buyers each with own preferences, unique characteristics, and needs. Customer Segmentation provides an effective approach to classify and categorize these buyers into groups based on their customer behaviour. Segmentation is a core marketing approach for creating superior customer value and supporting the development of products and services (Munusamy & Murugesan, 2020). The goal of customer segmentation is to reach out to customers more effectively, thereby leading to more sales or customer conversions.

#### **4.1.1 Methodologies of Customer Segmentation**

There are several ways to group customers into segments. Traditionally, customer segmentation relies on identifying key differentiators that divide customers into groups that can be targeted. Information such as a customer's demographics, geography, psychographic and behavioural tendencies are taken into account when determining customer segmentation practices (Gillis, 2022). In essence, segmentation can be viewed as the process of identifying specific target groups, enabling companies to enhance their chances of meeting sales and profit goals.

## Ways customers are segmented

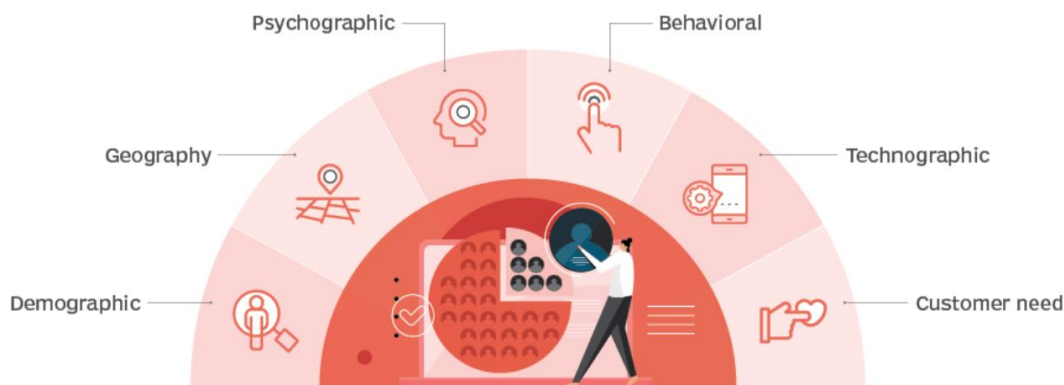


Figure 18. Ways customers are segmented (Gillis, 2022).

Gillis (2022) suggests considering various parameters to effectively categorize customers into segments. These parameters might include demographic factors like age, gender, income. Additionally, geography or in other words location, plays a major role in segmentation. Location might be global, for example country, state, city or local like part of the city or building number. Psychographics aims on social class and its values. Behavioral aspects include customer tendencies, habits, spending patterns and product usage. Technographic focuses on understanding of customers technological preferences and lastly, customer need parameters address the specific requirements for a product or service to different customer groups.

The choice of parameters utilized in the customer segmentation process can vary significantly based on the corporate strategy, products and service and many other factors. Consequently, different segmentation approaches should be used to match these specific factors.

There is also another way for segmenting the customers – using value-based segmentation. According to Gillis (2022), “value-based segmentation evaluates groups of customers in terms of the revenue they generate and the costs of establishing and maintaining relationships with them. It also helps companies determine which segments are the most and least profitable so they can adjust their marketing budgets accordingly”. The example of value-based segmentation is illustrated in Figure 22.

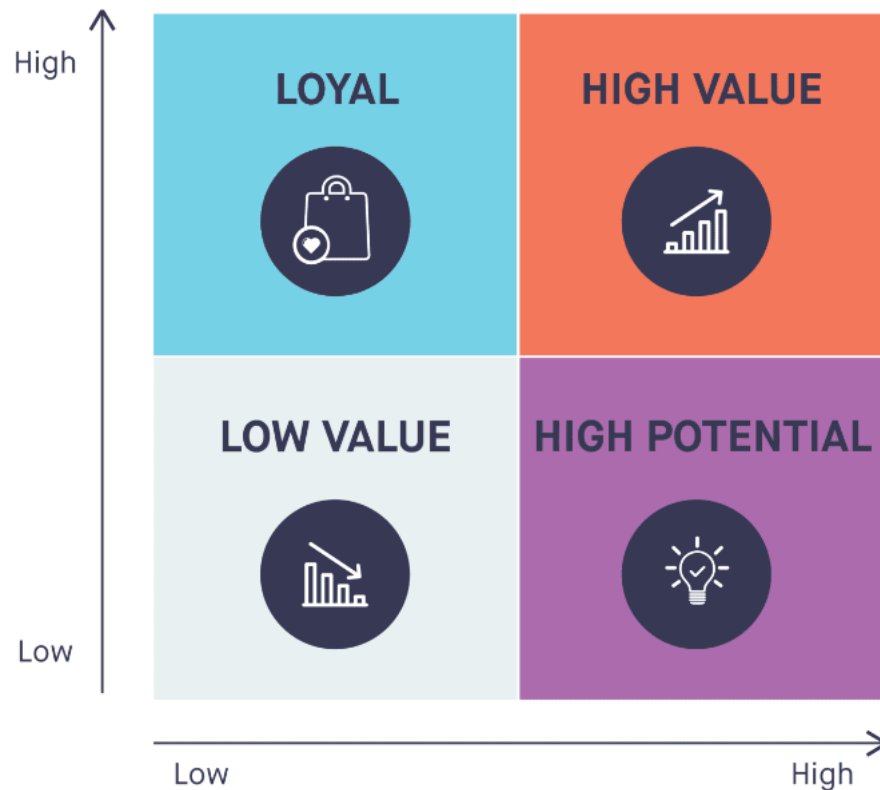


Figure 19. Value-based segmentation (Livaccari, 2022).

According to Livaccari (2022), the consumers can be divided into four key buckets based on their value to the product or service:

- Loyal Audience

The "Loyal Audience" segment comprises customers who consistently engage with the product or service over an extended period. These customers are brand advocates, displaying strong loyalty and devotion. They not only make repeated purchases but also actively promote the product or service to others, contributing significantly to the company's revenue. Loyal customers often provide valuable feedback, enabling the company to refine its offerings and enhance customer satisfaction. Businesses can nurture this segment by offering loyalty rewards, personalized experiences, and exclusive benefits to maintain their loyalty and strengthen the brand-customer relationship. (Livaccari 2022.)

- High-Value Audience

The "High-Value Audience" represents customers who may not be as consistently engaged as the loyal audience but contribute significantly to the company's revenue due to their high spending habits. These customers make substantial purchases, invest in premium services, and are willing to pay a premium for quality. Companies can focus on retaining and expanding this segment by providing excellent customer service, exclusive offers, and personalized recommendations to maximize their lifetime value to the business. (Livaccari 2022.)

- Low-Value Audience

The "Low-Value Audience" includes customers who make infrequent or small purchases. While their individual transactions might not be substantial, this segment is characterized by a large customer base. Companies need to carefully assess the potential of this segment. Strategies to convert low-value customers into high-value ones may involve targeted marketing campaigns, discounts, or bundling products/services to encourage larger purchases. Alternatively, businesses can maintain this segment by offering affordable, entry-level products/services to cater to their needs. (Livaccari 2022.)

- High-Potential Audience

The "High-Potential Audience" consists of individuals who have not yet become regular customers but show promising signs of engagement or interest in the product or service. This segment represents an opportunity for businesses to expand their customer base. Companies can employ various marketing techniques, such as targeted advertising, engaging content, and promotional offers, to convert this audience into active customers. Building relationships with high-potential customers at an early stage can lead to long-term loyalty and increased revenue in the future. (Livaccari 2022.)

#### 4.1.2 Segmentation procedure

Thakur (2023) introduces a five-staged segmentation procedure model (Figure 22). The segmentation process begins with an analysis of the target audience, assessing its size and sales potential. The foundation for any marketing campaign lies in identifying the market and the target audience. This foundational step enables marketers to examine the characteristics of consumers within the target audience, align expectations with their

needs, and strategically organize and plan marketing strategies based on the size and preferences of the target audience's market. (Thakur, 2023).



Figure 20. Segmentation process (Thakur, 2023).

After identifying the target audience and its size, it becomes crucial to assess the needs and preferences of consumers to effectively meet their demands and expectations. Utilizing demographic factors for consumer classification, marketers should subcategorize products to align with the distinct requirements of various age groups, genders, and other relevant criteria. The marketing team must thoroughly examine the needs and preferences of consumers across different segments of society. A well-informed understanding of consumer requirements facilitates the development of a comprehensive marketing strategy tailored to their diverse needs, making it easier to create an effective and inclusive approach.

According to Thakur (Thakur, 2023), “once the market research of all the necessary factors has been done, and the marketers have accumulated the consumer interest and their behaviour, the marketing team is all set to strategize their campaign for a particular product or service. Different advertisements and promotions, banners, etc., are included to promote the product or the service. The promotion should be done to establish a connection between the consumer and the product or the service, as the connection is very important for the campaign’s success”.

Customer segmentation proves to be a strong tool for optimizing marketing budgets. Given the high costs associated with marketing and the constraints of limited resources, it is CD2 to allocate funds efficiently. Targeted marketing directed at specific customer segments is a more accurate approach than attempting to reach the entire audience. Reaching entire audience and offering all range of services and products often deliver negative results. Focusing marketing efforts on segments more likely to engage with a company offers a cost-effective solution in the long term. This approach not only saves financial resources but also improves the overall effectiveness of marketing initiatives, leading to a more successful and sustainable customer engagement strategy.

## 4.2 Touchpoints

According to Bianco (Bianco, 2023), “customer touchpoints are interactions between a business and a customer throughout the customer’s journey. Identifying key customer touchpoints helps companies determine opportunities to improve their customers’ journey.

Customer touchpoints are typically arranged in chronological order within a customer journey map. This organization aids marketing, sales, and customer service teams in pinpointing obstacles that may hinder prospects and customers from advancing along their journey.

Service touchpoints have been defined as all points of contact between customers and providers – and take cognitive, emotional, behavioural, sensorial, and social aspects into account (Aichner & Gruber , Managing Customer Touchpoints and Customer Satisfaction in B2B Mass Customization: A Case Study, 2017). For business markets, specifically, touchpoints refer to all incidents experienced by a business customer (verbal or nonverbal, consciously, or unconsciously), including a variety of forms of contact. Similarly, Aichner and Gruber (2017) indicate that touchpoints represent any type of contact were information transfers between service providers and business customers.

### 4.2.1 Customer Journey Map

To understand customer’s value better throughout the product life cycle, it is important to identify the touchpoints that occur between the organization and customer throughout

the customer journey. *Touchpoints* are the place where customer interacts with organization (Bianco, 2023). Based on these interactions' customer forms the opinion about the product and services that he utilizes and brand too. Optimizing the touchpoints can help you win more clients and also boost the word-of-mouth marketing. That's why it's important to first know what a touchpoint is (Patel, 2023). Figure 24 illustrates the customers journey and mapped touchpoints.

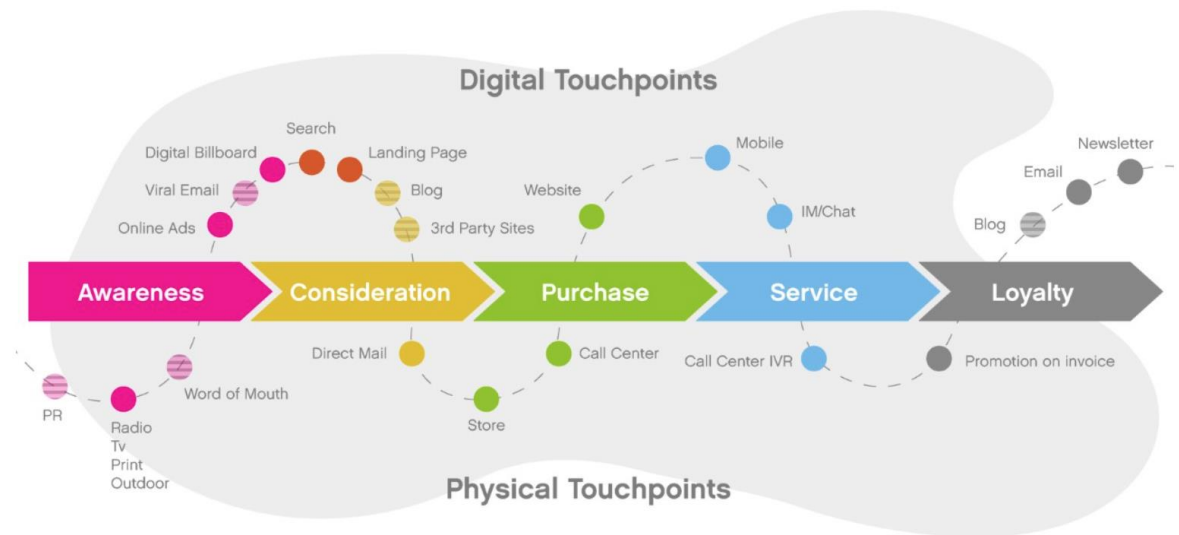


Figure 21. Example of customer journey and mapped touchpoints (GroHawk, 2020).

According to Bianco (2023), touchpoints can be divided into two major groups – digital and physical. Digital touchpoints are usually occurred during the pre-purchase part of the journey (During awareness and consideration), when physical touchpoints are happening during the purchase phase and end of the product lifetime (GroHawk, 2020).

Digital touchpoints mainly consist of marketing and branding activities such as advertising the products, boosting awareness through social media, developing website, and optimizing search engines (Patel, 2023). Post-purchase touchpoints are related to communication between customer and organization. Physical post-purchase touchpoints could be customer support, after sale communication, equipment maintenance etc. It is crucial to clearly identify each touchpoint at each stage and understand what meet customers' needs and what should be improved (GroHawk, 2020)

## Customer journey map






STAGE	Awareness	Consideration	Decision	Service	Loyalty
CUSTOMER ACTIONS	View online ad, see social media campaign, hear about from friends	Conduct research, research competitors, compare features and pricing	Make a purchase	Receive product/service, contact customer service, read product/service documentation	Make another purchase, share experience
TOUCHPOINTS	Traditional media, social media, word of mouth	Word of mouth, website, social media	Website, mobile app, phone	Phone, chatbot, email	Word of mouth, social media, review sites
CUSTOMER EXPERIENCE	Interested, hesitant 	Curious, excited 	Excited 	Frustrated 	Satisfied, excited 
KPIS	Number of people reached	New website visitors	Conversion rate, online sales	Product reviews, customer service success rate, waiting time	Retention rate, customer satisfaction score
BUSINESS GOALS	Increase awareness, interest	Increase website visitors	Increase conversion rate, online sales	Increase customer service satisfaction, minimize wait time	Generate positive reviews, increase retention rate
TEAM(S) INVOLVED	Marketing, communications	Marketing, communications, sales	Online development, sales, marketing, customer service	Customer service, customer success	Online development, customer service, customer success

Figure 22. Customer journey map (Yasar, 2022).

Figure 25 illustrates an example of the customer journey map with the visual depiction of stages customers go through when interacting with the company – from buying services online to accessing customer service on the phone. According to Yasar (2022), a customer journey map is made up of several components, including the following:

- Customer stages

Customer stages refer to the different phases or steps that a customer goes through during their interaction with a product or service. These stages typically include awareness, consideration, purchase, retention, and advocacy. Understanding these stages helps businesses tailor their marketing and communication strategies to meet the specific needs and expectations of customers at each point in their journey. For example, marketing efforts in the awareness stage might focus on creating brand awareness, whereas in the retention stage, the emphasis could be on customer satisfaction and loyalty programs (Yasar 2022.)

- Buyer personas

Buyer personas are detailed, semi-fictional representations of the ideal customers based on market research and real data about existing customers. These personas include demographic information, interests, behaviours, and pain points. Creating buyer personas helps businesses empathize with their customers, enabling them to develop products, services, and marketing messages that resonate with the target audience. By understanding the needs and preferences of specific buyer personas, businesses can create more personalized and effective customer experiences (Yasar 2022.)

- Customer touchpoints

Customer touchpoints are specific interactions between customers and a brand during their journey. These touchpoints can occur online (website, social media, email) or offline (in-store, customer service calls), and they play a crucial role in shaping customer perceptions and attitudes. Identifying and analysing these touchpoints helps businesses identify key moments of influence, allowing them to optimize these interactions to enhance customer satisfaction and engagement. For instance, a positive experience during a customer support call can significantly impact customer loyalty (Yasar 2022.)

- Opportunities

Opportunities in a customer journey map refer to potential areas where a business can make improvements or create positive experiences to influence customer behaviour positively. These opportunities can arise at various stages and touchpoints in the

customer journey. By identifying these opportunities, businesses can implement targeted strategies to address customer pain points, streamline processes, and enhance customer satisfaction. Seizing these opportunities can lead to increased customer loyalty, higher retention rates, and ultimately, business growth (Yasar 2022.)

Customer journey mapping (Yasar 2022) serves as a valuable tool not only for pinpointing customer pain points but also for identifying opportunities to distinguish a business from its competitors. By comprehensively understanding the customer experience, companies can recognize valuable openings that benefit both the business and its customers. Additionally, understanding the customer journey and pinpointing bottlenecks can lead to swift and efficient solutions, ultimately enhancing customer value by addressing their needs and concerns effectively.

#### 4.3 Sales Automation

According to the Bookstaber (Bookstaber, 2023), Sales automation is the process of using technology to perform often tedious human tasks, reducing manual time, effort, and error. Traditional sales automation has two primary applications. The first involves capturing and updating customer data, like pulling deal information from emails and adding to account records. The second is workflow automation, where actions in the sales process trigger once-manual tasks, like sending quotes for approval.

Sales automation offers various benefits for business looking to improve their sales processes, increase efficiency and improve overall productivity. It is important to keep in mind that sales automation is not about replacing sales representatives by machine, but to help them to optimize their work and improve overall efficiency McKinsey (McKinsey & Company, 2020) says that “automation of standard tasks is one of the megatrends that shapes the global economy. Cross-functional research by the McKinsey Global Institute (MGI) indicates that approximately a third of sales and sales operations tasks can be easily automated with today’s technology. This makes sales one of the most promising functions in terms of automation potential. Figure 23 illustrates the level of sales-related activities that can be automated.

### More than 30% of sales-related activities can be automated.

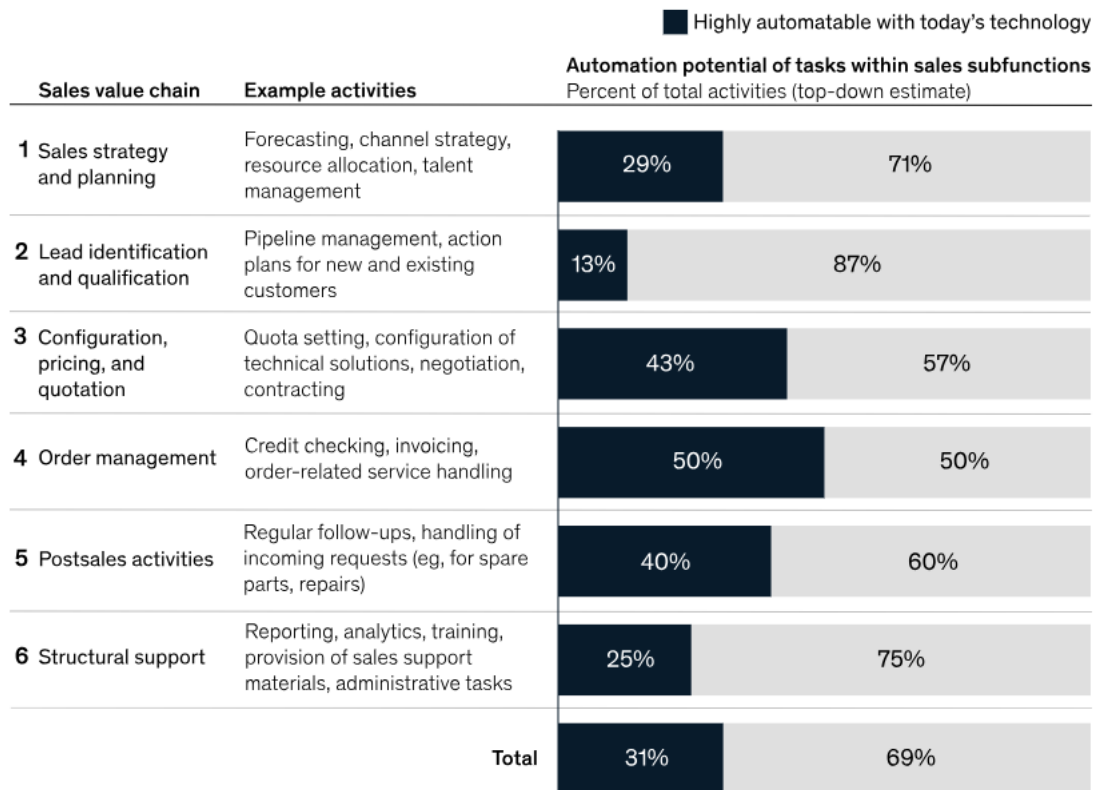


Figure 23. Sales-related activities that can be automated (McKinsey & Company, 2020).

According to Newberry (2023), there are two key elements in sales automation to grow the business: sales automation software and data collection. *Sales automation software* also refers as Customer Relationship Management (CRM) increases productivity and revenues. When performed by humans, all of these tasks take away time from sales reps' primary job: selling. When the staff members offload the process-oriented work to automation tools and AI, they give reps more time to do what they do best (and what they love). Proper software helps to avoid potential human errors that happen when sales representatives copy-and-paste messages to customers and prospects (Newberry, 2023). Data collection and management is crucial, but time-consuming. Sales automation software can take care of customers and lead data automatically behind the scenes. This automated integration ensures that a company always has access to the most up-to-date data and conversations each customer and prospect has had with every member of your team. No matter which department spoke to them last. It helps to determine which attributes the sales reps have access to and in which order (Newberry, 2023).

#### 4.3.1 CRM in Sales

CRM, or Customer Relationship Management, has different definitions depending on individual perspectives, as different stakeholders may perceive its key benefits differently, aligning with their primary interests for their company. Additionally, CRM evolves over time due to exponential technological improvements. Nonetheless, it remains crucial to define CRM by incorporating diverse perspectives.

According to the Salesforce (2023), “CRM is a technology for managing all company’s relationships and interactions with customers and potential customers. The goal is simple: Improve business relationships to grow business. A CRM system helps companies stay connected to customers, streamline processes, and improve profitability”.

A company employs the CRM system as a tool to enhance profitability by seamlessly integrating customers, sales, marketing, and overall company operations into a unified system. Once properly implemented, this system facilitates a comprehensive understanding of both existing and potential customer relationships through clear analytics, metrics, figures, and results. Additionally, it aids in consolidating and maintaining up-to-date data in a centralized location, serving as a technological imperative for modern businesses across diverse industries. Implementation of CRM enables continuous interaction and adaptation to the swiftly evolving needs and desires of customers. Standard Marketing and CRM flow is visualized in Figure 27 below.



Figure 24. Marketing automation and CRM flow (Von, 2017).

Any CRM system can be visualized in the form of a funnel, where qualified leads from marketing automation activities are initially filtered from being “raw leads” to “marketing qualified leads” and then enter the CRM system for the final sale process. “Marketing qualified leads” are registered in the CRM system so every sales agent can see how the customer was approached, what was being offered to the customer, etc. Once the sale is accepted, leads start to be called “opportunities”. Agreement signature or money transfer usually classifies the successful sale and is called a victory or “won,” and a lost opportunity (when the customer changes their mind at the last moment) is called a “closed” deal.

#### 4.3.2 Sales Automation deployment process

According to McKinsey (McKinsey & Company, 2020), “to capture the benefits of sales automation, sales leaders must first recognize that, while anyone can deploy sales automation and capture its benefits, those with standardized sales processes in place and collocated/centralized sales support functions usually capture bigger benefits from automation and see impact faster than their peers. This is because their costs for data integration, technological deployment, and change management are lower. Companies should select an implementation approach that reflects their starting point, the structure of the sales value chain, the competitive landscape, and customer preferences”.

McKinsey has identified three main phases in sales automation deployment process: 1) quantifying automation potential and prioritizing opportunities, 2) Implementing prioritized use cases and 3) Scaling up.

In Phase 1, the objective is to understand and prioritize automation potential. A selected team calculates the automation potential at the subtask level and prioritizes use cases throughout the entire sales function. In Phase 2, the focus moves to implementing the prioritized use cases. This phase encompasses a thorough review and mapping of processes in the identified priority areas. The process unfolds in three key steps: 1) removing no-adding value activities, 2) standardizing the process and 3) automating the tasks. In Phase 3, the focus is on scaling up the automation efforts. Rather than attempting to automate the entire sales function at once, successful companies adopt a phased approach. They initiate a pilot program to test and refine new processes, starting with the most promising and least critical applications. Automation teams collaborate closely with sales representatives and support staff to ensure that their insights and expertise are integrated into the system. This collaborative approach not only fosters buy-in but also mitigates potential risks.

McKinsey team adds (McKinsey & Company, 2020) that “for automation programs to be effective, salespeople need to work differently. Change management involves training reps and managers; tracking impact via key performance indicators (KPIs), time saved, or the monetary value of bot-enabled customer conversion; putting in place appropriate incentives; and communicating with all relevant stakeholders. Best-in-class companies train sales reps both in workshops and in the field. As manual tasks are reduced, leaders can increase productivity targets and incentivize reps based on customer oriented KPIs, such as revenue growth or acquisition rate. A periodic communication cadence should be established to engage and inform reps in “townhall” meetings. In our experience, change management is a crucial catalyst of success. In fact, 90 percent of companies that successfully scale automation invest more than half of their budgets in change management and capability building”.

Summing up, various parameters and value-based matrix can be used not only to build the customer segmentation, but also to identify opportunities for contracts sales. Customer journey mapping combined with the equipment lifecycle can be used to mark sales pain points and assign responsibilities throughout the cycle to the right people. Moreover, Sales automation can increase the efficiency of reaching out the potential

customers. Utilizing the CRM system and data collection methods, service offerings can be based on the customer segment needs which increases the chances of successful sale.

Next, Section 4.4 will present the conceptual framework of the study that pulls together the relevant elements from available knowledge on how to identify the sales opportunities with the help of customer segmentation, customer journey model and sales automation.

#### 4.4 Conceptual Framework

This section presents the conceptual framework of this study. This first element, Customer Segmentation, was explored by outlining various segmentation approaches and methodologies and by linking them to the company's strategy and offerings to improve sales processes.

The second element, Sales touchpoints, covered different types of touchpoints within the customer journey where the customer journey map was selected as a template for defining the customer journey and its key touchpoints for potential sales opportunities.

The third element, Sales automation, focused on the overall understanding of CRM and automation possibilities for sales. The automation deployment process was covered and used to further develop the overall automation process for the case company.

Figure 28 shows the selected elements combined in the conceptual framework. This framework helps the case company identify sales opportunities.

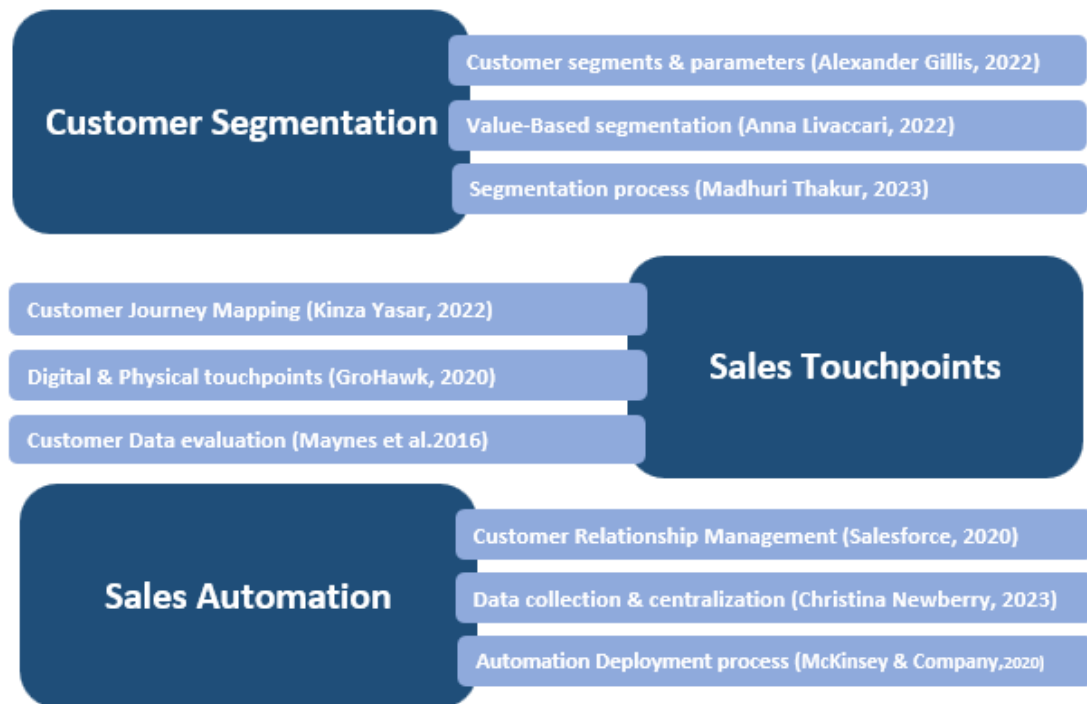


Figure 25. Conceptual framework to identify sales opportunities.

The conceptual framework provides guidance for identifying the sales opportunities for sales for building the proposals in the next section.

## 5 Building Proposal for Contractual Services Sales Improvements

This section of thesis focuses on the practical application of the theoretical concepts described above. Specifically, it focuses on building a Proposal how to improve current sales activities of contractual services based on the equipment lifecycle, i.e. via implementing customer segmentation, sales touchpoints, and sales automation developments for the contractual services of the case company.

### 5.1 Overview of the Proposal Building Stage

The proposal development based on the findings from the CSA (Data 1), insights gathered from the literature review covered in Section 4, and fresh data obtained from the stakeholders (Data 2) focused on collecting stakeholders' opinion and guidance into the proposed improvements.

Initially, the proposal development process was influenced by the findings from the CSA (Data 1), pointing out the case company's strengths and weaknesses for the current sales process. Based on the CSA findings, three key focus areas were selected: 1) there is a need to create customer segmentation and link these segments to the right product, 2) there is a need to utilize more touchpoints for sales using the data collected throughout the equipment lifecycle, 3) there is a need to automate current manual sales process.

To address these selected areas, the relevant literature was studied and used to create a conceptual framework (CF). Accordingly, the CF refers to 1) creating the customer segmentations by using industry-based parameters and using value-based matrix to map customers and services based on their value. It suggests 2) how to map digital and physical touchpoints on the customer journey by using customer data. Its advice 3) on how to collect customer data and integrate it to the CRM system to be utilized in sales to avoid manual workload. Stakeholders' inputs were also taken into account while building the proposal for sales improvements.

Next, the proposal building began by integrating the findings from the CSA and CF. The initial results were shared with the stakeholders from the case company. This feedback from the stakeholders became Data 2 for the study. Finally, the topics included in the proposal were chosen based on how relevant they were to improve the current sales figures and processes.

## 5.2 Findings from Data 2 (pulling together CSA, CF, and Data 2 for the Proposal)

To build the initial proposal for improving the current state of the contractual services for the case company, a meeting was organized with the service-related stakeholders. The insights collected during the meeting form the Data 2 point for this study. The meeting participants provided valuable inputs on three main sources: (1) Data 1, which included findings from the CSA, (2) the conceptual framework based on the literature review and (3) Data 2, gathered from the co-creation round with key stakeholders. These valuable inputs serve as the foundation for proposal building. Table 4 below summarizes the key topics and comments from the meeting.

Table 4. Key stakeholder suggestions (findings of Data 2) for Proposal building in relation to findings from the CSA (Data 1) and the Conceptual framework.

	Key Focus area from CSA (Data 1)	Inputs from Literature (CF)	Stakeholders Suggestions	Description of the suggestion
1	Customer Segmentation	Parameters for Customer Segmentation	Parameters suggestions: a) Fleet size b) Sales Volume	Fleet size and sales volume per equipment unit have a correlation with the customer behavior when it comes to services
2		Value-Based Segmentation	Combine fleet size and contract type	The higher the fleet size the probability of customer having own service workshop is higher and vice versa
3	Sales Touchpoints	Customer Journey Mapping	Map available data and unused touchpoints	Company collect sufficient amount of information which should be linked to each stage of customer journey
4			Set industry related KPIs with sales team a) Conversion Rate b) Churn Rate	To monitor sales performance the appropriate KPIs should be set
5		Customer Data Evaluation	Implement a data quality management process to ensure that customer data is accurate and complete	Customer data evaluation is essential for ensuring that businesses have the data they need to improve customer relationships and make informed decisions
6	Sales Automation	Data collection	Data assesment	To identify right contacting channel the customer data completeness analysis should be conducted
7		CRM	Visualize the process	Before integration any expensive CRM systems it is important to have a preliminary vizual map of how the process should look like
8		Automation deployment process	Identify and prioritize tasks that can be automated	Outline the automation process for current manual sales tasks.

The first topic during the meeting related to the customer segmentation parameters. Based on the CF, three main inputs from literature were discussed. The discussion started with the topic of parameters. As was stated in the literature review, the parameters for customer segmentation vary from industry to industry and should be pick carefully based on the knowledge and data availability of customers within the company. The stakeholders' experience of over than 15 years should be utilized in choosing the right parameters for segmentation. Respondent 1 commented:

*There are two main parameters that should be taken into account to create a proper customer segmentation: fleet size and revenue per equipment. Some customers may have one unit of equipment, while others over two hundred. Based on the fleet size they will need different service packages. Additionally, if a customer delivers more revenue with a smaller fleet than the customer with the bigger fleet, then this aspect also should be taken into account and customer should be perceived as a high-value customer. (Respondent 1)*

The respondents agreed that fleet size and sales per equipment unit should be taken into account with other parameters while conducting the customer segmentation analysis.

Another input from the literature related to the value-based segmentation matrix. Literature suggested to implement the value-based matrix and map product and services according to the customer segments to increase efficiency of sales. Respondents were asked to provide their opinion on how the contract types can be mapped based to the customer value. Respondent 2 provided the following insight:

*There is a correlation between a customer's fleet size and the services they use. In my experience, the larger the customer's fleet, the less often they contact the case company for services. This is logical, as it is cheaper for the customer to have their own workshop for a large fleet, as the cost of equipment maintenance will be lower overall. The same logic applies to self-employed employees. The majority of our customers for cranes have only one or two units of equipment, and therefore need as much service assistance from us as possible. (Respondent 2)*

The second topic of the meeting related to another focus area found during the CSA – sales touchpoints. The topic covered two main key literature findings: customer journey mapping and customer data evaluation. The CSA revealed that during current sales processes, sales representatives are utilizing only two touchpoints: equipment sales and warranty expiration. Literature review advised to create a customer journey map that should include various customer stages, customer segmentations, and touchpoints and linked identified potential opportunities. Respondent 3 pointed out that case company should pin the data availability at each stage of the customer journey and assigned proper department to each stage to be responsible for the sales. Additionally, respondent 1 and 2 mentioned that proper KPI should be set to monitor each stage of the customer journey. Respondent 4 said that proper dashboard in future should be created to monitor sales funnel and see conversion at each stage of the lifecycle. Respondent 4 shared his experience:

*In my previous company we had a great report to monitor customer journey. At each stage we had KPIs in place and we could see the sales conversions and churn rates. That data was used as a background for any business discussion whenever we had a meeting related to contractual services. (Respondent 4)*

Based on personal experience, Respondent 2 suggested that the data sources and KPIs should be set in cooperation with sales representatives.

The third topic of the discussion focused on the sales automation opportunity. CSA revealed that current sales processes are fully manual and to schedule a contract renewal, the sales rep should contact the customer via phone or email and agreed on the workshop visit where the contract can be updated. To automate the contacting process and scheduling the visit via phone or email, CF suggest to implement a CRM system where the data of customers can be stored and then pushed to the marketing cloud for automatic customer notifications via any available channels. Respondent 1 said:

*Before case company start implementing any tools, sales team need to have a clear understanding of the sales automation process and its impact on business in sales volumes. They need to know what steps are involved in the process, and what tools are needed to automate each step. They also need to decide how the tools will be integrated with each other and with the existing CRM system. (Respondent 1)*

Respondent 2 pointed out that the case company should also take cost of these tools into account. There are a wide range of sales automation tools available, and the cost can vary significantly. It is important to choose tools that are affordable and that meet the specific needs of the business. Respondent 3 added:

*Instead of bombarding our customers through all available channels, we should first identify our preferred contact data format: email, phone, or address. Once we have evaluated our data, we can select the most efficient contact source to use in the marketing cloud. (Respondent 2)*

All respondents agreed that the case company should conduct a customer survey to get the feedback on their customer's preferred contact channels.

The comments provided by the stakeholders were taken into account while building the initial proposals for the case company.

### 5.3 Initial Proposal for Sales improvement

The initial proposal is based on the identified weaknesses from the CSA, CF and inputs from the stakeholders. The initial proposal focuses on the three focus areas which should potentially improve the current state of the case company's contractual services sales. These three focus areas include: customer segmentation, sales touchpoints and sales automation. The elements of the initial proposal are presented below.

#### 5.3.1 Customer Segmentation

The internal customer data was studied to create four distinct customer segments that are different from each other. The following parameters were used to conduct the segmentation: fleet size, revenue per equipment unit over lifecycle, service type users (spare parts/maintenance/inspections), number of workshop visits within warranty time, number of contact attempts (physical and digital) for service assistance. The analysis of parameters and customer behavior was combined with internal case company's documentation and inputs from the marketing manager for a proposal to create four distinct customer segments:

- Achievement Aspirants (Loyal)

Achievement Aspirants have a small fleet of 1-3 equipment units. They deliver high revenue value and in return expect high service value from the case company. Mainly their equipment belongs to self-employed customers and used in logistics. Achievement Aspirants perceive higher value of genuine items, certainly structural parts and electronics. They can call specialist when needed or required, consider replacement of components to increase uptime of their equipment and as a result income for themselves. Proactive maintenance.

- Cost-Conscious Explorers (Low Value)

Cost-Conscious Explorers are the owners of a high size fleet of 10+ equipment units. They do not bring much revenue to the case company's business. Cost-Conscious Explorers do not value operational support as much and seek only lowest possible items at any point of time for spare parts. Cost-Conscious Explorers do not value contracts and

would prefer to go to the non-licensed workshop to fix their equipment rather than to overpay for licensed workshop. Often only reactive maintenance.

- Efficiency Enthusiasts (High Value)

Efficiency Enthusiasts seek the highest productivity and best technical support for their load handling value cycle. They own an average size fleet of 3-10 equipment units, but unlike Cost-Conscious Explorers deliver more in revenue. They expect short response time, seek improvements on operator performance. Efficiency Enthusiasts seek contracts aligned with the productivity objectives and TCO.

- Reliability Advocates (High Potential)

Reliability Advocates have a medium-sized fleet of 3-10 equipment units. Their revenue per unit is higher than average, but for that they expect stable performance of their equipment. For that reason they value predictable cost of contracts (for repair wear and maintenance). They might exclude costly preventive components in base contract, seek authorized service support as to assure service standards are respected (high availability, reliability and safety). Reliability Advocates also value support to validate/improve uptime of their equipment.

Figure 29 illustrates how the contract types (described in Section 2), can be linked to the customer segments based on their personas.

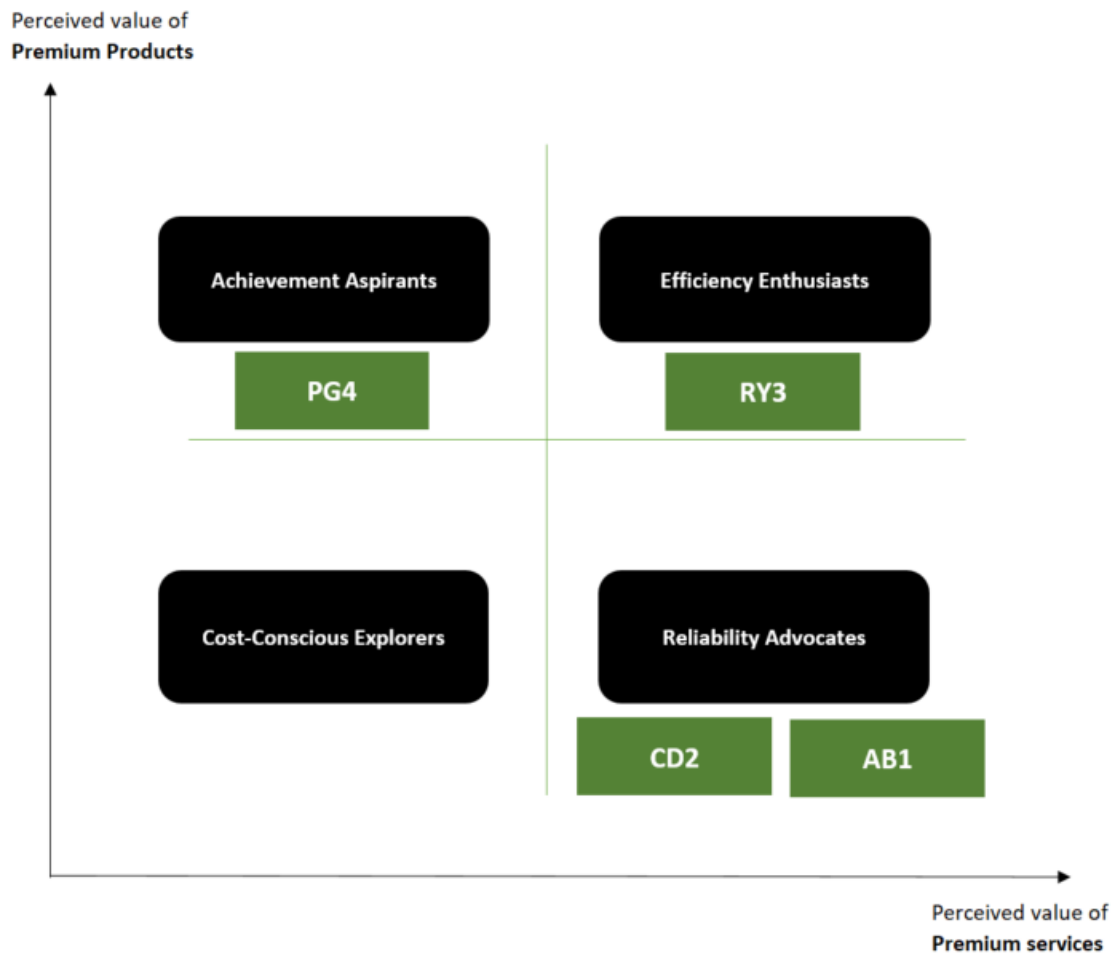


Figure 26. Value-based matrix of customer segments and contract types.

As can be seen on Figure 29, the Achievement Aspirants are very loyal customer segment. They value high service of the case company and willing to pay for it. PG4 has all features that suit the Achievement Aspirants. It includes all features of other contracts and access to online support. Efficiency Enthusiasts are high-value customer segment. They value high service of the case company and willing to pay for it. Total RY3 is the most expensive and comprehensive contract type in the range. It includes all features of other contracts and has 24/7 access to online support. Reliability Advocates expect stable long-term performance of the equipment and are not willing to overpay for services. For that reason, the warranty extension and CD2 contract type are the ones that suits this customer segment. Cost-Conscious Explorers do not see any value in any of contract types and consider that as a waste of money. For that reason none of the contact types can be matched to that customer segment.

The proposed segmentation and contract type link can be used in sales across all available touchpoints. For example, when customer enters the premises to purchase the equipment, the sales representative knowing the background information about the customer can on premises offer the appropriate contract type that suit to this customer segment (e.g. customer already has 3 case company's equipment, the average revenue he delivered X, the industry he operates is construction then he must be interested in particular contract type).

### 5.3.2 Sales Touchpoints

The analysis of the current sales processes showed that only two touchpoints are used to sell contractual services throughout the whole equipment lifecycle: equipment sale and standard warranty expiration. The activation of other touchpoints for potential sales is based on the findings from the CSA, best practices from the literature and discussions with the stakeholders.

To identify sales opportunities the customer journey mapping was conducted as well as customer data at each touchpoint was evaluated. The customer journey map with data evaluation is illustrated on Figure 30 below.

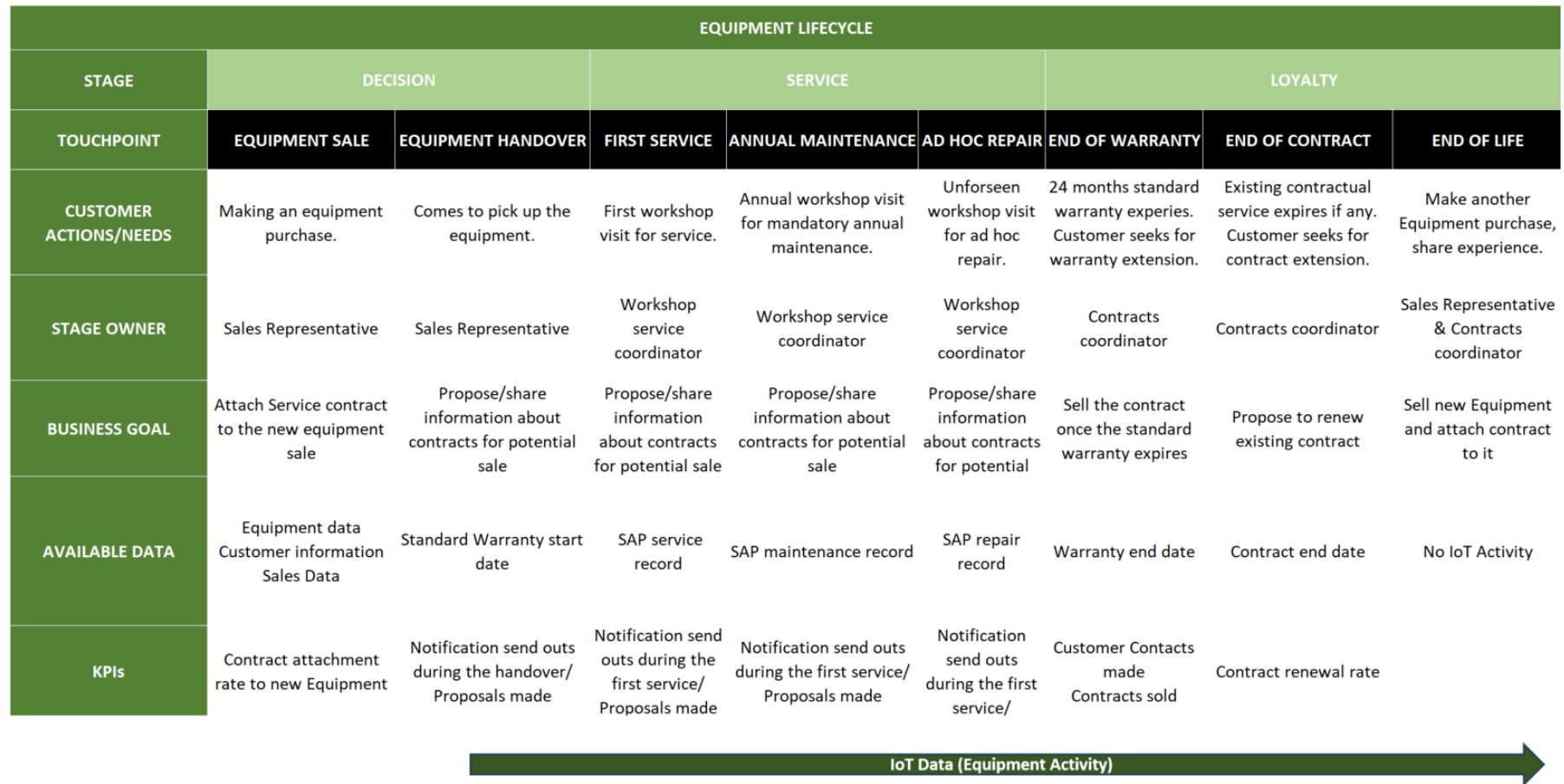


Figure 27. Customer Journey Mapping (proposal).

Based on the discussion with the key stakeholders, the main customer needs were identified and mapped to each touchpoint. To increase sales and share responsibility across the equipment lifecycle, the stage owners were identified and linked to each touchpoint. Business goals for each touchpoint were set and linked to the KPIs. Additionally, data which is being collected throughout the equipment lifecycle was discussed with the stakeholders and chosen. The data was chosen based on the impact that it can lead to increase contractual services sales. Once the customer journey mapping was conducted and most important data elements for sales opportunities were chosen and linked to each touchpoint, the sales proposal were made and presented below.

#### 5.3.2.1 Equipment Handover

Equipment handover plays an important role in the equipment lifecycle. During the equipment handover the customer comes to the case company's premises to pick up the purchased equipment. It is important touchpoint for sales because at this point sales representative can offer the contractual services face-to-face. Currently, this touchpoint is not utilized for the contractual services at all.

To increase contractual sales at this point of lifecycle, first the owner of the touchpoint should be defined. Sales representative was chosen as the owner of this touchpoint sale. The annual performance review of the sales person should involve the number of sold contractual services at the point of Handover. To help sales representative to increase awareness of the contractual services, case company should provide additional information related material to the customer. The thesis proposal is to create a contractual service related brochure and attach it to every equipment. This brochure can wait the customer in the cabin or be given face to face.

#### 5.3.2.2 First Service, Annual Maintenance, Ad Hoc Repair

First service, annual maintenance and ad hoc repairs are very similar to each other touchpoints. All of these touchpoints require customer to visit the workshop. Anytime customer's equipment enters the workshop the SAP data entry is being created. The workshop service coordinator was chosen to be the main stage owner for contractual services sales. There are several important data inputs which are being collected during

the workshop visit and can be used in sales opportunities: workshop address, visit date and service repair description. This information combined with the Equipment data and Customer data (collected during the Equipment sale), can be used to generate an automatic messages such as:

*“Dear customer X,  
On this date Y you have visited the workshop located in Z, according to the billing information you requested to fix N. Do you know that this visit could be free of charge if you had active the Contract Type 2? Follow the link to explore more.”*

The process of such automated lead opportunities is described in Section 5.3.3

#### 5.3.2.3 IoT Data (Equipment Activity)

IoT data is being collected throughout the whole equipment lifecycle and gets activated once the customer picked up the equipment (Equipment handover touchpoint). IoT sensors that are placed on multiple parts of the equipment are monitoring and collecting the information about the equipment performance, such as number of hook lifts done on a particular date and the distance traveled for a particular timeframe. This data can be used to activate additional contractual services. By utilizing the automated notification process (described in section 5.3.3), case company can create a specific set of rules to notify equipment owners about contractual services activation. For example, if IoT spots an abnormal utilization rate of the crane (crane is very activate in comparison to other similar cranes), then automated system by using customer information (email/phone), can send him a notification with the message:

*“Dear customer X,  
On this date Y, your crane has worked Z hours. High equipment workload Might lead to unforeseen breakdowns that can lead to downtime and profit loss. To prevent that we offer N range of contracts that can help you maintain the original performance of the equipment for a long time.”*

Similar message can be linked to the distance customer traveled within specific period of time. The proposed rules for automated messages are displayed below in Table 5.

Table 5. IoT related notification rules.

IoT data Input	Description	Rule
<b>Distance</b>	Distance traveled by the equipment	If distance travelled within 30 days is higher than 20K km, then send notification
<b>Hook lifts</b>	Number of hook lifts for specific period of time	If number of hook lifts within 30 days is higher than 5K then send notification
<b>Total Weight</b>	Total weight load on the back of the road crane	If Crane total weight load is higher than 30 tones, then send notification

Below is the description of how to implement proposed automated rules.

### 5.3.3 Sales Automation

The current sales process was studied in the CSA and revealed that the process is fully manual. Sales representative has to manually filter the data about the equipment in the spreadsheet, find the needed contact information and reach the customer for potential sales. The process is inefficient.

The proposal below outlines the automation process for the case company based on the findings from the CSA, suggestions from the literature review and the inputs provided by various stakeholders.

First, the data assessment was conducted to understand the best contact channel to reach the customer. According to the analysis, Finnish LC customers share 84% of email addresses, 46% of phone numbers and 51% of physical business addresses. Based on the analysis it is suggested to use email as the main source of reaching out the potential customers.

The Marketing cloud was chosen as the primary tool for email send outs. Marketing cloud is a well-known provider of digital marketing automation and analytics software and services. Marketing Cloud is part of the Salesforce suit which is already integrated in case company for equipment selling. Marketing cloud has a possibility to set specific rules for sales (what customer, when to send, what to say) which can be used for a high volumes of contacts.

The proposal of automation by utilizing the marketing cloud is illustrated in Figure 30 below.



Figure 28. Proposed automation process.

The proposed sales automation process consists of four main stages:

- Data extraction from SAP

The process starts when the data from SAP (Enterprise Resource Planning) is pushed to the BigQuery. This is a fully automated process which will require data architects assistance. The SAP stores equipment data, customer data, standard warranty data and existing contractual data. This data must be pushed to the BigQuery in the format of tables.

- Data manipulation in BigQuery

Once the data is available in the BigQuery it can be manipulated to create a complex query which results can be saved in suitable for the case company's format (preferably CSV). The query results is a table that includes contact information of customers across all possible sales stages of the lifecycle and proposals for contract sales and renewals when the standard warranty expires.

- Query Generation and Extraction

The query can generate the results on a chosen frequency (every day, every month, every quarter etc.). The query results extracted in the suitable format and uploaded to the marketing cloud. This is the only manual process that remains in the process and takes less than a minute to conduct (run query -> upload to salesforce). The result of the query might have over thousands of the contacts given that the process can be expanded to other markets.

- Marketing Cloud send outs

Once the data is in the Marketing Cloud, it will start automatically send emails to the potential customers with the pre-written text and pre-defined service the customer might be interested in based on chosen rules.

Case company already has salesforce in place which makes marketing cloud integration an easy process (marketing cloud is a part of Salesforce suit). It is important to keep a track of the processes and have monitoring tools in place. For that purpose, suggestion to use QlikSense was born. QlikSense has a possibility to connect data from the BigQuery and Marketing cloud and it is already utilized in the case company.

Figure 31 illustrates the relationship between the tools within the automation process and QlikSense.

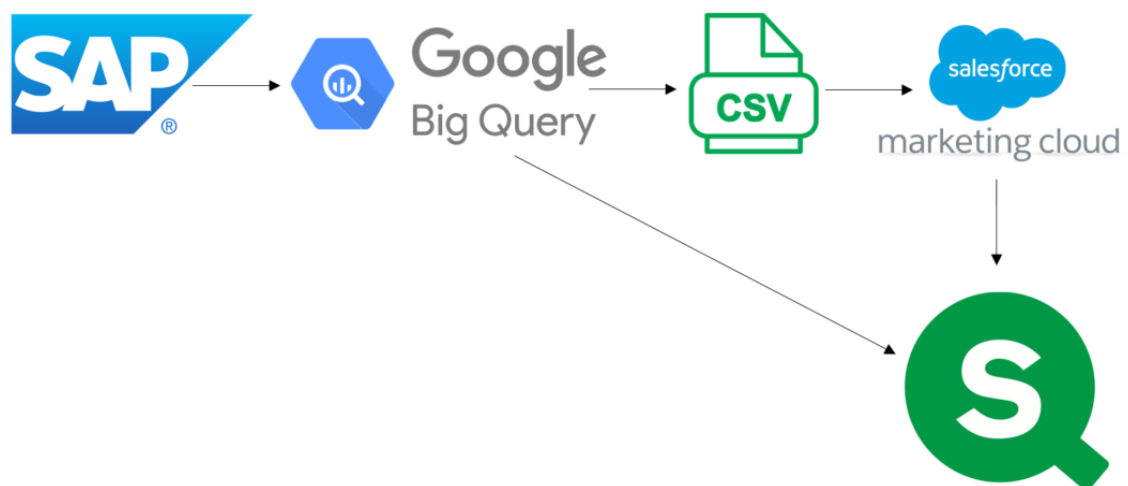


Figure 29. Relationship between proposed automation process tools and QlikSense.

The QlikSense dashboard should have a possibility to filter customer, contract type, date duration. The main table should display the equipment lifecycle with the touchpoints and measure the sales conversions which is one of the main indicators for successful sales. The dashboard example is presented below in Figure 32.

	FILTERS						
	Contract Type		Date Range		Customer		
	EQUIPMENT LIFECYCLE						
	EQ SALES	COMISSIONING	HANDOVER	SCHEDULED MAINTENANCE	AD HOC MAINTENANCE	END OF CONTRACT	END OF LIFE
SEND OUTS #	35600	24800	20250	15100	3020	4650	2340
ACCEPTED	1424	620	303.75	453	75.5	139.5	0
CONVERSION RATE	4%	2.50%	1.50%	3%	2.50%	3%	0.00%

Figure 30. Proposed dashboard example.

The initial proposal is summarized in the next section.

#### 5.4 Summary of the Initial Proposal

The summary of the initial proposal is illustrated on Figure 34.

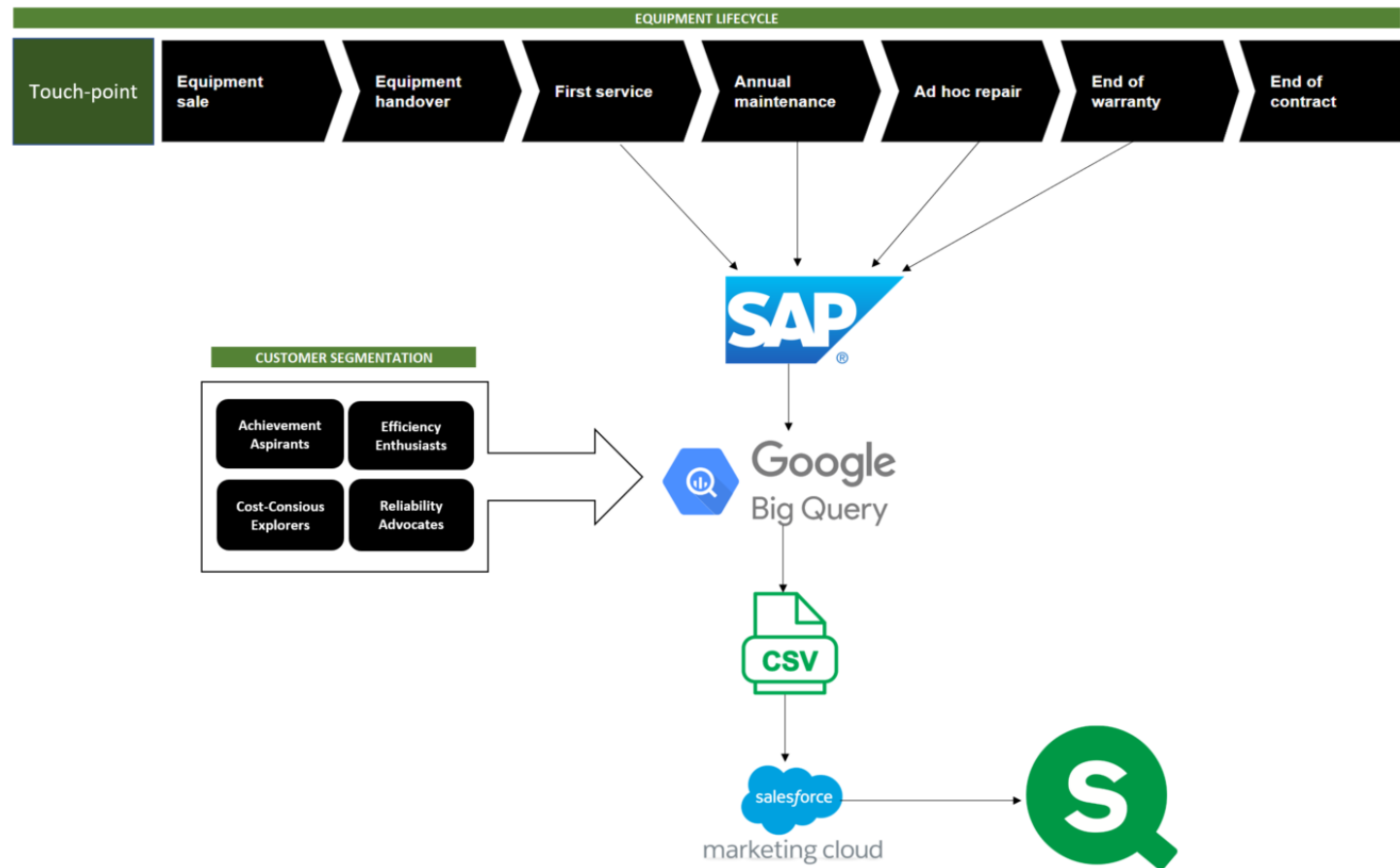


Figure 31. Summary of the initial proposal in one visual.

The initial proposal addresses three main focus areas which were defined as weaknesses in CSA: customer segmentation, sales touchpoints, and sales process automation. The customer journey mapping was created where data points were linked to each touchpoint. Based on the data, availability the potential sales opportunities were proposed. To increase sales efficiency, the customer segmentation was created and different contract types were proposed to each customer segment. Once the sales opportunities were identified and customer segments created, the automation process was outlined.

In the next section, the results from the validation of the initial proposal are presented.

## 6 Validation of the Proposal

This section reports on the results of the validation stage and points to further developments to the initial Proposal. At the end of this section, the Final proposal for contractual sales opportunities are presented.

### 6.1 Overview of the Validation Stage

The validation stage is an important part of final proposal building. It can ensure that the case company can reduce the risk of failure and increase the chances for successful proposal integration.

The validation of the initial proposal was done in two steps: first, it was presented to the key stakeholders and then based on their comments and recommendations, the final proposal was created and presented to the case company stakeholders for possibility of its implementation. The validation rounds focused on three main proposals: customer segmentation, identified sales touchpoints and sales process automation.

First, customer segmentation was validated. The data which was used for segmentation was presented to the stakeholder. Once the data was discussed, the contract type connection to these segments discussion started. Validation of customer segmentation concluded on the need of the A/B test to make sure that service contracts are linked accurately to the segments. A/B test parameters were discussed and timelines for validation set.

Secondly, validation of identified potential sales touchpoints begun. Customer journey mapping was reviewed and data availability was discussed. The assigned stage owners were asked for their opinion. Financial impact analysis was done to evaluate potential sales increase for each contract type.

Thirdly, the sales automation process proposal was validated. Discussion started with the review of the proposed tools which supposed to be used in the automation process. Once the tools were validated, the cost analysis was made to understand financial impact of the IT integration. The features for building the prototype were discussed and collected.

The initial proposal validation stage is an important part for the final proposal building. The results of the validation stage are presented below.

## 6.2 Developments to the Proposal (based on Data Collection 3)

The initial proposal was presented to the stakeholders and discussed for further development. Feedback from the stakeholders was gathered and presented in Table 6.

Table 6. Stakeholder's feedback, summary.

CSA Focus Area	Initial Proposal	Stakeholder's Feedback
Customer Segmentation	Customer Segments	- "Proposed segments was good and there is not much to add/correct"
	Value-Based Matrix	- "A/B test is needed to validate contract type connection"
Sales Touchpoints	Data Mapping	- "Map the data points that we are missing and could collect at each touchpoint to use in other sales opportunities"
	Proposed Touchpoints	- "Consider to conduct a pilot test in one of our workshops for specific group to understand a real-world scenario.."
		- "Customer feedback mechanisms should be integrated into each touchpoint"
Sales Process Automation	Automation logic	- "Explore the opportunity of AI-Driven decision-making process within the workflow"
		- "Cost-benefit analysis needed to understand financial impact of tool adoption"
	Automation tools	- "More detailed analysis and comparison of available tools on the market needed to ensure optimal tool selection for implementation"

As seen from Table 6, first, the customer segmentation proposal was discussed. The key stakeholders evaluated the proposed segments and methodology which was used to build them. All stakeholders agreed that the proposed segments are well-defined and aligned with their experience and knowledge. Next, the value-based matrix was discussed. Stakeholder 1 said:

*"A/B test is needed to validate contract type connection to the customer segment. Although the proposed connection makes sense, we need to measure the conversion of contract sales per each customer segment to make sure that the allocation of the contract matches the customer segment."* (Stakeholder 1)

Another stakeholder added:

*“Customer survey is needed to measure the accuracy of contract mapping. It is important to ask each customer segment what contractual services they actually need. Combining information from the customer survey with A/B test will be used a solid background”. (Stakeholder 2)*

Second, customer journey mapping was discussed. Discussion started with the proposed stage owners. Stakeholders agreed that the proposed stage owners fit well to the assigned touchpoints. The KPIs which were chosen as performance metrics also aligned to the case company's vision. Stakeholders also agreed that the most valuable data points were displayed on the customer journey map. One of the stakeholders provided valuable feedback regarding data entries:

*“Although you displayed most important data points on the customer journey map, it would be also beneficial for the case company If you could map the data points that we are missing and could collect at each touchpoint to use in other sales opportunities. For instance, during the maintenance we collect SAP data related to the equipment, but we do not have any information about the person who delivered this truck to the service – I am talking about driver. Driver's information can be used in various marketing campaigns that could lead to the services sales.” (Stakeholder 1)*

Proposed sales touchpoints were discussed. The first proposed additional touchpoint related to the equipment handover. Stakeholders agreed that we do not have too many data points to make digital sales opportunity and all we can at that point is to increase awareness of the contractual services by helping sales representatives with documentation such as brochures in the cabin. The second proposal relates to the digital opportunities around the first services and first maintenance workshop visits. Stakeholders agreed that we collect comprehensive information from SAP regarding the equipment. Proposal to combine customer information and SAP information to generate digital sales opportunities was well taken. One of the stakeholders shared his comments regarding the proposed IoT-based digital sales opportunities:

*“IoT indeed, can be used to generate sales leads, but I believe that proposed IoT rules should be industry driven. Many of our customers utilize equipment in logistics, others in construction. It is more natural for their*

*equipment to travel long distances than for equipment which is used in contractual fields where they are standing on the field for a long time. Industry should be considered to develop more precise rules.” (Stakeholder 2)*

Third, the automation of sales process was presented to key stakeholders. The validation of sales process automation started with the process overview. The process seemed logical and had no further development feedback. One of the stakeholders suggested to understand the feasibility of integrating AI logic into the process. Another stakeholder said:

*“Integration of any tools is an expensive project and should be properly budgeted and aligned with the company’s strategy. Cost benefit analysis is needed to understand financial impact of tools adaptation.” (Stakeholder 1)*

Stakeholders also pointed out that there are many CRMs on the market besides salesforce and marketing cloud, for example Oracle and Creatio. Some of them, like Zoho CRM, have in-build AI which can help in identifying hot leads and sending them matching contract service. Also, stakeholders pointed out that QlikSense, which was used as a visualization tool can be replaced by other more known products like PowerBI and Tableau. In conclusion, stakeholders agreed that more detailed analysis and comparison of available tools on the market is necessary before selecting anything for implementation.

## 7 Conclusion

Section 7 contains a summary of the whole thesis process highlighting the results, thesis evaluation, and lessons learn

### 7.1 Executive Summary

The aim of the thesis was to identify sales opportunities for contractual services around the case company's equipment lifecycle. The study was triggered by low service contracts attachment rate to the new equipment and general financial performance of contractual services.

This study was done by conducting the current state analysis of the case company's contractual services and proposing focused suggestions on how to improve its sales. CSA covered the current sales processes, equipment lifecycle and its key touchpoints as well as conducted analysis of a customer survey which contained questions regarding the usage of contractual services. The study used primary and secondary data. Primary data was collected from the customer survey and various interviews with the key stakeholders. The secondary data was gathered as reports from the data systems at the case company.

The current state analysis revealed that there are challenges related to Contractual services sales. First of all, the case company had no clear understanding of who their target audience is and what service them to offer, second, only two touchpoints within equipment lifecycle was used, and third, the sales process was fully manual which potentially could lead to human mistakes and low volume of application processing. To improve these weaknesses, the study looked for suggestions from the literature and best practice how to improve customer segmentation and link segments to the service, how to identify more sales touchpoints and how to efficiently automate sales processes.

The initial proposal was developed based on the findings from the CSA combining the findings from the literature review and best practices. Four main customer segments were developed based on the industry and specific customers' parameters such as equipment fleet size and revenue per equipment. Then each contract type was linked to the customer segment using the value-based matrix approach. To identify potential sales

touchpoints, customer journey mapping was conducted. The Customer journey map included the stage owners, data points which are being collected at each touchpoint and KPIs were set to monitor sales performance of contracts sales. Based on the data gathered on the journey mapping, potential sales touchpoints were defined and presented. Finally, the sales automation process was outlined. The process starts with data collection of SAP ERP system entries and migration of that data to BigQuery where after coding manipulation it could be extracted and loaded into Marketing Cloud for sales opportunities.

The initial proposal was validated with the key stakeholders. Stakeholders suggested conducting various analyses before implementing the proposals into real life. Analysis of the proposals should include A/B testing of customer segmentation and service connection, cost-benefit analysis of automation process, piloting test sales version for new sales touchpoints, as well as tools overview which were chosen for automation.

The thesis outcome is a proposal of how to increase sales by offering the right contract type to the right customer. It involves using data collected during the equipment lifecycle and automating sales through CRM systems. Overall, implementation of the proposal should increase the sales of Contractual services for the case company.

## 7.2 Thesis Evaluation

This thesis aimed to identify sales opportunities of contractual services for the case company which will eventually help to increase attachment rate and sales performance. To achieve this, the thesis researcher worked closely with internal company's documentation to understand the equipment lifecycle and touchpoints between the customer and the case company, current sales practices, and conducted the customer survey to obtain internal and well as customer's opinions about contractual services. Furthermore, a number of face-to-face interviews were done to understand sales opportunities and challenges which gave a broad understanding of contractual services in general. That collected data pointed out that there are many areas that might be improved to increase sales of services. The thesis researcher has chosen the most significant one among all the issues, which potentially could lead to sales improvements.

Based on the chosen areas for improvement, the thesis focused on conducting extensive review of literature and best practices. Numerous articles were searched and analyzed to find relevant knowledge that could help the study. The customer segmentation methods, customer journey mapping and sales process automation established the conceptual framework for the study. The conceptual framework was used to guide the Proposal building. Proposals included customer segmentation and service connection to increase sales efficiency, data utilization for additional sales opportunities and sales processes automation. Implementation of proposed changes into the current sales processes for contractual services will likely increase the attainment rate of service contracts for equipment of the case company.

The proposal is built according to the conceptual framework and validated with face-to-face interviews with the key stakeholder. This collaboration helped to gather suggestions from the stakeholders about what should be done prior to the final implementation of the proposal, so that the proposal will correspond to the objectives of the study as well as match to the company's strategy.

### 7.3 Closing Words

The process of writing this thesis was educating and insightful. As a Business Analyst for services at the case company, I believe writing this thesis gave a broad understanding of the contracts that we sell and benefits they bring to our customers. I have truly enjoyed working with various stakeholders, true professionals in their field, which shared a lot of their knowledge with me. I can surely say that I have learned so much.

Combining writing thesis with full time work was not easy. Many times, I had to push myself forward to reach this thesis section. Although the journey was taught, I am grateful and proud of myself. I am certain that without the support of my company, colleagues, university, and instructions it would not have been possible.

Thank you, case company, for trusting me and giving me this chance to work on this thesis topic in co-operation with multiple stakeholders. Also, I would like to thank Metropolia University of Applied Sciences for giving me the opportunity to be part of the study program and for supporting me throughout the journey. Big thanks, especially to Antti Hovi, the senior lecturer, for your guidance, upbeat vibes, and encouragement

throughout this journey. A shout-out to Zinaida Grabovskaia, PhL, the head of the degree program, for all the time, passion, and heart you pour into your teaching and work.

*“Live for a century, learn for a century” – Russian proverb*

## 8 References

- Aichner , T.;& Gruber , B. (2017). Managing Customer Touchpoints and Customer Satisfaction in B2B Mass Customization. *International Journal of Industrial Engineering and Management*, 131-140.
- Aichner , T.;& Gruber , B. (2017). Managing Customer Touchpoints and Customer Satisfaction in B2B Mass Customization: A Case Study. ss. 131-140.
- Aichner, T.;& Grubner, B. (2017). Managing Customer Touchpoints and Customer Satisfaction. 131-140.
- AspenTech. (2022). *Equipment Lifecycle*. Noudettu osoitteesta <https://www.aspentech.com/>: <https://www.aspentech.com/en/apm-resources/equipment-lifecycle#:~:text=The%20equipment%20lifecycle%20consists%20of,and%20performance%20of%20an%20asset.>
- Bhandari, P. (22. June 2023). *What Is Qualitative Research?* Noudettu osoitteesta Scribbr: <https://www.scribbr.com/methodology/qualitative-research/#:~:text=Qualitative%20research%20involves%20collecting%20and,generate%20new%20ideas%20for%20research.>
- Bianco, G. (7. Seotenber 2023). *What Are Customer Touchpoints? (Plus How to Identify Them)*. Noudettu osoitteesta nutshell: <https://www.nutshell.com/blog/customer-touchpoints>
- Bookstaber, P. (29. August 2023). *What Is Sales Automation? The Best Thing Since CRM*. Noudettu osoitteesta Salesforce: <https://www.salesforce.com/blog/what-is-sales-automation/#what-is-sales-automation>
- Budert-Waltz, T. (28. 12 2021). *What is Research Methodology?* Noudettu osoitteesta Study: <https://study.com/learn/lesson/research-methodology-examples-approaches-techniques.html#:~:text=A%20research%20approach%20is%20the,%2C%20qualitative%2C%20and%20mixed%20methods.>
- Cleghorn, J.;Almquist, E.;& Sherer, L. (2007). How to measure and deliver what customers want. *Harvard Business Review*.
- Cottingham, D. (2023). *What is a truck-mounted crane or truck crane?* Noudettu osoitteesta [driverknowledgetests: https://www.driverknowledgetests.com/resources/what-is-a-truck-mounted-](https://www.driverknowledgetests.com/resources/what-is-a-truck-mounted-driverknowledgetests)

crane-or-truck--

crane/#:~:text=Truck%2Dmounted%20crane%20and%20truck,Case  
company%20after%20the%20original%20manufacturer.

Gaulé, E.;& Jovarauskiénė, D. (2022). *Customer Value First: Improving the Customer Experience in Public*. Vilnius.

George, T. (22. June 2023). *What Is Action Research? | Definition & Examples*. Noudettu osoitteesta Scribbr: <https://www.scribbr.com/methodology/action-research/#:~:text=Action%20research%20is%20a%20research,action%20at%20the%20same%20time>.

Gillis, A. (2022). *What is customer experience management (CXM)?* Noudettu osoitteesta TechTarget: <https://www.techtarget.com/searchcustomerexperience/definition/customer-segmentation>

GroHawk. (2020). *What are Customer Touch Points?* Noudettu osoitteesta GroHawk: <https://www.grohawk.com/what-are-customer-touch-points/>

Guinn, J. (18. May 2022). *Product Life Cycle: The Critical Path to Sustaining Business Success*. Noudettu osoitteesta fool.com: <https://www.fool.com/the-ascent/small-business/e-commerce/articles/product-life-cycle/>

Hensi, C.;Zhang, L.;& Bo, Y. (October 2019). Smartphone customer segmentation based on the usage pattern. *Advanced Engineering Informatics*, s. 42.

CASE COMPANY. (2011). *Contractual service agreements*. Noudettu osoitteesta case company.com: <https://www.casecompany.com/en/parts--services/services/service-contract-contractual/contractual-case-company>

CASE COMPANY. (2017). Case company briefly. *Case companyility*, 4-6.

CASE COMPANY. (2023). *CASE COMPANY*. Noudettu osoitteesta CCESSORIES FOR EVERY JOB: <https://www.casecompany.com/en/parts--services/parts-accessories/accessories>

Indeed Editorial Team. (1. August 2023). *Basic Research vs. Applied Research: What's the Difference?* Noudettu osoitteesta [www.indeed.com: https://www.indeed.com/career-advice/career-development/basic-research-vs-applied-research](https://www.indeed.com/career-advice/career-development/basic-research-vs-applied-research)

Kananen, J. (2017). Design Research . Teoksessa J. Kananen, *A Practical Guide for Thesis Research* (s. 146). JAMK University of Applied Sciences.

Klaus, P. (2014). *Measuring Customer Experience: How to Develop and Execute the Most Profitable Customer Strategies*. Palgrave Macmillan UK.

- Livaccari, A. (2022). *4 Customer Segments You Need to Know About Now*. Noudettu osoitteesta CUEQBIQ: <https://www.cuebiq.com/resource-center/resources/4-customer-segments-you-need-to-know-about-now/>
- McKinsey & Company. (13. May 2020). *Automation tailored to sales operations is a win for companies, customers, and sales reps. Here's how to make it work*. Noudettu osoitteesta mckinsey: <https://www.mckinsey.com/capabilities/growth-marketing-and-sales/our-insights/sales-automation-the-key-to-boosting-revenue-and-reducing-costs>
- Munusamy , S.;& Murugesan , P. (20. February 2020). Modified dynamic fuzzy c-means clustering algorithm – Application in dynamic customer segmentation. *Applied Intelligence*, s. 50.
- Nasrudin, A. (17. April 2022). *Services: Definition, Examples, Characteristics, How to Measure*. Noudettu osoitteesta penpoin: <https://penpoin.com/service/>
- Newberry, C. (3. August 2023). *What is Sales Automation? A Guide for Beginners*. Noudettu osoitteesta hootsuite: [https://blog.hootsuite.com/sales-automation/#8\\_ways\\_to\\_use\\_sales\\_automation\\_to\\_grow\\_your\\_business](https://blog.hootsuite.com/sales-automation/#8_ways_to_use_sales_automation_to_grow_your_business)
- Patel, S. (25. June 2023). *What Are Customer Journey Touch Points? (And How to Optimize Them)*. Noudettu osoitteesta Revechat: <https://www.revechat.com/blog/customer-touchpoints/>
- Petrillo, A.;& De Felice, F. (2021). Product Life Cycle. Teoksessa C. K. Udokporo, *Product Life Cycle - Opportunities for Digital and Sustainable Transformation*. Naples.
- Qualtrics. (12. May 2021). *What is design research methodology and why is it important?* Noudettu osoitteesta www.qualtrics.com: <https://www.qualtrics.com/blog/design-research/>
- Risk control. (2021). *Product Life cycle Risk Management*. Noudettu osoitteesta travelers.com: <https://www.travelers.com/resources/business-topics/product-service-liability/product-life-cycle-risk-management>
- SalesForce. (2021). *What is CRM*. Noudettu osoitteesta salesforce: <https://www.salesforce.com/crm/what-is-crm/>
- Singh, H.;& Shareef, S. (2023). *Qualitative Interview: What it is & How to conduct one*. Noudettu osoitteesta questionpro: <https://www.questionpro.com/blog/qualitative-interview/#:~:text=A%20qualitative%20Interview%20is%20a,a%20conversation%20or%20discussion%20format.>
- Stark, J. (2015). *Product Lifecycle Management*. London: Springer International Publishing 2015.

- Taherdoost, H. (2022). What are Different Research Approaches? Comprehensive Review of Qualitative, Quantitative, and Mixed Method Research, Their Applications, Types, and Limitations. *Journal of Management Science & Engineering Research*, 54-60.
- Thakur, M. (23. May 2023). *Market Segmentation Process*. Noudettu osoitteesta EDUCBA: <https://www.educba.com/market-segmentation-process/>
- Usmani, F. (11. March 2022). *Service Process: Definition, Characteristics & Elements*. Noudettu osoitteesta Parsadi.
- Villani, I. (2018). *Transform Customer Experience: How to achieve customer success and Create Exceptional CX*. John Wiley & Sons, Incorporated.
- Von, A. (25. April 2017). *CRM Marketing Automation – braucht man beides?* Noudettu osoitteesta Marketing Automation: <https://www.marketingautomation.tech/crm-marketing-automation-braucht-man-beides/>
- Willott, L. (12. July 2019). *Customer Thermometer*. Noudettu osoitteesta Average Survey Response Rate - What you need to know? : <https://www.customerthermometer.com/customer-surveys/average-survey-response-rate/#:~:text=Typical%20Survey%20Response%20Rates,considered%20excellent%20in%20most%20circumstances.>
- World Bank. (2020). *Global services data*. Noudettu osoitteesta World Bank National Accounts Data: <http://data.worldbank.org/indicator>
- Yasar, K. (2022). *Customer journey map*. Noudettu osoitteesta TechTarget: <https://www.techtarget.com/searchcustomerexperience/definition/customer-journey-map>

## **9 LIST OF APPENDICES**

Appendices are confidential and shared only between author and case organization.

Appendices are protected with Non-Disclosure Agreement (NDA).

Appendix 1. Contracts type comparison

Appendix 2. Financial performance chart

Appendix 3. Contract utilization financial data

Appendix 4. Contract sales revenue & margin comparison