

Contract Lifecycle Management in Light of EU Data Regulations – A Case Study of a Small-Sized Finnish Company

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Abstract:

This thesis looks into the Contract Lifecycle Management in Light of EU Data Regulations and is based on a case study of a small-sized Finnish company. The thesis explores how contracts are managed at small-sized companies and looks into the challenges they face with their contract management, and what problems the new EU data regulations (The Data Act and GDPR) create for small-sized companies and their contract management. The contractual information is based on the empirical data from the case company, but it can be generalized to fit almost all companies. The thesis also compares different software tools for Contract Lifecycle Management (CLM) and looks at their strengths and weaknesses as well as their key features. In the results of the thesis, you find the suggestions regarding the contract management practices and the tools that can be used for it. There is also mentioned how the case company implemented the solution and who is in charge of the CLM practices at the case company.

The research methods used in this thesis include the legal dogmatics or the doctrinal method for the legal research and the empirical method, or the case study method for the rest of the text. With these methods the thesis best comes to its conclusions and by the use of the GAP and SWOT analysis methods the results are found and evaluated.

The purpose of this thesis is to find a general solution for the contract management challenges created by the new digital regulations in the EU, and in this way to improve the contract management practices at the case company, but also in general. The scope of the thesis was, however, limited to customer and supplier contracts, mostly within the IT and financial services fields, to get a narrower scope that was easier and more relevant to give a recommendation on.

In conclusion, the GDPR and Data Act present new challenges for the Contract Lifecycle Management and by integrating technology and software in combination with good contract management practices it can help manage the legal landscape of the new digital EU regulations.

Keywords: Contract Lifecycle Management, CLM, Data Act, GDPR, Contract Compliance, Software tools on CLM

TABLE OF CONTENTS

1 INTRODUCTION 1
1.1 Structure of the thesis 2
2 RESEARCH QUESTIONS 4
2.1 Sub-questions 5
2.2 Motivation and relevance 5
2.3 Earlier research 6
3 RESEARCH METHODOLOGY 8
3.1 Legal dogmatics 8
3.2 Empirical method (case study) 9
3.2.1 SWOT analysis 10
3.2.2 GAP analysis 11
4 DATA AND SOURCES 12
4.1 Information about the case company 13
4.2 Empirical data 14
4.3 Limitations on the contract data 15
5 CHALLENGES OF CONTRACT MANAGEMENT 16
5.1 What the Contract Lifecycle Management is and how it can be used 16
5.2 Benefits of Contract Lifecycle Management tools for small-sized companies 18
5.3 Challenges with the use of Contract Lifecycle Management software 18
6 THE LEGAL FRAMEWORK 20
6.1 Contract law 20
6.2 Freedom of contract 22
6.3 Standard terms of contract 23
6.4 Basic features of a contract 24
6.5 Competition law 25
6.6 The Data Act 26
6.6.1 Objectives and scope 26
6.6.2 Implementation and impact 26

6.6.3 Unfair contract terms under article 13 of the Data Act 27
6.7 Contracting and the new Data Act terms 28
6.8 Data sharing terms 29
6.9 GDPR and the Data Act 30
6.10 The General Data Protection Regulation (GDPR) 31
6.11 Supervision of data flows and compliance 32
6.12 Other legislation 32
6.13 How the legal framework is relevant for the case company 32
7 COMPARISON OF CONTRACT LIFECYCLE MANAGEMENT TOOLS 34
7.1 The case company's needs and current tools 34
7.2 Core tools and big brands in Contract Lifecycle Management 34
7.3 Gartner Magic Quadrant for Contract Lifecycle Management 35
7.4 Benefits and drawbacks of the already owned software 37
7.5 Benefits and drawbacks of the new potential software 39
7.6 How the data processors deal with consents 41
7.7 Data processors compliance with the Data Act and the GDPR 42
7.8 Empirical data on common standard terms of contract 44
7.8.1 The Contract Lifecycle Management process 45
8 LIMITATIONS AND FUTURE RESEARCH 47
9 RESULT 49
9.1 Relevant contract information in the CLM software 49
9.2 Pros and cons of software tools for CLM 51
9.3 SWOT analysis on the current CLM 53
9.4 The challenges introduced by the new digital regulations (GAP Analysis) 54
9.5 The case company's contract management compared to the CLM norms 56
9.5.1 Contract management trends 57
9.6 The result for the Contract Lifecycle Management 58
9.6.1 Who would manage the Contract Lifecycle Management process 58
9.6.2 How the software was chosen and specified 59

9.6.3 How the changes were implemented 60
9.7 Challenges data processors face when aligning their CLM with the Data Act 61
9.8 Provisions on unfair contract terms in article 13 of the Data Act 61
9.9 Definition of consents 61
9.10 The usefulness of Contract Lifecycle Management tools 62
9.11 Evaluation of the result 63
10 CONCLUSIONS 65
REFERENCES 68

FIGURES

Figure 1 A modified version of the Gartner Magic Quadrant for CLM.....36

TABLES

Table 1 Comparison of internally used software for the CLM processes.....38
Table 2 Comparison of new software alternatives for the CLM processes..... 40
Table 3 Data processors compliance with the Data Act and GDPR. 43
Table 4 Empirical data on the most common standard terms of contract.....45
Table 5 Relevant contract information added to the CLM software. 50
Table 6 Pros and cons of the CLM software tools.....52
Table 7 SWOT Analysis on the case company's current CLM. 53
Table 8 GAP Analysis on the case company's Contract Lifecycle Management.....55

ABBREVIATIONS

AI – Artificial Intelligence

CJEU – The Court of Justice of the European Union

CLM – Contract Lifecycle Management

CRM – Customer Relationship Management

CSR – Corporate Social Responsibility

ERP – Enterprise Resource Planning

ESG – Environmental, Social and Governance

FCCA – Finnish Competition and Consumer Authority

FRAND – Fair Reasonable and Non-Discriminatory (contract terms)

GDPR – General Data Protection Regulation

HR – Human Resources

IP – Intellectual Property

ITSM – Information Technology Service Management

JIT – Standard terms of contract, general contract terms for public administration (IT procurements)

JYSE – Standard terms of contract, general contract terms for public procurement

ML – Machine Learning

NDA – Non-Disclosure Agreement

SLA – Service Level Agreement

SME – Small and Medium-sized Enterprises

TRAFICOM – Finnish Transport and Communications Agency

1 INTRODUCTION

This thesis examines the challenges of Contract Lifecycle Management (CLM) in the light of the regulatory compliance for a small-sized Finnish company. The thesis is based on the data from a case company's contact management process and explores the question of how to improve efficiency and regulatory compliance in the contract management process in the case company. It aims to concretely identify challenges presented by the new EU data regulations for a small company such as the case company in Finland.

At a concrete level, the goal of the contract management project was to unify the contract management and to know where the contracts are stored, as well as to create a process for managing, monitoring, and reporting on the lifecycle of the contracts. At the same time, based on the review of contract data from the case company, the thesis aims to identify the challenges (problems) posed to the contract management process of the case company, in light of the new EU data regulations and to make suggestions on how to improve their contract management as well as contractual clauses.

A typical problem with contract management in a small-sized company is that the contracts are not administrated and reviewed regularly (Kidalov, 2011). This is problematic since there might be things in the contracts that need to be looked at. There might even be services that a company is paying for that are no longer in use. Mismanaged contracts in a company can create unnecessary expenses and other weaknesses. In addition, decentralized storage of contracts could create problems of access to the contracts and make them difficult to review. For example, contracts may not be stored centrally in one contract management software tool but are found rather in several different digital storages or software and there might even be old contracts that are found on paper.

Ensuring that all contracts are up-to-date, and their information is correct is difficult when the contracts are not centrally managed. In decentralized management, the contracts do not necessarily even have a person in charge of them or the information might be outdated, for example if the person in charge has left the company. Thus, one of the main goals for the company's contract management would be centralization. The idea would be that the contracts should be stored centrally in a contract management software that would send notifications when contracts need to be reviewed, at a certain time, i.e. a few months before a contract ends so that the person in charge of the contract has the time to react and look over it whether it is still accurate or whether it should be renewed or archived or even if the contract should be put out to competition. Moreover, ideally, contract management should ensure that the company has a process for Contract Lifecycle Management, and not only to look through the contracts occasionally, but then forget about them.

Contract management should also take into consideration the company's own needs and requirements in relation to contract management and the crucial information that needs to be considered. Regulatory compliance is crucial in this process. Not only do we need to make a good model and process about the Contract Lifecycle Management but also consider legal requirements for how the contracts and data are stored and other criteria that the company needs to know about their contracts and acquisitions. As there are several laws that any company should consider, to avoid generality, this thesis will look into the compliance needs from following the contract laws and the relevant regulations on data collecting and sharing as well as personal and non-personal data. The text will focus mainly on the risks and challenges introduced by the Data Act (2023/2854) and GDPR (2016/679) but will also describe the other relevant legislation, to get a broader understanding of the relevant legal landscape.

1.1 Structure of the thesis

After the introduction, the rest of this thesis is structured as follows. Chapter two introduces the main research question and its sub-questions. Chapter two also talks about the motivation and relevance of the subject of Contract Lifecycle Management (CLM), and it mentions the earlier research within this area. Chapter three is about the research methods used in this thesis, including the legal dogmatics or the doctrinal method and the empirical case study methods that have been used. It also talks about the GAP and SWOT analysis that have been conducted. Chapter four is about the data and sources used for this thesis. There is the real-world contract data based on the case company, and the case company information in general. Chapter four also mentions the limitations of the research and the focus on customer and supplier contracts within the IT and financial services fields.

Chapter five talks about the challenges of contract management for small-sized companies, as well as what Contract Lifecycle Management (CLM) is and how it can be used as well as its benefits and drawbacks for small-sized companies, like the case company. Chapter six introduces the legal framework that is used in this thesis, including the Data Act and GDPR, but it also talks about the general principles of contract law, competition law and it also looks at the freedom of contract and the standard terms of contract and its basic features.

Chapter seven includes comparisons of Contract Lifecycle Management (CLM) tools and software based on the case company's needs as well as in general. It also compares the core tools within this field and finds their strength and weaknesses as well as their key features that can be helpful in the contract management process. This chapter is based on the empirical data from the case company, but it is generalized so that the comparisons and solutions can fit most companies. Chapter eight talks more about the limitations and further research within

the area of Contract Lifecycle Management (CLM), including new possible research on AI, ML and Blockchain technologies related to contract management.

Chapter nine is about the results and findings of the thesis and includes the specifications of the software, and why a certain software should be considered or chosen. This chapter also utilizes the GAP and SWOT analysis that was mentioned in the methodology section. The nineth chapter is also where you can find the definitions of all the text that contribute to the conclusion of the thesis and the research question, including pros and cons of the software tools, their usefulness, as well as the comparison of the case company to the CLM standards. This chapter also mentions the solutions for the CLM process and who would be responsible for it at the case company and there is also an evaluation of the result.

Finally, chapter ten is about the conclusions and the summary of the texts' findings and results, including the case company relevant findings as well as the answer to the research question. It also includes the summary and the conclusion of this thesis. In addition to the chapters and their content you will find the sources in the last section of the thesis.

2 RESEARCH QUESTIONS

The main research question that this thesis explores is how a small-sized company could manage the legal compliance challenged by new EU digital regulations by using contract management tools. The thesis is based on a Finnish case company and looks at how, they are dealing with the legal challenges by use of contract management tools. The thesis explores to what degree the contract management tools are effective in this regard and whether there is an actual advantage of having them, or if the tools do not provide any additional advantages in forms of the legal relevance and compliance of the contracts and the contract management processes.

One of the challenges with the new digital regulations that the EU introduces is that smaller companies like the case company may have some problems on dealing with these new complex regulations and to comply with them, since they may not have a legal department that can look through all contracts. There may be a resource problem in this regard and hiring a consultant to do the work is also costly. Smaller companies do not usually have the same access to people, material and services as bigger companies that may have their own legal departments and better availability of resources. This is why this thesis looks at the possible solutions by examining software and programs and whether they provide advantages to contract management. Automation and digital tools may help to deal with the challenges that small businesses face with the introduction of the new digital regulations.

As one of the limitations to the thesis is that it focuses only on supplier and customer contracts that are related to the issues that the new digital regulations have issued. The main legal focus on the thesis is the issues on GDRP and the new EU Data Act, but the text will also describe the other relevant legislation. More content on the limitations is found in the separate chapter on limitations and future research.

The main goal of the thesis is to understand the effectiveness of the software tools in regard to the Contract Lifecycle Management and what the important information is that is required to know, to manage the contracts as effectively as possible. The thesis will also examine the legal framework that is important to comply with as well as the other challenges of contract management for small-sized companies.

2.1 Sub-questions

The sub-questions that are asked to complement the main research question (how a small-sized company could manage the legal compliance challenged by the new digital regulations with the use of contract management tools) are the following. The first sub-research question is to define what the legal challenges are that have been introduced by the new digital EU regulations (Data Act and GDPR). The second question is what software tools can be used to help deal with the legal challenges and compliance with the Contract Lifecycle Management, and the third question is to define how the software tools can help to deal with these legal challenges and in what ways they are useful.

Essentially there are three parts of the problem that need to be analyzed to get a relevant solution, including the following:

1. What are the legal challenges introduced by the new digital regulations?
2. What are the software tools that can help deal with these new legal challenges?
3. Can software tools help deal with the legal challenges and in what ways?

These sub-research questions help guide the research project and gives it a better purpose by setting targets regarding the research. The sub-questions also complement and explain the main research question and its importance.

2.2 Motivation and relevance

The thesis and its research question and supporting sub-questions are relevant to many small-sized companies and businesses in Finland and over the EU because a good contract management is crucial for companies to maintain legal compliance, reduce excess costs, and to enhance the operational efficiency. By addressing ineffectiveness and integrating advanced technologies, companies can better manage their contracts and decrease risks.

When a company is located in the EU (like the case company), it needs to comply with both national legislation (Finland) as well as the EU legislation. Understanding and addressing these legislations can help harmonize the contract management practices and provide smoother operations (Rossi, 2023). There are new EU regulations that companies need to comply with which can cause challenges especially for smaller companies. This thesis aims to provide solutions to this problem by the use of software and digital tools for the Contract Lifecycle Management.

The legal requirements for a company in the EU include compliance with all national and EU legislations (laws, directives, and regulations). A Finnish company, like the case company need to consider the EU procurement directives. These include the Directive 2014/24/EU (public

procurement) and Directive 2014/23/EU (licensing agreements). They also need to consider the GDPR (General Data Protection Regulation, 2016/679) with its requirements on data privacy and protection as well as the collection, processing, and storage of the personal data. They also need to consider the new Data Act that continues on the GDPR. There is also the new NIS2 requirement (Network and Information Systems Directive, 2022/2555) that is relevant to all businesses, especially within the IT field. Other laws that need to be considered are the act on public procurement and concession contracts (1397/2016), legal protection directives and legal protection laws (monitoring public procurement and legal protection) as well as competition legislation (for functioning and fair markets).

With all the mentioned legislation to be considered with the contracts and contract management, the subject of the thesis proves to be important to get a better understanding and management of the companies' contracts and contract management practices.

2.3 Earlier research

Contract Lifecycle Management (CLM) and its processes have been researched and studied many times before and it has also been researched for its significance in enhancing efficiency and compliance in the companies. Many of the earlier research articles emphasize the importance of automation in the Contract Lifecycle Management and are showing how technological tools can limit risks and improve compliance of the contracts (Arena et al., 2024). Similarly, Hirvonen-Ere (2023) discusses the function of CLM as a mechanism for digitalization within the European Union and highlights its significance in adapting to the evolving regulatory landscapes, although it is not talking directly about the Data Act and GDPR.

The GDPR (2016/679) and the Data Act (2023/2854) introduces new legal challenges that companies (including the case company) must follow and possibly adjust their contract management practices too. The GDPR has more strict data protection measures, consent management, and breach notification protocols if, for example, a data breach happens (Aholainen et al., 2025). The Data Act again focuses on fair access to the data and use of data from connected devices and services, and the challenges due to this are related to data portability and transparency. Software tools have a significant role in helping to address these challenges, both in privacy compliance and in ensuring that the companies' contracts are up to date, regularly reviewed and that the CLM practices align with the legal requirements (Cyber Risk GmbH, 2025). These tools can automate consent management, data protection, and compliance and also reduce the risks and enhancing efficiency and the best tools can even use automated features to review contracts, help in contract negotiations, and even use generative AI to help companies to meet their expectations and demands (Phelan et al., 2023).

The earlier research includes mostly contract management processes and there are some articles that consider the GDPR, however since the Data Act is a new form of legislation, and there are not many earlier academic articles or research done on the Data Act and contract management. However, there are articles done on contract management overall, as well as its processes and features. There are even papers and other thesis written on contract management in Finland, even if the research questions and the problem is formulated in a different way and the focus of the projects is different compared to this thesis.

The framework in my research, including the empirical case study method, is relevant for contract management to get the real-world data of the contracts and contractual terms. Eisenhardt's (1989) work on the case study method provides a base for the practical research. Additionally, the European Commission's documents and text on the Data Act and the GDPR give me valuable insights into the regulatory expectations and compliance.

Despite much research done on CLM and the regulatory compliance of contracts and contract management, there still is a gap in understanding the impact of both GDPR and the Data Act on Contract Lifecycle Management. The existing studies have been focusing on other legislation and processes than this which aim to provide an analysis of how these specific regulations (Data Act, GDPR) affect the Contract Lifecycle Management practices. By understanding the relationship between Contract Lifecycle Management and the regulatory compliance this thesis will help companies like the case company manage their contracts more effectively and by ensuring the contract management processes follow the Data Act and GDPR guidelines. This thesis aims to contribute to the academic debates by providing a solution for the ever-changing Contract Lifecycle Management and its processes.

3 RESEARCH METHODOLOGY

The research methodology used in this thesis writing and research includes the legal dogmatics or the doctrinal method for legal research and the empirical case study method which have been used for the real-world data and its analysis. The legal dogmatics or the doctrinal method is used in all the legal research in this thesis and includes the analysis of the GDPR and the Data Act regulations as well as the other primary and secondary sources of law. The empirical case study method is used for the research and analysis of contractual data and other real-world data and includes the different methods of analysis used in the thesis, including the GAP analysis and SWOT analysis. The empirical case study method is also used in the analysis of the case company data, including their data collection, processing, and storage.

3.1 Legal dogmatics

The legal dogmatic method or doctrinal method is used in legal research with, for example, the primary and secondary sources of law. This method systematically goes through the legal resources and aims to interpret the laws and describe them. This is used for both legal texts, statutes, case law and other directives and regulations (Smiths, 2015). The legal dogmatics method focuses primarily on understanding and explaining the law as it is, rather than exploring other values of the laws like social, economic, or political factors.

The legal dogmatic method is an important method for providing a structured and detailed understanding of the current laws, which can serve as a foundation for other types of legal research, such as empirical or comparative studies, which go well together with the legal dogmatic method (Peczenik, 1969).

There are a few steps to the dogmatic method which includes the identification and description of the relevant laws and principles and analyzation of the legal text so that they can be organized systematically based on the values and descriptions needed (Smiths, 2015). The method also describes how the laws should be applied in specific situations based solely on the law. This can include an interpretation of the legal provisions and suggestions on how they should be understood and enforced. The dogmatic method also aims to justify the laws and principles that the method describes and can in this case explain the reasoning behind the laws and legislations and argue for their validity, coherence, and accountability. There are some comparisons of the laws and contract terms in this thesis that will use the ideas of the comparative law method which explores different comparable legislation to find differences and similarities between them or the legal systems (Smiths, 2006).

This thesis uses this method for some of the legal sources to analyze them in a coherent and a comprehensive manner to give better understanding of the laws and regulations that have been described.

3.2 Empirical method (case study)

The empirical method is based on real-world data and evidence that can be systematically looked at, measured, and observed (Coombs, 2022). The empirical method is a process and a method that aims to validate and make relevant use of a hypothesis or in other words answer a research question by doing direct or indirect data collection and analyzation of that data to get results that are relevant to the real-world problem and that can answer it without much of the traditional academic resources (Eisenhardt, 1989). The data collected is usually data that cannot be found anywhere else and is data that can be relevant to company specific documents or contracts as written about in this thesis. It can also include data that can vary depending on the demographics, geographics, and other factors.

The key features of the empirical methods are observations, data collection, analysis, and conclusions based on the findings when analyzing the data. The observations are made, and the data is collected in its entirety and as it is. The data collection can be done both in a qualitative and a descriptive manner or as a quantitative data collection which focuses on the amount of data and the numbers in the collected data (Eisenhardt, 1989). The use case where the data is used and why it is collected is found for example in a of hypothesis or a research question. The hypothesis is formed based on the initial observations on the data and it can also predict and test different variables and relations between the data and the variables.

When the data has been collected, and the formulation of the problem has been decided, you can begin the experimentation with the data and evaluate the data and its outcomes. This includes the manipulation of the data using different variables and conclusions on it while for example measuring the effect of the data. This step can look a bit different, depending on the data that is used. If you use numerical data like for example economic data or statistics in different forms you can use certain formulas to calculate averages, medians and more, but with factual text-based data or interviews it can include making summaries of the data and researching the key findings that the data represents and what the interviewees have answered. The data used and analyzed with the empirical method can include both numerical data and data collected from surveys, interviews, case studies and other experiments (Coombs, 2022). The data, however, must be dependable and in principle also show consistent results over time, which means that the data and conclusions would be valid and measured in an accurate way.

The analysis of the collected data is done using different methods to determine whether the results support or oppose the hypotheses or the research question. This type of analysis helps in finding patterns, relations, and different other metrics regarding the data in question. Lastly there are conclusions made on the analyzed data and on how the project is continued or conducted. The empirical methods can be used on their own, but also in a combination of both empirical methods and other methodologies, including for example systematic content analysis and legal dogmatics that are also used in this thesis.

The empirical method is a crucial part of research because it can provide a structured and objective way to collect data on different subjects (Eisenhardt, 1989). In principle the empirical data and the collection of this data minimizes biases in the data and allows researchers to develop theories that are based on observability and measurability of the factual, real-world data and evidence. The empirical method can be widely used across many types of studies including both legal research, natural sciences, social sciences, IT, and other types of research that use practical real-world data.

3.2.1 SWOT analysis

A SWOT analysis, which also is known as the SWOT matrix is a strategic planning tool that can be used to help find strengths, weaknesses, opportunities, and threats that are related to the current state and future goal of the contract management processes in this case (Kumar et al., 2023). The SWOT analysis can be used in the different stages of the decision-making processes to evaluate the choices that can be relevant along the way of the project.

The SWOT analysis aims to find out the strengths and weaknesses on the current Contract Lifecycle Management and with this type of analysis I could better find out what is working well and what could be developed on the contract management and its lifecycle. With the help of the SWOT analysis, I aimed to analyze the performance of the current situation and what is working and what is not to better find out the optimal solution to the problem. If there are strengths and good things about the current system, we would likely not be changing them too much and taking a risk of making them worse and only the weaknesses would be changed to achieve a better result.

The Gartner Inc. Magic Quadrant on CLM is in principle also done in the same way as a SWOT analysis with the categories used being leaders, visionaries, challengers, and niche players, the basic idea with the software listed in the Magic Quadrant is that they all have their unique set of features and strengths, but some of the software may also have their downsides or be niche players (Sommers et al., 2023).

3.2.2 GAP analysis

The GAP analysis compares the current performance of the Contract Lifecycle Management to the desired performance and the developed outcome (Terrell et al., 2021). The analysis compares the current state to the target state and gives a suggestion for improvement or a corrective action and as the name suggests it finds the gap between how the contract management is now and compares it to the optimal solution (Sora et al., 2018). With the GAP analysis I got better insights and understanding on which parts of the Contract Lifecycle Management can be improved and the best way to execute it. This analysis has helped me in practice to create the solution to the different identified problems.

I have chosen different categories about the contract management in which improvement is needed. Then I will explain the current contract management and the problem with it and also explain what the desired result should be. In combination with the current performance and the targeted outcome I find a solution or a corrective action for the respective problems and categories. This way you first have the problem and then the desired outcome, and on the basis of these two you create a solution to the problem and list the actions to take to get to the desired result or outcome.

4 DATA AND SOURCES

Smaller companies often face some challenges in their contract management due to limited resources and expertise. This case study explores how a small-sized Finnish company can optimize their contract management processes by using software tools. The different data and sources include information about the case company, the data analyzed in the text as well as general information on the contracts which are included in the study. The data analyzed can be generalized to fit most similarly sized smaller companies and their contract management practices. The data is relevant to analyze to get the real-world data on the contract management practices, based on this data (which can be generalized) you can draw many different conclusions and suggestions to better understand and develop a more efficient Contract Lifecycle Management. This thesis is a case study based on the data analyzed from the case company.

The data is generalized and can fit most similar small companies; however, the company profile is important to know to get a better understanding of the scope of the data and the unique challenges to a similarly proportioned company. To be considered a small-sized company, the company would have under one hundred employees and usually the smaller company does have more restrictions on resources and people (for example limited legal resources). The selected tools and software and their expenses and features must be rational to the size and needs of the company. There can also be significant differences between small-sized companies and their budgets, economic situation and of course, it depends on the number of employees. With smaller companies we also need to consider what systems are used, which have been used before, and think critically about whether the current systems can function as the contract management software, without a need for new expensive purchases.

When generalizing the data, the size of both the company and the number of contracts matter. Small companies benefit from cost-effective and scalable solutions that require minimal IT support while large companies may need a more robust and customizable tool to manage more complex operations and larger volumes of data and contracts.

The general rule for implementing digital tools in companies is to understand the specific needs and challenges of the company in question before selecting the tools (Peltoniemi, 2021). We also need to allocate the budget wisely and prioritize the tools that offer the most value. Scalability also needs to be considered for futureproofing of the system, all companies should also prioritize the tools that can offer strong security features to protect the sensitive contract data, and the tools should be kept up to date and regularly reviewed. The digital tools can help manage the contracts and help with reviewing cycles of the contracts that can be especially useful features in smaller-sized companies that may not have a dedicated contract manager or

a legal department to regularly review the contracts. The digital tools may not be able to do all the contracting scenarios and write contracts for the company, but they will most definitely help with the day-to-day contract management and storage and review of the contracts. The best solutions and contract practices are found in the chapter on the results and findings of the thesis.

4.1 Information about the case company

This thesis examines a service-oriented case company regarding their contract practices. The case company will remain anonymous in the thesis, however, to better understand the scope of the data it is still relevant to know a bit of information about the case company. The scope of the contract management depends on the size of the company and on the field in which the company operates in as well as on the number of customers or clients the company has. In the text the company in question will be referred to as the case company.

The case company offers various kinds of administrative services to its clients and has quite a broad range of services including financial services, personnel services (HR), and IT services. The company is also quite a new company that was established a few years ago. The company was established when there became new needs for services and infrastructure within its field and it became more efficient to establish a separate company to address the needs rather than creating new departments for the parent companies or owners. The company is a non-profit organization and works as an in-house company for its owner-clients and offers them high-quality, cost-effective, and customized services that meet the customers' needs and goals.

The company employs about ninety people and the turnover in 2023 was more than a quarter of a million euros. The revenue in 2022 was around four million euros and the turnover of the company is estimated to be around ten million euros on an annual basis. Even though the company is a small-sized company there are still a lot of the services that are outsourced and more than 60 % of the production is still bought from different third-party companies.

Due to the nature of the case company the thesis will provide information and solutions for similar small-sized businesses with the financial and IT fields as their main focus point. The case company has lots of contracts both on their own as well as contracts that have moved or transferred from their clients and owners to the company. This means that there are a lot of both new and older contracts and contract data that can be examined and reviewed. The number of contracts and the fact that there are so many kinds of both new and old contracts gives a better understanding of the contract management overall and provides for a larger dataset of contracts from different time periods that may have to be updated and reviewed. Most of the case company's contracts are IT contracts, but there are also many financial

services contracts. The other categories of contracts do not contain as large amounts of contracts, and this is why the main focus point is on the IT and financial services contracts.

The contracts and the contract specific information are the case company's internal material and will not be discussed in detail in this thesis but will be generalized and analyzed in a way that can provide solutions for similar companies in general. Some of the information in this thesis is also based on the case company's strategies and policies as well as their internal documents. Based on this information the thesis will offer more insight into small-sized companies and their Contract Lifecycle Management practices.

4.2 Empirical data

The empirical data in contract management includes all the information that has been collected from the case company. The data ranges from the creation of the contract to the execution, and management of the contracts. Collecting detailed empirical data helps in analyzing the efficiency of the contract management processes at the case company. The empirical data aims to find areas for improvement and to ensure compliance with the legislation. The contracts and contractual data provide a base for decision-making and strategic planning on the contract management processes.

The empirical contract data and analysis of the contract data in this thesis include:

- Contract details, the names of the contracts, contract terms and conditions, parties involved, dates, and signatures.
- Financial data like payment schedules, amounts, and financial obligations.
- Risk assessment, mitigation strategies, and criticality assessments.
- Evaluating how well contracts have been executed against the pre-defined terms.
- Ensuring all parties comply with and obey the terms and conditions of the contracts.
- Finding potential risks and assessing the effectiveness of the Contract Lifecycle Management processes.
- Observing patterns to predict future performance and issues regarding the contracts and the Contract Lifecycle Management.

The empirical data collected and analyzed during the contract management project is crucial for continuous improvement by using insights from the data analysis to refine the Contract Lifecycle Management processes. The empirical data is used to manage and monitor contract performance and to ensure compliance with the legislation as well as to make informed decisions on the contracts and the contract management. The collected empirical data includes a collection of quantitative and qualitative data that provides insights into the Contract Lifecycle Management. It includes structured data (e.g., dates, amounts) and also

unstructured data (e.g., communication logs). The dataset is a compilation of the case company data and functions as its own non-public dataset, due to the sensitive nature of the data.

The empirical data comes from the contracts based on the case company that has been compiled in a comprehensive list including the relevant contract information. The list with all its content, is something that cannot be shared, but the findings are compiled, generalized, and analyzed in this thesis. Data from the laws and regulations is also important and justified, since companies must follow these regardless, there are both EU and national laws that dictate the contract processes.

4.3 Limitations on the contract data

The contract data and the scope of the thesis apply only to supplier and customer contracts, based on the case company. The limitation on supplier and customer contracts is relevant because contracts of employment and other types of contracts are stored differently and have their own separate requirements. The limitation of customer contracts again makes sense because the case company is an in-house company, and these types of contracts are important both for the case company and for other businesses in general. The contracts comprise of many kinds of contracts, including service contracts, service level agreements, support agreements, leasing contracts and consultant agreements. These need to be looked at and checked so that the contents meet the current demands and standards of Contract Lifecycle Management. There are also contracts that have moved from the case company's clients during the incorporation of the case company. The contracts that have moved to the case company consist of the main contracts (for example, the service contract or lease contract) as well as the transfer agreements that have been drafted and signed to move the main contract to the case company. Since the clients' needs have also changed over time there are also usually some modification agreements and amendments made to the original contract, this is mainly because a change in demand regarding either the workforce that might have changed or agreements that have been upgraded or downgraded based on the current demands. The oldest contracts still in use in the case company are from the 1990s, which indicates that there have been a few changes made to the contracts and services along the way, even though the main contract may be the same as the old, and perhaps outdated contract.

5 CHALLENGES OF CONTRACT MANAGEMENT

This chapter holds the in-depth information about the challenges of contract management in small-sized companies, like the case company. The key principle of contract management is the freedom of contact and there are no set ways in how a company should manage their contracts. This can create some challenges about the contract management (Aholainen et al., 2024). The contract laws provide the freedom to create and negotiate contracts, and also the management of the contracts is up to the company (Sund-Norrgård, 2011). This means that companies can design their own contract management practices, and software based on their needs, requirements, resources, and goals. The contracts are a fundamental part of every business, yet many companies do not manage them in an effective way, and many companies may find some contracts difficult to understand (Hurmerinta-Haanpää, 2021).

This chapter dives deeper into contract management, what it is and what it can be used for, as well as the benefits and drawbacks of different contract management practices. The legal analysis of contracts and the freedom of contract is found under the chapter on the legal framework. There are continuous challenges with contract management and contract law that need to be considered, which is true for all companies (Murray, 2002).

5.1 What the Contract Lifecycle Management is and how it can be used

Contract Lifecycle Management (CLM) is the process in how you create, manage, store, and archive a company's contracts in an efficient manner, so that all aspects of the Contract Lifecycle Management are considered and made in a way that they are following legal requirements. This process is essential for companies to ensure compliance, limiting risks, and to achieve better operational efficiency.

The process of Contract Lifecycle Management involves the identification and the need for contract management and gathering of the relevant data about the contracts. You also need to identify the scope of the contract management and its objectives and needs. When the problems and needs are identified you start to look at different terms and conditions and aim to ensure that they are met so that all the legal and business requirements are considered. In this stage, collaboration between the legal department, procurement department, and business teams is crucial (Josefsen, 2019).

When a contract is negotiated and reviewed you will consider both contracting parties and negotiate the terms and conditions of the contract to eventually reach a commonly acceptable agreement. This part can take multiple rounds of revisions and discussions to the contract drafts. In the approval stage, once the terms are agreed upon, the contract goes through the approval process. This step may vary depending on the company and may involve multiple

stakeholders, including legal, finance, and executive departments and teams, to ensure that all aspects are thoroughly reviewed and revised. After this, the contract is signed by both representative parties, which can be done electronically or also through the traditional signing on paper.

When the initial contract is made and signed, the contract is stored onto the contract management software with all the relevant data, information, and appendixes. The contract management software has automated and integrated features that send reminders when contracts should be reviewed or when they are about to expire. With this automation the people and business focus shifts to managing the obligations outlined in the contract when the rest is automated. This includes tracking deliverables, deadlines, and compliance with the terms described in the contract. The contract states what should be delivered and when, depending on the contract and its contents.

The contract management software monitors the performance and compliance of the contracts to some degree. Continuous monitoring of the contract's performance is important to ensure that the contracting parties follow their obligations. The contracts' obligations and performance can be followed through regular audits and reviews. When the contract period or the term of the contract comes to an end, or the contractual obligations are fulfilled it becomes time to renew or end the contract. In this case you review the need for further products and services that the contract has provided and decide to either renew or terminate the contract. This depends on the current and future needs of the company.

When considering all the factors that contribute to Contract Lifecycle Management and the contractual terms and obligations it is important to manage and review the contracts regularly and in an efficient way. Effective Contract Lifecycle Management helps companies minimize risks, ensure regulatory compliance, and improve the company's operational efficiency. By automating and standardizing the contract processes, companies can reduce both costs and risks. By avoiding costly errors, and by enhancing the collaboration among stakeholders you get much better performance from your contracts and receive a better understanding of the contracts and the state of the contracts.

5.2 Benefits of Contract Lifecycle Management tools for small-sized companies

Implementing a contract management tool or a CLM software can streamline the contract management processes and offer tools and features such as automated workflows, electronic signatures, and real-time tracking of contract status and other relevant data (Hirvonen-Ere, 2023). The contact management software also provides centralized storage for the contracts and providing easy access to them and easy retrieval of contract documents and data. Contract Lifecycle Management and the software that enables it is an important function that enables companies to manage and store their contracts efficiently and effectively. By following a structured process and by using technology, businesses can achieve better legal compliance, reduce risks, and enhance overall performance of the Contract Lifecycle Management and its processes. Contract Lifecycle Management software can be used in all stages of the contract management process, including negotiations, procurement, offers, storing, creating, managing, and archiving of the contracts.

Small companies as well as all sizes of companies can leverage technology in their Contract Lifecycle Management practices. By introducing digital tools for contract management small companies can better manage their contracts and the compliance and review cycles of the contracts. The software tools can also provide cost-savings in the long run when the errors in the contract management process are minimized and overlooked. In conclusion, contract management tools can bring many benefits to the small-sized companies, and also in general.

5.3 Challenges with the use of Contract Lifecycle Management software

A Contract Lifecycle Management (CLM) software is used and designed to automate the contract management process, including the creation of a contract to the execution and renewal of it. However, using software for this purpose comes with both benefits and drawbacks. The benefits include automation of repetitive tasks, reducing the time and effort required for contract management as well to help ensure compliance with legal and regulatory requirements (Arena et al., 2024). The contract management software will also provide centralized storage for the contracts as well as to provide better visibility of the contracts and more statistics in the overview.

The challenges with the CLM software can include its complexity and changes in the existing contract management processes, the adoption of the software can also take time and may need more user training. There can also be some integration challenges with the existing IT infrastructure and other business solutions. Smaller companies can have challenges in customizing the software and the selection of the software can also be time-consuming. The

cost of the software can also be seen as a drawback, even if the software in the long run can provide a more efficient contract management process and cost savings.

The conclusion on the benefits and drawbacks of the CLM system is that while it can offer significant benefits in terms of efficiency and compliance, it can also present some challenges. The challenges are often related to its complexity, integration, and expenses. Small companies should evaluate their needs, provide adequate training, and choose scalable and secure solutions to maximize the benefits of CLM software and the result whether the solution is right for them will depend on the number of contracts and the complexity of them. The case company that has many contracts with large expenses will benefit from the CLM software.

6 THE LEGAL FRAMEWORK

Understanding the legal framework that the contract management needs to be in line with is important since the contracts are the backbone of many different business transactions. By having a strong legal framework behind the contract management practices, we can guarantee that the contracts are enforceable, compliant with the relevant laws, and involves a minimal risk factor (Hurmerinta-Haanpää, 2021). This section of the thesis goes deeper into the essential legal framework and its challenges, including contract law and competition law. The legal framework has its main focus on the Data Act and GDPR, and by also examining the details of contract law and its regulations we can better navigate the difficulties and challenges of contract management, while ensuring that all the contractual obligations based on the current legislation are fulfilled.

The digital regulation in this section refers to the legal frameworks and policies that govern digital technologies and contracts. The focus of the legal framework is on the Data Act and GDPR which include the protection of intellectual property rights, data protection, cybersecurity, and the digital markets. The General Data Protection Regulation (GDPR) is a good example for setting standards for data privacy, protection, and data security within the EU. The complexity of the modern legal systems can also increase the use of technological tools and lead to multiple overlapping regulations that can create challenges for compliance and enforcement of contracts. The empirical research in this thesis aims to highlight the challenges that companies face while navigating the complex legal landscapes, particularly in sectors like finance and technology.

6.1 Contract law

Finnish contract law is one of the main legal provisions that are used in this thesis since the case company is based in Finland and needs to comply with both the Finnish contract laws as well as the European (EU) regulations. The Finnish contract laws are used and provides a structured framework for the formation, enforcement, and regulation of contracts and the contract management in addition to the EU regulations (Data Act, GDPR)

There are many different laws and regulations that are used in contract management, and when talking about contract law you have a broad definition of the laws and regulations used in contract management. The laws and provisions include for example the Finnish contract act (228/1929) which states the general principles on contract law in Finland including the formation of a contract, the contract validity and interpretation of it. The is also the consumer protection act (38/1978) that provides consumer protection when the contracts are made

between a business and a consumer, and it aims to ensure that the contract is fair and transparent between the contracting parties.

Regarding employment contracts there is the employment contracts act (55/2001) that regulates the relationship between employers and employees, covering terms such as employment terms, termination, and employee rights. This is an important part of the contract landscape even if the thesis does not include employment contracts as such and only focuses on supplier and customer contracts.

The sale of goods act (355/1987) concerns the contracts on the sale of goods, including the rights and obligations of buyers and sellers, which are usually included in the contracts, and thus can be considered a part of the contract management. There is also the Finnish data protection act (1050/2018) which includes the EU General Data Protection Regulation (GDPR) in Finland, regulating the processing of personal data. So even if we talk about contract law as a term, there are a lot of laws and provisions that are used to determine the contract management scheme.

The key principles that the contract laws state include that there is a freedom of contract and that the contractual parties are generally free to determine the terms of the contracts and the types of contracts that are being made, as long as it follows the laws and policies (Aholainen et al., 2024). The contracts must also be fair and made and executed in good faith. The Finnish contract law does not have any compulsory formal requirements regarding how a contract is made. The contracts as such can be made in any form that is convenient for the parties, also including oral agreements which are equally as binding, although written contracts are recommended for clarity and also for evidence.

When a contract is formed it is usually made by one party and is accepted by the other. The acceptance in this case must be communicated to the seller or the creator of the contract within a reasonable time unless a specific period is said. The contracting parties must also have the legal position to enter into a contract, which means that they must be of legal age and sound mind. The subject matter of the agreement must also be legal. Contracts that involve illegal activities are not enforceable under the Finnish contract laws.

Regarding the breach of a contracting there can be specific remedies stated for breaches of contract, but it can also be left out, in this case the default remedies under Finnish law apply, which may include for example compensation for damages or termination of the contract.

With these principles and guidelines, we can ensure that the contracts made in Finland and are in line with the current legislations (Finnish and EU legislation) are fair, clear, and enforceable, and that they provide a reliable foundation for business and legal transactions.

6.2 Freedom of contract

The freedom of contract and its principles are still a cornerstone in contracting between businesses, the companies or contracting parties have been able to freely negotiate the contract terms and conditions. This principle remains but with the introduction of the GDPR and the new Data Act there have become a few limitations to protect the public interests and to ensure fairness in the contracts as well as upholding the regulatory standards (European Commission, 2025). Even with the introduction of these criteria and the new legislation (GDPR and the Data act), the contracting between businesses remains flexible and is applicable to the business's interests.

The restrictions that the European Union (EU) has introduced with the introduction of the General Data Protection Regulation (GDPR) and the all-new Data Act aim to protect the public interest and set certain non-negotiable terms and conditions on data protection and data processing. This required level of data security and protection must be enforced through contracts and some new contractual details may be needed. This ensures that the personal data is managed with care and respect for privacy and limiting the extent to which parties can freely negotiate terms related to data processing.

The Data Act (2023/2854) introduces further limitations on data protection and data sharing by setting the minimum requirements for data sharing in business relations (European Commission, 2025). The Data Act includes several obligations that businesses must integrate into their contracts. These obligations include data sharing with users and third parties as well as data sharing with the public sector. The data sharing with users and third parties requires businesses to share data that has been generated by the use of the product or service with users and some third parties. This is to ensure that the data generated through the use of the products or services is accessible to those who have a legitimate interest in it.

Data sharing with the public sector bodies is only relevant in exceptional circumstances, these include for example emergency response and some research. In these cases, the businesses must share the relevant data with these public sector bodies. This provision ensures that the public sector has all the relevant data available to them in certain exceptional cases when they need it.

Also, the cloud and edge service providers must ensure the ability to switch and export your data from one service provider to another and they must also provide exit and transition support to ease smoother transitions between the service providers. This requirement set by the Data Act aims to prevent vendor lock-in and wants to promote competition in the cloud and edge services market, by making it easier for the business or consumer to change service providers and receive their data if they wish to (Cyber Risk GmbH, 2025).

The freedom of contract stays the fundamental principle in contracting, but with the GDPR and Data Act regulations the contractors have to consider certain limitations to protect data privacy, promote transparency, and ensure fair data sharing practices. These include a few restrictions on the freedom of contract even if the contractual terms must follow the FRAND principles and do not allow for unreasonable contract terms. The restrictions in data management, security and fair practices aim to promote fairness and equality in the contract making and the contract terms. All business partners must follow these mandatory requirements from the Data Act and GDPR in addition to other applicable laws and regulations, depending on their region.

6.3 Standard terms of contract

The standard terms of contract refer to a pre-drafted contract that includes different clauses that are used across multiple contracts and that can be used or implemented under another contract without any much modification. These terms are often found in “boilerplate” sections of contracts and are designed to streamline the contracting process.

There are many benefits and some drawbacks with the standard terms of contract. The benefits include efficiency and speed, which means that you can save both time and money when using the already existing standard terms of contract and the standard clauses in these contracts. By eliminating the need to make new contract terms for each contract you get a speedier contract negotiation period, while also reducing the legal costs that otherwise would be associated with the drafting and reviewing new contract terms.

By using known and proven contract models both contracting parties can have a better understanding of the contract terms and what obligations they include, this also creates a uniformity across the contracts which reduces misunderstandings regarding the contact terms. These types of standard contract can include, for example, JIT (General contract terms for public administration, IT procurements) and JYSE (General contract terms for public procurement). The mentioned standard terms of contracts are familiar to many companies and parties in Finland, within the field. Another advantage with the standard terms of contracts is that they may have a body of case law that interprets the terms of contracts that will make them more predictable in the legal outcomes and give them a sense of credibility.

The drawbacks regarding the standard terms of contract include a lack of flexibility, while the standard terms of contract may be useful in some cases they may still not be flexible enough for all situations, this could mean that they fail to address some specific needs or cases between the contracting parties. The standard terms of contract may also create a certain unfairness for some of the parties, which can lead to an imbalance between the parties, and potentially give favorable terms for one, but not the other contracting party. The standard terms of

contract can also be a bit difficult to amend and change even if it could be necessary in some contracts and in this way, they can feel impersonal and create a feeling that the partnership between the contracting parties may struggle by for example overlooking some details.

While standard terms of contract offer many advantages in terms of efficiency, cost, and consistency, they may also come with some potential drawbacks related to their lack of flexibility, fairness, or unfair contract terms for some of the parties, and a certain lack of attention to detail. It is important for the contracting parties to carefully review and negotiate these contract terms to ensure they meet their specific needs and circumstances and depending on this analysis choose if it is better to use the standard terms of contract or whether to go with a more specific newly drafted contract between the contracting parties.

6.4 Basic features of a contract

Contracts are a fundamental part of business and legal transactions that provide a framework for the different rights and obligations of the contracting parties.

The offer or need to buy a product or service is essential to the contract, and this must be of relevance for the contracting parties otherwise there would not be a contract or agreement in the first place. There must be something of value and benefit exchanged between the parties and both parties must agree on the terms to accept the contract. The contracts themselves should be clear and specific enough for the parties to understand and not create any misconceptions regarding the terms of the agreement. A good contract states the parties involved in the contract, the scope, and terms of the contract as well as, for example, payment terms and other agreements. The contract should also state the duration and time of the contract as well as the termination of the contract. It could also include a confidentiality rating depending on the contract as well as some kind of dispute resolution process and the law regarding the contractual terms. When the contract is accepted it would also include the signatures of the contracting parties, either on paper or by digital signatures. In addition to the basic features of a contract there can be additional contracts or attachments to the contracts that go deeper into the products and services or separate contracts regarding non-disclosure agreements and other types of contracts.

6.5 Competition law

When creating contracts between businesses and especially as a public company there are competition laws that need to be considered in addition to the contract laws and other legislations. The competition laws include a fair competition regarding contracts, products, and services, this includes the procurement directives and public procurement when making big purchases. The competition laws in Finland aim to stimulate a fair competition and aim to prevent things like anti-competitive practices.

The primary legislation regarding competition laws in Finland include the competition act (948/2011) that sets the legal framework for competition regulation in Finland. The competition act addresses, for example, issues on restrictions in agreements and prohibits anti-competitive agreements, decisions, and concerted practices between businesses (Finish Competition Act, section 5). Section 7 in the competition act prohibits the abuse of a dominant position in the market, and this can include excessive pricing or limiting production for the company's own gains. Another crucial factor to the competition act is the merger control that regulates the mergers of different companies and purchases of companies to prevent a market dominance that can harm competition (Finnish competition act, Section 4). The competition act also includes competition neutrality which again aims to ensure that public entities do not twist the competition by their own economic activities (section 4a, Finnish competition act).

If for example a contract is done in an unfair way or against the competition laws there is the act on competition damages (1077/2016) this act allows for the compensation of damages that are resulting from violations of competition law, this provision also includes breaches of the competition act and other relevant EU competition rules. In Finland, the responsible actor for enforcing competition laws and investigating breaches on the competition laws is the Finnish Competition and Consumer Authority or the FCCA (Kilpailu- ja kuluttajavirasto, KKV). The FCCA also investigates anti-competitive practices, and mergers. If they find something that is not in line with the legislation and rules, they can issue injunctions on it, and they can also approve or prohibit mergers and propose fines for competition infringement (anti-competitive rules).

So, to summarize, the competition act aims for a fair market and prohibits certain agreements between competitors which are called horizontal agreements that can harm the market, and it also prohibits certain agreements between suppliers and customers which are considered vertical agreements. These prohibited agreements include, for example, agreements that restrict competition, such as price-fixing or market-sharing. It also prohibits companies with a dominant market position from engaging in practices that exploit that dominance by doing

things like, for example, predatory pricing or exclusive dealing. These laws ensure a competitive market in Finland.

6.6 The Data Act

The Data Act, also known as Regulation 2023/2854, is a new EU regulation that aims to create a more competitive data market by increasing the accessibility and the usability of data, it includes many types of data, but particularly industrial data. The regulation will be applicable from the twelfth of September 2025, and it includes provisions to protect against unfair contractual terms, support interoperability of the data, and encourages the development of new data-driven services and solutions (European Commission, 2025). More information on the Data Act is found in the next sections of the text.

6.6.1 Objectives and scope

The Data Act (2023/2854) in its objectives and scopes aims to promote data sharing and facilitate the exchange and use of data in the EU and also create a harmonization on data sharing and the access and the use of data within the union. The Data Act also encourages innovation by increasing the availability of data, which again improves development and resources which can lead to a better economy.

While increasing the availability of data and data sharing, the Data Act still aims to ensure the fairness of the data and fairness in the use of the data to protect businesses from unfair contract terms regarding data sharing and the contract terms on data sharing (European Commission, 2024). The Data Act aims for the access of data and mandates that data generated using a certain product and its related services must be directly accessible by the user in a way that is secure and easy to use. The consumer must also be allowed access to their data that is created by the products and services they use (for example smart devices) for purposes including repair of damaged devices and other maintenance services. This can significantly reduce costs and give the user easier access to repair and support their products by allowing, for example, third party repair shops and service providers to access the necessary data. The Data Act also allows certain public sector bodies to use and to access some data that is held by the private sector in such cases that respond to public emergencies, such as for example natural disasters.

6.6.2 Implementation and impact

The Data Act (2023/2854) will come into effect in September 2025 and will after that still provide a twenty-month transition period for the businesses and public bodies to comply with the new regulation. With the introduction and the implementation of the Data Act the EU aims to improve accessibility and the fair use of data to enhance the digital landscape within the

EU, which is promoting innovation, fairness, and competitiveness across various sectors within the Union.

The Data Act is not yet applicable as of writing this text, but it is something that must be considered when planning new systems that use data. Different types of contracts need to be managed in a certain way both by the new system and the users when there are new regulations that dictate certain parts of the contracts. When looking at the Data Act from a contract management perspective there are several parts that need to be considered including the fairness in data sharing contracts, and the public sector access to the services and products specified in the contracts (that create data). We also need to consider data portability and interoperability with the data created (European Commission, 2024). To achieve the goals and have a good data management within the Contract Lifecycle Management we need to identify and perhaps renew some parts of the contracts and update the contract templates to fit the new needs. This is done to ensure compliance with all systems and contracts by the end of the transition period when the regulation and the Data Act come into force.

6.6.3 Unfair contract terms under article 13 of the Data Act

Article 13 of the Data Act (Regulation 2023/2854/EU) addresses unfair contract terms in data sharing agreements (European Commission, 2025). The article is here to protect the parties, especially small and medium-sized enterprises (SMEs) and other entities, from terms that can create inequalities in the rights and the obligations in the contract terms.

The article 13 focuses on ensuring that the contract terms on the data sharing and the data sharing agreements are done with fair contract terms. Firstly, the article prohibits unfair contract terms in data sharing contracts that can create an inequality in the rights between the data holder and the other contracting parties. These kinds of terms are most important for the protection of small and medium sized enterprises (SMEs), which can more easily get contract terms that work to their disadvantage (Regulation 2023/2854/EU). Examples of what can be considered unfair contract terms can be clauses that limit the liabilities of the party who imposed the term for intentional acts or gross negligence (Regulation 2023/2854/EU). With the unfair contract terms eliminated by the Data Act about data sharing there is a more level playing field that ensures that no company has major disadvantages as to the data sharing and the collection of data. This prevents larger companies and entities from exploiting their power on the market and for them to give unfair contract terms for smaller less powerful companies.

The other major goal with the Data Act article 13 is to promote transparency and fairness in data sharing agreements, which will promote a more competitive and innovative digital economy (Regulation 2023/2854/EU), by doing this and providing the legislation on the subject, it can ensure that the data sharing contracts are balanced and fair. By having a level

playing field and fair and reasonable data sharing terms it can protect the interests of all the contracting parties.

6.7 Contracting and the new Data Act terms

The Data Act (Regulation 2023/2854/EU) will become applicable on September 12, 2025, and it introduces many important obligations regarding contracting for businesses dealing with different kinds of data. The key points include detailed information about data collection and processing, and also different rights to access and use the data as well as preventing unfair contract terms (Ruukki, 2024). Before signing the contract, the companies must disclose in detail the process of data collection and data processing regarding connected products and their services. Users must be informed about the different types of data that are collected as well as an estimate of how much data is collected and the techniques for data storage and the retention period.

The contract must also discuss the access to data and the sharing of data. The Data Act Article 4 mandates that all users must have access to their usage data on connected products and services (Regulation 2023/2854/EU). The products and services must also be designed in a way that facilitates easy access to the data and data sharing by the users.

The data holders on the other hand may only use non-personal data if the agreement with the users states that they are able to do so. The data must also not be used in a way that derives insights that could undermine the user's position. The unfair contract terms found in Article 13 of the Data Act protect businesses and users from unfair data sharing agreements and aim to ensure fair participation in the data market. There are certain contract terms that are considered unfair. The Data Act Articles 23, 25, 26, 27, 29 and 30 also set some rules on data processing services like, for example, cloud services (Regulation 2023/2854/EU). Cloud service providers must follow the set obligations relating to data sharing and access to data. The user must be able to easily switch between data processing services.

With these new legal terms, the Data Act aims to enhance fairness and the accessibility to the data and to data related contracts. This will lead to better transparency and a more competitive and secure data economy within the EU. The new Data Act regulation affects many businesses in the EU, and the case company is also affected by these new terms and conditions. The Data Act applies to all companies located in the European Union (EU), including the small-sized companies like the case company. The Data Act applies to both manufacturers, service providers and the public sector bodies. Small-sized companies may however see smaller impacts of the Data Act than bigger companies, but the reasons are often a more equal footing when discussing contracts between SME:s rather than different criteria for smaller-sized companies. Small-sized companies may also have fewer technical impacts and simpler data

processing needs that can make it easier for them to manage even though the Data Act applies to all companies.

6.8 Data sharing terms

The data sharing terms under the Data Act need to follow certain rules and guidelines including that the data sharing needs to follow the FRAND terms. This is found in the Data Act Article 8, and it means that the data sharing needs to be Fair, Reasonable and Non-Discriminatory (Regulation 2023/2854/EU). The introduction of the Data Act brings some significant changes to the way data is shared. The connection between the data holder and user is specified and is found in Article 5 of the Data Act. This specifies the rights of users to share data from the connected products or their related services with third parties, which can happen either directly or by requesting the data holder to serve as the data sharer. The data holder is for example a manufacturer of connected products like smart home and vehicles, as well as wearables and other connected products placed on the market. The data holder or the seller of the product usually have negotiated the terms and contracts in a way that reserves all rights of the collected data to them and the consumer who buys the product usually finds it difficult to get or use the collected data in some cases and has a lesser position regarding the data collected by the product they have bought. The Data Act Article 23 for example gives the users a stronger access to the data as well as the rights to export the data generated by their product (portability), out of the scope falls the data that has led to the development of the product as well as the prototypes, internal analysis, trade secrets and the enriched data that has been created from the data produced or generated by the use of the product (Regulation 2023/2854/EU).

The user generated product data and the data from the service that the product uses must be made available to the user without any expenses or cost for the user (Data Act, Article 4). The data holder cannot use this information and data unless they have agreed to it with the user of the service or product in the contract. According to the Data Act Article 5, the data holder must also make the data available to third parties upon their request for the data, this will also follow the FRAND (Fair, Reasonable and Non-Discriminatory) terms and conditions that are found in Article 8 of the Data Act (Regulation 2023/2854/EU).

The Data Act also states some unfair contract terms or terms that can be presumed to be unfair in some ways. The unfair contract terms are found in Article 13 of the Data Act and they include prevention of the use of data during the contract period, consumer protection rules that prevent the user to use and receive the data generated by the use of the product and other unfair contract terms that limits or excludes the rights given by the Data Act or other enforceable legislation.

The contract terms under the Data Act should be clearly defined, including the scope of the contract, the terms for making the product generated data available should be clearly defined as well as the terms in which the data holder can use the data and share it with third parties. If there are any restrictions on data access and disclosure of the data, it also should be stated as well as a possible non-compete clause if that would be applicable. There are also data confidentiality and other security measures and personal data protection that need to be evaluated based on risk levels linked to the data and need to be considered in the contract terms also.

The Data Act extends the GDPR's "privacy by design and default" (2016/679) principles to also include non-personal data and has the principle of access to the data by design and default, these terms and conditions should be included also for all non-standard products. These privacy and access by design and default terms make sure that the data sharing is conducted within the FRAND framework and aims to balance the right of data sharing between the users of the product and the manufacturers, developers, and the data holders.

The key features of the Data Act are the real-time data accessibility which means that the services must be designed to make sure that the product generated data (by the use of the product) is accessible by the user or consumer by default, for example through a user interface of the product or service. The data holder must also provide material on how the data is collected and the volume of data as well as the nature of the data that will be generated by the use of the product (Regulation 2023/2854/EU, Article 3(2), Data Act).

These data sharing terms make sure that the user of the product or a service is informed about the data generated by the use of the product or service and how it is stored and managed. This makes it easier for the consumer to get access to the data and ensures that the data is portable so that the user can export the data and also more easily change a service provider regarding their data.

6.9 GDPR and the Data Act

The Data Act (2023/2854) continues the ideas and principles that have been established by the General Data Protection Regulation (GDPR). When the GDPR (2016/679) focuses on the protection of personal data and privacy, the Data Act has its focuses on data sharing and access to the data, ensuring fairness and innovation in the digital economy, within the EU.

There are many connections between the GDPR (2016/679) and the new Data Act both regarding data protection, transparency, and fairness as well as right or access to the data. Both regulations highlight the significance of the protection of personal data. The Data Act states that in any conflicts between the Data Act and the other previously made legislation

(including the GDPR) the data protection laws will prevail. Both legislations also highlight the transparency and fairness of the control over personal data and prevention of unfair contract terms in for example data sharing, in this case the newer Data Act complements the GDPR and continues the protection where the GDPR left of.

The GDPR concentrates on the individual's rights on their personal data including access to the personal data and to correct their personal data whereas the Data Act ensures that there are fair contract terms between the data holder and the consumer that uses a product or service that collects data generated or created by the use of a product or a service, and gives access and portability to this information.

6.10 The General Data Protection Regulation (GDPR)

The General Data Protection Regulation (GDPR, 2016/679), that is enforced in the EU has many impacts on contract management, especially for contracts that involve processing and use of personal data. The GDPR (Regulation 2016/679/EU) aims to increase data protection and data privacy for people within the EU and it also addresses the transfer of personal data to outside the EU.

In the context of contract management, the GDPR (2016/679) requires data processing agreements that the data controllers must specify so that the scope of the data collection, its purpose and processing are known. The GDPR also requires Data Privacy Impact Assessments (DPIA) on data that includes a high risk to the individuals' rights and freedom. If there is a data breach the GDPR requires that the data breach must be notified to the authorities and the individuals that have been affected by the data breach. The contracts must include the procedures for breach notification and the responsibilities in this kind of a situation. The GDPR also includes the rights to be forgotten, access to personal data and the portability of the data, which must be provided with easy access to the users. There are also data transfer requirements that must be followed when transferring the data outside of the EU to ensure adequate data protection.

The GDPR also requires regular audits of the contracts to ensure that they are compliant with the regulatory requirements, this includes reviewing and updating the contracts to help find compliance gaps.

In conclusion, the GDPR requires a comprehensive approach to establish clear contractual terms, conducting regular audits on the contracts, ensuring robust data management practices, and providing continuous training for the people and staff. By following these guidelines, the companies can ensure more effective contract management and compliance with the regulatory requirements.

6.11 Supervision of data flows and compliance

Data processors and the software that is storing contractual data must comply with both the Data Act (applicable from August 2025) as well as the Data Governance Act. These two regulations work hand in hand to ensure fair and transparent data practices. In addition to the Data Act and the Data Governance Act, the data processors and software must also follow the General Data Protection Regulation (GDPR), which is focused on protecting the personal data and privacy of the personal data.

The Finnish transport and communications agency (TRAFICOM) is the authority in charge of supervision and coordination for the implementation of the Data Act and Data Governance Act (DGA, 2022/868) as well as the GDPR in Finland. They also provide guidance and support to companies and service users regarding their duties and rights under these acts. Traficom monitors compliance with the regulations and collaborates closely with other authorities to ensure smooth implementation of the regulations and promotes the data economy and support innovation and competition in Finland.

6.12 Other legislation

The other directives and regulations that the contract management process need to be considered include the EU procurement directives (2014/24/EU on public procurement and 2014/23/EU on license agreements), as well as the General Data Protection Regulation (GDPR). There is also the Network and Information Systems Directive (NIS2, 2022/2555) that needs to be considered as well as some other legislation including the act on public procurement and terms of use agreements (1397/2016) and the legal protection directives and legal protection laws that apply.

6.13 How the legal framework is relevant for the case company

The legislation in these sections is relevant for the case company since the case company has many different kinds of contracts within different fields. The basic principle is that contracts are between businesses, however due to all users that use the services and devices through the case company we need to comply with many different kinds of legislation including contract law, competition law, and the relevant regulations (including GDPR and the Data Act).

The case company and its contracts include contracts in many different branches, all from IT contracts, HR contracts to financial services contracts. The different branches have different relevant regulatory compliance, and the contract management software needs to consider all these key factors. This is why there are many different important laws and regulations about contract management and its practices for the case company.

The General Data Protection Regulation (GDPR) affects the case company's contract management by requiring the data processing agreements (DPA) and that the contracts must include the data subject rights, international data transfers if applicable, and the regular audits for compliance. The EU Data Act on the other hand is relevant to the case company and aims to enhance access to data and the sharing of data within the EU market. It provides fair access to the information generated by connected devices, and ensures protection against unfair contractual terms, it also states what data to be shared between businesses and the public sector. The Data Act also promotes interoperability and innovation by providing better use of data across different services and sectors. These are also the provisions that the case company needs to consider.

Both the Data Act and the GDPR require regular audits and compliance checks that are essential to ensure faithfulness to these new regulations. The data management processes, and continuous employee training are essential for maintaining GDPR and Data Act adherence in the Contract Lifecycle Management processes.

The contract laws are relevant to the case company in many ways, both for compliance and to better their contract management practices. A problem with the new more international contract management practices and the legislation surrounding it, is that there is a chance that the contracts are misunderstood more easily due to language barriers and also because of the interpretation of the contracts since the sources may be from all over the world (Peltoniemi, 2021).

7 COMPARISON OF CONTRACT LIFECYCLE MANAGEMENT TOOLS

This chapter provides information on Contract Lifecycle Management (CLM) tools and provides comparisons of software and their features. With many different CLM tools available for the companies, comparisons are essential to get the best CLM solution that fits the company in question. Each of the software tools offers unique features and capabilities. This chapter provides deeper knowledge of the leading tools in CLM and will compare their functionalities, user-friendliness, integration capabilities, and overall effectiveness in the contract management processes. By understanding the strengths and weaknesses of each software, the organizations can make more informed decisions on how to enhance their contract management processes.

7.1 The case company's needs and current tools

The case company had the need for a new Contract Lifecycle Management software that could manage their contracts, automate the contract process and most importantly, be able to incorporate all the features that both the GDPR and the Data Act gives, in addition to other relevant rules and regulations like for example the NIS2 regulation (2022/2555) and other relevant data.

The case company already uses a software called Matrix42 (previously named Efecte) as an Information Technology Service Management (ITSM) tool, and this software could be used for contract management and storage also. The case company also uses a software called IMS for process management and Visma Sign for document signing. These could also potentially be used to store and manage contracts. A closer look at the software is found later in the text, with descriptions of the features of the software, as well as suggestions on what software could be used. Needless to say, the case company already has some software capable of CLM and this software needs to be compared to other relevant tools for the best result.

7.2 Core tools and big brands in Contract Lifecycle Management

The big market players within the field of Contract Lifecycle Management (CLM) include tools like DocuSign, Sirion, Ironclad, and many more. These software tools are leaders in their field and serve good and purposeful contract management software. There is, however, smaller, or less contract management specific software that could serve a good purpose for the contract management as well. These companies are for example the ones that the case company uses include Matrix42 (previously Efecte) (ITSM), Visma Sign (digital signature of documents), and Arter IMS (process management), which could be configured to serve as contract management software. The capabilities of the big players in the CLM field include

automatization of the contract management processes, follow-up of the contracts (renewal cycles and notifications), signing of contracts, storing, and archiving of the contracts and many more additional features (Phelan, et al., 2023). The features of each contract management software are found in the comparison tables int the next few sections.

7.3 Gartner Magic Quadrant for Contract Lifecycle Management

Gartner Inc. provides research also within the field of Contract Lifecycle Management, and their research is relevant to the software comparisons and features that the different CLM software should have. The most important part of their research is the Magic Quadrant for Contract Lifecycle Management (CLM), and it provides different kinds of software that Gartner have compared. There are a few different categories in the Gartner Inc. Magic Quadrant for CLM (See. Figure 1, with the modified version of the Gartner Magic Quadrant for CLM) and the different categories are defined as follows.

The leaders in the Magic Quadrant for CLM are companies and software that have both a good ability to execute and have a completeness of vision (Sommers et al., 2023). The leaders comprise of companies like Sirion, Docusign and Ironclad, which are leaders in their field and good for most contract management use-cases and include many different features including, for example digital signatures and procurement and archiving features. The leaders are also companies that only focus on the contract management software, and they do not have many other products and services in different categories. The leaders in the field have software that is of exceptional quality for most use-cases and provide a solid base for great Contract Lifecycle Management and are stable software with good support.

The challengers in the Magic Quadrant are software companies that have a good ability to execute but they may not have as complete of a vision as the leaders in the field have (Sommers et al., 2023). This software is still great depending on the use-case. This category includes products like Cobblestone Software and Conga, which are not as popular as the leaders but still challenge the best of software and may be bigger and more important software in the future.

The visionaries in the Magic Quadrant are good competitors, with a good completeness of vision however they are not as able to execute as the leaders in the Magic Quadrant, in this category we have software like Evisort, ContractPodAi and Ivalua, these are also not that well known to the large public but they have a good vision and good features, but will not as likely to execute (Sommers et al., 2023).

The last category of the Gartner Magic Quadrant for CLM is the niche players, this is the largest category of software tools they may not be able to execute as well as the leaders nor do they

have the same innovations and visions as the visionaries in their respective category, however the software could be the best possible solution for certain use-cases and provide an excellent solution to a specific problem (Sommers et al., 2023).

When looking at the software in their respective categories and comparing the features we can easily understand their strengths and weaknesses and for what the products are good for. In the final comparison, I have chosen a few different software from the different categories. These include both software that is in use at the case company at this moment as well as software from the Gartner Magic Quadrant for CLM and other software that are good alternatives for the case company's needs.

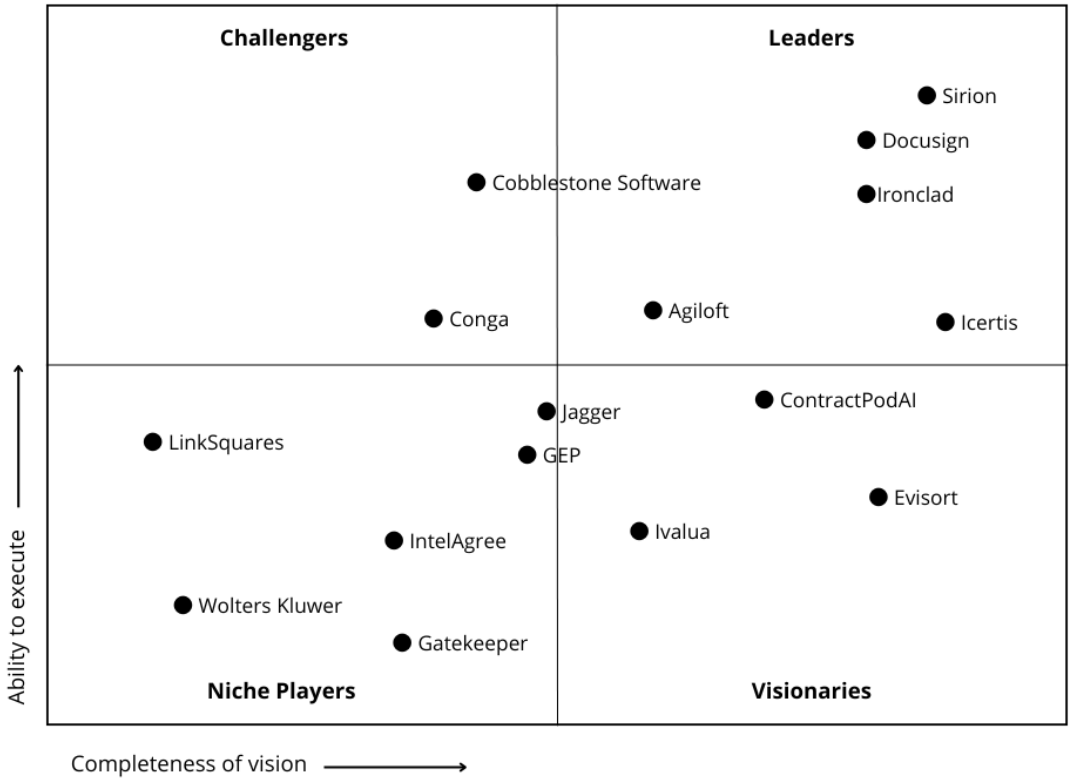


Figure 1 A modified version of the Gartner Magic Quadrant for CLM.

Source: Gartner Inc., 2024.

7.4 Benefits and drawbacks of the already owned software

There is software that the case company already uses for other purposes (including for digital signatures, ticketing, and process management). The software on this list has the capabilities to work as contract management software in addition to their other use-cases. It is likely that the case company will choose one of these software as their contract management software (CLM) because of the benefits of having the contracts in the same location as other important documents and papers. There can also be cost savings because there might not be a need to buy a new separate software and set it up for the contract management purposes, even if there might be some additional expenses to set up the already owned software for the same kind of use case. This is something that is evaluated on the table below. In the comparison table there are listed the main strengths and weaknesses of the selected software and a bit of general information on what the software is good for. This first comparison focuses on the already owned software and services whereas the second comparison and the second table focuses on other alternatives that are leaders in their field, the software for the second comparison are selected from the Gartner Inc. Magic Quadrant for CLM which indicate that the software truly are considered relevant and leaders in their field, the last software on the list is not found in the Gartner comparison, however it is a promising candidate, that some of the case company's customers may use.

Table 1 Comparison of internally used software for the CLM processes.

Application	Strengths	Weaknesses
Matrix42 (previously Efecte) (is in use for ticketing and other resources)	Matrix42 (Efecte) provides a good overview of the contracts and a good contract framework. Automation of the contract process is possible and includes a change log. Matrix42 (Efecte) has an internal main user which means there are no additional charges for the changes made to the program. Contracts can be exported in many different formats, including xlsx, csv and more. It has good filtering and organizing functions for the contracts. Can be customized according to the case company's needs and other relevant information can be added to the contract, including users, systems, programs, external companies, and other related information.	There are definitively fancier alternatives for contract management, and for the automation of the contract lifecycle. May seem a bit old to some degree. Requires many fields that need to be filled in manually from the contracts. The configuration of the system according to the case company's needs may take some time and may also need some external consultation work to get done.
IMS (is in use for internal process management)	The contract management process description is added to IMS, so it could be a good idea to store the contracts in the same place. Good features for contract approval and versioning (change log). It has good automation for review intervals of the contracts. The contract information can be linked to the internal processes which are stored in the software.	IMS provides less information on the contracts data card. It also has a simpler dashboard regarding the overview of contracts. IMS is not as customizable as some of the other rivals, and its own information fields cannot be as easily added. Much of the contractual data is only found in the contract appendixes. It is not possible to export contracts from the system.
Visma Sign (used for digital signatures)	Visma Sign works best for digital signatures, and when the contracts are signed the documents can be stored in the software. One software for both the digital signatures, and the achieving of contracts.	Not as wholistic as the other competitors, and aside from the signing of contacts it does not provide any exceptional features over its competitors.

7.5 Benefits and drawbacks of the new potential software

The comparisons in this section are software that show great potential and have been selected as leaders in their field (CLM). The software in this list is not used at the case company at the time of writing this text, however it may be relevant in the future, based on the case company's needs and preferences. The software provides excellent features which are found in the table below (table 2) in addition to their main weaknesses or disadvantages. The software in this list will be evaluated if the cost of the new program is relevant to the features of the software. The software on this list is not as likely to be selected due to the additional costs and expenses but it may be considered if there are important features that the other list of software cannot provide for.

Table 2 Comparison of new software alternatives for the CLM processes.

Application	Strengths	Weaknesses
Docusign	Docusign is a leader in its field and is widely used both internationally and in Finland. Provides extensive integration support to many different systems, including CRM, ERP, and HR systems. It has good features for contract renewal intervals, reminders, and other types of automation. Includes a digital signature feature and thus works as one program that provides for the signing of contracts, storing of contracts as well as archiving of contracts.	Docusign is a complete system and has most features that are needed for a contract management software, however when being a leader in the field the price might be higher than many of the competitors and there might also be some of the usual challenges with integrations, support and an overwhelming number of features.
Sirion	Sirion is also a leader in its field and a popular choice for many sizes of companies. The software is popular both internationally and nationally. Provides good Contract Lifecycle Management from contract creation, review, approval signing and archiving of the contracts.	Even if Sirion could provide most features the cost may be higher than some of the lesser-known software. There might also be some customization limitations and other smaller issues.
Mercell (previously Cloudia)	The software may be used by some of our clients, which can bring benefits between the case company's customer contracts. It provides features on procurement, competition, and supplier management. Provides good automation of the contract processes (review of contracts, review intervals and reminders). It has good reporting and monitoring tools on the contract lifecycle, as well as versioning of the contracts. Mercell (Previously Cloudia) can be integrated into CRM and ERP systems. Contracts can be exported.	A new program that would bring additional costs to the case company (regarding application deployment and teaching the workers to use the software efficiently). The software cannot be integrated into resources like programs, ticketing, and users from the ITSM (IT Service Management tool).

7.6 How the data processors deal with consents

When dealing with consents the software and data processors implement some features to obtain and manage the consents, as well as some automation features that ensure compliance with the legal requirements. The processes regarding consent management include consent forms, easy withdrawal of information, and detailed records of consent history. Many data processors also aim for data minimization regarding consents, and they may only collect necessary data for their specified purposes.

The consent forms include standard contract clauses that are predefined to ensure data protection and compliance with the regulations like the Data Act and the GDPR, these standard clauses state the obligations and responsibilities for the data processors and controllers. The standard clauses are usually found in the Data Processing Agreements (DPA). The data processing agreements define the purpose of the data collection and processing, they also tell what types of data that is collected and the purpose of the data collection. The data processing agreement also states the duration of data retention and could specify some technical and security measures to protect the data. The data processors should maintain transparency on how the data is used, secured, and stored and communicate these measures to the customer or user. This type of communication and information is usually found in the data processing agreement or the DPA.

The most usual features and good practices regarding consents for data processors are clear and specific requests for data collection and usage of the collected data. They may also allow users to consent to different types of data collection and processing, as well as easy withdrawal of the consents at any time through, for example the account settings or a consent management portal. It is also important that the consents are documented and that the data processors keep records of how, when and for what purpose the consent was obtained. As mentioned, transparency and communication are also a key part of the consent management process with regular updates to the users about changes in data management or in the data processing practices and the communication of the changes is done in an easy-to-understand way.

Data processors can also use different technical measures to deal with the consent management processes and to help automate it. Data processors can use different software tools to automate the data management practices and consent management. This automation includes obtaining consents, managing the consents as well as the documentation of the consents and the consent management process. The automated consent management system can ensure that all consents are valid and up to date, so that they follow the legislation (including the Data Act and GDPR) and that they have not collected any unnecessary data and

consents that are not needed for their intended purposes. The data processors and data keepers should only collect necessary data that have been pre-defined and accepted by the user or the customer beforehand (data minimization).

7.7 Data processors compliance with the Data Act and the GDPR

For the data processors to act in accordance with the Data Act and the GDPR and for them to manage their consents as well as the data collection and processing effectively they should follow the recommendations on the table below.

Table 3 Data processors compliance with the Data Act and GDPR.

Mapping of the data sets	The data processors need to identify and categorize all the data that is collected, processed, and recognize the personal and non-personal data.
Compliance checks	The data processors should check their compliance with both the Data Act and the GDPR to ensure that their data collecting and processing activities are in line with the legal requirements.
Clear consent forms	The data processors should communicate the data collection and processing as well as the consent management in a straightforward language and explain what types of data that is collected and how it will be used and managed.
Granular consent	The data processors should allow the users or customers to give consent to different types of data collection and processing and allow the users to select between more and less data collection.
Easy withdrawal of consent	Allow for the users or customers in simple means to withdrawal of their consents at any time.
Documentation of consent	The data processors should maintain in detail records of the consents and for what reasons the consent was obtained.
Data processing agreements (DPA) and transparency	The data processors should have a separate data processing agreement or DPA that includes the standard contractual clauses on data protection, consent management and that state the compliance with the different legislations. This should be clearly communicated to all the parties involved (including both the users and customers).
Regular audits	The data processors should do regular audits of the data collection and the data processing activities.
Data security	The data processors should implement strong security means to protect the data from unauthorized access and use. This is used to minimize data breaches and other risks.
Data minimization	The data that is collected should be necessary for the specified purposes and no unnecessary data should be collected. The data should also be used for the period when it is necessary.
Third party data sharing	The data processor should clearly state if the collected data will be shared or managed by a third party and the reasons why it would be shared. The data processor should also see that the third parties are compliant with the data protection regulations.
Data transfer mechanisms	If the collected data is shared or transferred outside of the European Union (EU), the data processor should specify the mechanisms that ensure enough data protection in this regard.
Training and awareness	The staff working for the data processors should receive regular training on data protection, consent management and compliance requirements.

7.8 Empirical data on common standard terms of contract

In the list below you can find the most common standard terms of contract and how they are formulated. The data in this section has been derived from the empirical data, including real-world contracts. The data is much simplified and generalized because the contract terms are usually quite lengthy and would be difficult to include. The contract terms also depend a lot on the products and services provided and included in the contract. The contract terms can also be used more generalized or personalized terms depending on the products and services. The empirical contract data has mostly been in Finnish; however, it has been translated to English for this thesis. There are different standard clauses regarding data protection, data collection and access to data as well as the use and disclosure of the collected data.

Table 4 Empirical data on the most common standard terms of contract.

Type of contract terms:	What the most usual contract terms are:
Specific purpose	The data (specified) will be used solely for the specified purposes, such as improvement of services, marketing, research, and statistics.
Legitimate interest	The data processing is based on the legitimate interests of the data processor, such as increasing user experience and ensuring security.
Informed consent	The consent is informed to the user or customer and by agreeing to buy, lease or sign the contract they automatically accept the given terms.
Freely given consent (additional consent)	The contract terms usually let the customer or user choose additional consent to certain data collection, processing, or other features, in addition to the informed standard terms.
Right to withdrawal	The user or customer has the right to withdrawal their consent at any time, without affecting the data processed before the withdrawal.
Access and correction of data	The user or customer has the right to have access to their data and request corrections of the data when necessary.
Necessary data	Only data that is necessary for the specified purposes will be collected and processed.
Retention period	The collected data will only be stored for as long as it is necessary to achieve the results for which it is collected.
Data protection	There will be proper technical measures to ensure data protection, prevention of unauthorized use of the data and for minimizing data breaches and other security risks. These are usually more specified with the technical means.
Third party data sharing	Data may be shared with third parties for the specified purposes (found in the consent form or DPA), such third parties must be compliant with the data protection regulations. The third party must reach the same levels of data protection as the original data processor.
International transfers	If the data is transferred or used outside of the European Union (EU), there will be proper security measures used.
Regular audits and compliance reporting	There will be regular audits on compliance with the data protection regulations and the data processors will provide compliance reports based on the audits to show and ensure the data protection standards.

7.8.1 The Contract Lifecycle Management process

The process of how the contracts is managed can vary between companies, however there are many parts of the contracting process that stay the same regardless of the size of the company or the field in which the company operates. The first stage in the contracting process is the identification of the need for a contract, based on different products and services that the company could be buying or using. The identification phase also includes gathering of information and the specifications of the requirements. The second phase is the drafting of the

contract as well as the negotiation of the contract terms and conditions, this can also be called the authoring of the contract. The third stage of the contracting process is the discussions between the parties and revising the contract terms based on both of the party's needs. The fourth phase is the approval stage, which includes signing of the contract between the parties and other necessary approvals from, for example, the stakeholders. When the contract is approved, we come to the fifth phase, which is the responsibility of management and monitoring, this is when the contract is executed and ensures that all the contracting parties fulfill their contractual obligations, the contract should also be regularly reviewed and audited if necessary. When the contract period nears its expiration date or the end of the contract, the contract can either be terminated or renewed. If the contract is renewed there might be some changes or amendments required for the contract, but if the contract is terminated it is just seen as completed. The storing or archiving of the terminated contract is also important for future reference and compliance purposes.

8 LIMITATIONS AND FUTURE RESEARCH

The thesis is limited to small-sized companies and their contract management processes, which may have other challenges and needs that for the bigger companies with their own legal departments and other various resources that the smaller companies may not have access to. The thesis is also limited to contract management and will not be exploring procurement as such nor official archiving of the contracts (archiving process).

This thesis will analyze many types of contracts regarding numerous different services and products, for example buying, leasing, consultation, and service contracts. However, the thesis will not analyze contracts like HR contracts, employment contracts, contracts that are of little to no value, such as small purchase invoices, travel bills and more, no personal contracts for the workers or non-disclosure agreements. The limitation to use business to business contracts makes the thesis more specific to business-critical contracts on products and services that make more sense to store and review within a contract management software.

The empirical contracts in question are the case company's own contracts and not contracts that are billed through the company for their clients since the text will not explore the case company as a joint procurement or purchasing unit and it will not explore the possibilities and restrictions on such a department or company. The contracts apply to the case company and its customers, clients, or owners. The case company remains the owner of the contract data.

The thesis will also not discuss any direct economic outcomes or thoughts of gain or loss due to the contracts or certain choices based on the findings of the contracts. The thesis will also not take a stand on whether the contracts are financially viable or relevant other than the legal aspects of the contract management and the contract lifecycle. The thesis will be assuming that the contracts in question are or have been relevant to the case company due to signing the contract or purchasing of the goods and services that the contract holds.

The thesis will discuss some contract-specific information and the contractual data in general, but it will not discuss individual contracts and their outcomes. The thesis will not be discussing the specific costs and terms for individual contracts, because they may not be disclosed to the public.

To protect the identity of the case company in question (as well as its clients), it will be mentioned only as the case company in the thesis. The contracts and the case company could be considered critical for service reliability, and it has businesses in different areas, including healthcare, energy production, rescue operations, city, and municipality. Due to this, the company is referred to as the case company in the thesis.

As for the further limitations of the thesis, it will not discuss the costs, expenses, and the user adaptation of the mentioned Contract Lifecycle Management systems. It will also not describe the initial setup processes and procedures regarding the software, but it will rather talk about the configuration of the contract specific information. The thesis will also not be looking further into information security issues and other privacy issues about the confidentiality of the contracts.

In regard to the future research about Contract Lifecycle Management and its processes it could be interesting to examine how, for example, Artificial Intelligence (AI) and Machine Learning (ML) could affect the contract management processes and the compliance checks of contracts. There is already some contract readers based on AI that can read through contractual terms and point out things that should be looked at in the contract, and they can give summaries about the contracts, however they are still not accurate enough that you can fully believe that the AI has found all technicalities and specifics regarding the contract. Potential new research subjects on AI aided contracting and smart contracts could include exploring how AI and ML can enhance the Contract Lifecycle Management by automated contract analysis and risk assessment on the contract terms. Blockchain technology could be another interesting subject for more secure and transparent Contract Lifecycle Management, and to ensure more tamper-proof contracts.

In addition to the AI, ML and Blockchain technologies there could potentially be research done on the user experience when using these technologies and how to increase the adoption of CLM systems. Integration possibilities with the different systems and technologies could also be a relevant subject that could explore AI, ML and Blockchain integrations into the current Contract Lifecycle Management systems. There are many possibilities for further development and further research within the field of Contract Lifecycle Management and with the recent technologies the field of Contract Lifecycle Management can change faster than one could imagine.

9 RESULT

The current data practices at the case company include data collection on both personal and non-personal data from various sources, including customer interactions, transactions, and devices. The data is securely stored with good encryption and access controls. The collected data is processed for a few purposes, including analytics, customer service, and operational efficiency. The contractual data and the consents are now stored centrally in the CLM software, and all new contracts are signed digitally. The data is stored in such a way that it is secure, and that it can be connected to the company's other resources, if necessary. The integration of resources helps in streamlining the data management processes and helps the contracts to be connected to the right resources. The contract management software is customized to provide the features that the company needs which help the case company to manage their contracts.

The contract management software can also be used to help navigate the legal challenges that the new Data Act and the GDPR have introduced. This includes functioning as the central hub for contracts, data protection agreements and consent management. The software also includes good measures for data protection, security, and privacy. The contracts have also been automated to manage deadlines more efficiently, as well as the review intervals and regular audits of the contracts. The case company chose Matrix42 (previously Efecte) as their contract management platform, however there are a lot of different software that can achieve the same result if they are configured correctly. In addition to Matrix42 (Efecte) there are software like Sirion, DocuSign and Mercell (Cloudia) that are widely used and have proved to be great software in this field. There are also other software that the case company uses that could work for the CLM purposes, however for the case company it was important to have a software that would not bring much extra expenses and costs and that could be integrated into the other company resources, including the IT Service Management (ITSM) tool as well as possible ERP and CRM systems in the future.

9.1 Relevant contract information in the CLM software

There is much information about each of the contracts that the case company has, and this section gives a suggestion on the most important information that could be added to the CLM software for a more efficient overview of the contracts. The information that we need to know about each contract (and the information that is added to the management software) include contract validity, value, renewal cycle and contract models. The list below shows the required data and information to be added to the contract template.

Table 5 Relevant contract information added to the CLM software.

Data category	Data type
Contract type:	Contract name Contract description (short information about the contract) Contract type (leasing, acquisition, purchase, maintenance, service level, and support contract) Contract confidentiality classification (public, classified, secret, and top secret)
Validity information:	Agreement status (draft, valid, ending, ended) Terms of validity (fixed-term or valid until further notice) Term period in months (only for fixed term contracts) Date of signing Contract start (date) Contract end (date) Who and what the agreement applies to (selection of different clients or departments) Notice period, months (how long before the end of the contract the system notifies you about it)
The company's own party	Person at the case company that is in charge of the contract. The signee of the contract (internal) Possible information about the cost center or the department in charge of the billing or invoicing regarding the contract
The other contracting party	Company (external) Signatory (second party) Contact person (external) External agreement number
Financial information of the contract	Cost category (based on national and EU procurement categories) Procurement type (based on national and EU procurement categories) Financial information about the contract (yearly or monthly costs, total cost, and other relevant expenses)
Terms of the contract	Is the data protection policy attached to the contract documents? Does the contract use general terms and conditions? Brief description of the service level agreement of the contract Other requirements and risk management related to the contract (liabilities and collateral)
Contract-related information	Other related contracts or systems (software, hardware and other products or services)

Contract documents	Documents should be added to the contract form (documents, pdf, links to contracts on the internet)
Data automatically generated by the software	Contract ID When the contract was first created in the system and who created it When the contract has last been updated and by who Change log about all the changes made to the contract and the contract form

9.2 Pros and cons of software tools for CLM

The use of software tools for Contract Lifecycle Management will present many benefits including a central storage, reviewal intervals and more, but there may also be a few drawbacks to consider when making the transition to a more digital contract management. The table below shows both pros and cons regarding the software tools for CLM and the table aims to give a better understanding of the benefits and drawbacks with the use of software tools for CLM.

Table 6 Pros and cons of the CLM software tools.

Pros	Cons
The software will provide increased efficiency by automating many of the manual processes, which in turn will save time and reduce the need for human interaction and intervention. The software will also provide cost savings in the long run.	When introducing new software there will be some initial setup costs to get it up and running, as well as some monthly fees for the software itself. Implementing a Contract Lifecycle Management software can be expensive initially and requires some time to get it configured for the right purposes. This can make a company consider whether the initial costs (including costs for the software, training, and customization) are worth the fee, even if it could provide cost savings in the long run.
The software tools provide a centralized platform for various stakeholders, employees, and departments to manage their contracts, which will reduce miscommunication and will ensure that everyone is on the same page regarding the company's contracts.	Complexity can be another issue with some CLM tools that can be complex to use and require significant training and customization. If the complexity becomes an issue, the contracts may lack essential information and dates that would otherwise make the software useful. In this case it can seem like the contracts are managed, but in reality, there are many flaws in the automation of contract management.
The software tools will also provide enhanced risk management and better compliance, by tracking important dates and other compliance requirements, reducing the risk of missing critical deadlines, or violating contract terms (depending on the tools and their capabilities).	There could also be potential data security concerns with the introduction of new software. Storing sensitive contracts and information in a digital format can introduce security risks if they are not properly managed. By managing access rights to the contracts and to the contract management software you can eliminate some of the cases in which the contractual data could be misused.
The software tools will also provide better searchability. With all contracts stored in one place, it is easier to search for contracts and retrieve specific contract documents.	Some may also think that the dependency on technology and the reliance on software tools mean that the technological concerns or outages can disrupt the contract management processes, however this should not be an issue overall.
The tools will usually provide cost savings in the long run by streamlining the contract management processes and reducing the need for manual labor. However, there may be some additional expenses for the CLM software, and the cost savings are only relevant if the software tool is used correctly, and the dates and guidelines are followed.	Some Contract Lifecycle Management tools may not offer enough customization options that could be needed for some of the more specific requirements.
The best software tools will enhance the visibility of the contracts and offer real-time insights into contract statuses, helping the company to track the progress and status of the contracts. These tools also help to standardize the contract language and can ensure consistency across all contracts.	Regular updates and maintenance services may be needed to keep the software running smoothly, which can add to the overall cost of the software and will perhaps require some user interaction and maintenance on that part.
Many Contract Lifecycle Management tools can integrate with other software (including CRM and ERP tools), to connect the contracts with the other critical tools.	

9.3 SWOT analysis on the current CLM

The SWOT analysis gives guidelines for the current contract management processes and gives a better understanding of the strengths and weaknesses of the current situation as well as the performance of the current system. The SWOT analysis aims to find the different qualities in regard to the Contract Lifecycle Management. In the SWOT chart below, you can find the different strengths, weaknesses, opportunities, and threats that the current CLM process is facing. While there are some good sides to the current contract management there are also weaknesses and threats that need to be addressed through the development of the CLM process. The case company has done some contract management, but it has been scattered with no main place of storage and information, but with the development of the contract management practices the company is heading in the right direction.

Table 7 SWOT Analysis on the case company's current CLM.

Strength	**Weaknesses**
- Some potential software had been bought and used before. - Only a couple of people usually sign the contracts. - Many of the newer contracts were found in a few folders and were not scattered too much.	- Contract management practices and processes were lacking. - The signed contracts were found in many different places. - There were no predetermined owners of the contracts, or of the contract management process.
Opportunities	**Threats**
- Internal main users to one of the potential software. - Many potential software tools could manage and automate the contract processes.	- Some of the contracts could be seen by a few too many people (internal). - Some contracts and their original versions were not found or archived.

There have been many changes made to improve the contract management practices at the case company, the changes include selection of a software tools that can store and manage all contracts and automate some of the renewal processes and regular reviews of the contracts. There have also been assigned users that manage their department's own contracts and have the responsibility for the contracts. The contracts and their data have been reviewed and the missing data and missing contracts as well as the documents and annexes have been searched and found for the most part. The contractual data has been added to the contract management software and has been updated. The old contracts that are no longer in use have been archived.

9.4 The challenges introduced by the new digital regulations (GAP Analysis)

With the introduction of the new digital regulations including the Data Act and the GDPR there have been introduced many new challenges that companies (including the case company) are facing in categories like data protection, security, and privacy. This means that the contracts and their Data Processing Agreements (DPA) need to be updated accordingly. The contracts and their appendixes need to be revised to some extent and also the CLM software needs to take these changes into consideration. The main challenges include data transfer regulations, data subject rights, data minimization and also the accountability and documentation on how the data is collected, processed, stored, and discarded.

In addition to the legal challenges that have been introduced with the new regulations there is the gap between the current Contract Lifecycle Management and the desired result. The end result will take into consideration both the legal challenges as well as the challenges small and medium sized companies like the case company are facing due to the changing landscape. The GAP analysis below also shows the current contract management processes that the case company is using and compares them to the desired results. In addition to the current state and the target state of the CLM processes the analysis shows the gap between the start and the ideal situation and gives a suggestion on the corrective action. The corrective action shows if the desired results have been achieved and where the case company falls short of the ideal result.

Table 8 GAP Analysis on the case company's Contract Lifecycle Management.

Category	Current state	Target state	Corrective action
The process of Contract Lifecycle Management	The Contract Lifecycle Management process was decentralized, and the contracts were found in many different places. There was no defined process or an owner for the contracts, and the contracts were not monitored or reviewed regularly.	The target was to have a clear process for managing contracts, and the contracts would be stored centrally in one CLM software. The contracts would be automated so that they would be reviewed regularly, and the contracts would have an owner (internal).	The process was created, and it also defined the owner of a contract. The new software tool was selected and configured so that the contract review cycle was automated. The contracts are managed and stored centrally and reviewed regularly, due to the changes in the CLM process.
Software tools	The case company had used software that could do contract management and automation, but they were not configured to the needed specifications, and no automation of the CLM process was done. The contracts also lacked an official owner.	The goal would be to have a software tool that is configured to the right specifications, and that would automate the contract management processes. The software could be one that the case company already uses for other purposes or a completely new one.	The solution was to select the IT service monitoring tool that later was configured to the contract management needs. In this way contracts were centrally managed with the software and automation was done to the CLM processes. The ITSM tool also has an internal main user which helped with the configuration of the software.
The legal compliance and contract terms	The contract terms were not easy to find and many of the contracts lacked essential information and documents. Many of the contracts were also expired and not regularly reviewed.	The target was to have the contractual details in the software tool so that they are easy to find and easy to review. The expired contracts would be achieved, and the lacking information would be sorted.	The information on the contracts has been reviewed, and the expired contracts were archived. The contact terms and attachments are easy to find in the software tool and the lack of information has been corrected.
GDPR, compliance and specifications	There has not been a regular review of the compliance of contracts and the contract management in the light of the GDPR.	Ensuring that the contract management processes are in line with the requirements of GDPR. More information about the legal requirements is found in the chapter on the legal framework.	The contracts and their requirements have been reviewed in the light of the GDPR regulation. The specifications regarding the contract management software have also been checked.

Data Act, compliance, and specifications	There has not yet been a review of the compliance of contracts and the contract management in the light of the Data Act. The Data Act is a new regulation, and it could introduce some changes to the Contract Lifecycle Management.	Ensuring that the contract management processes are in line with the requirements of the Data Act. More information about the legal requirements is found in the chapter on the legal framework.	The contracts and their requirements have been reviewed in the light of the GDPR regulation. The specifications regarding the contract management software have also been checked.

9.5 The case company's contract management compared to the CLM norms

Contract Lifecycle Management (CLM) is an approach on how a company, or a business, manages its contracts. This strategic approach ranges all the way from initiation of the contract to renewal or termination of the contract. The contract management at the case company was a bit scattered, and without any clear processes and guidelines on how it is managed and who is responsible for the different contracts. There was also not any selected main user that looks at the contracts regularly and would be the owner of the Contract Lifecycle Management process. This meant that there were contracts missing that nobody had looked at for ages and also much of the information was already outdated and many contracts were terminated or not had been updated in a while.

With the contract management project and this thesis and its guidelines the contract management process has been improved a lot, and the case company now has clear instructions and guidelines of what is done with the contracts, who is in charge of the contracts as well as the added renewal cycles of contracts and other new features to the contract management software. The new contract management software was chosen and configured to the case company's needs and specifications. Matrix42 (previously Efecte) was the selected software that provided the most possibilities of integration and relevant features that were missing in the Contract Lifecycle Management.

The contract management process has a clear flow, and the contracts are "owned" by the branch managers that look at the contracts when the renewal or viewing intervals are coming. The contracts are found in a comprehensive list in the software with all the relevant features and data added to the contract information card. The branch managers' own contracts are also found in the asset management software and on the ticketing program.

9.5.1 Contract management trends

The current trends on the Contract Lifecycle Management front include smart contracts and AI-aided contracting, which has not been widely in use till now. All the Contract Lifecycle Management software aims to improve and implement new features that make managing the contracts even easier. The case company's Contract Lifecycle Management is on par with these trends and utilizes them to some extent, without being too focused and relied on these certain new special features.

There are also many other trends for 2025 within the field of Contract Lifecycle Management (CLM), including automation, AI use in contracting, integrations, sustainability and of course information security. Some of the trends may also be influenced by the changes in the legal landscape, including the new Data Act (2023/2854). Automation is becoming more detailed and advanced and is moving from basic tasks to include a more dynamic contracting routing and real-time compliance checks can also be done with automation as well to automate many different forms of analysis. AI tools are also made better every day and can identify risks, suggest different kinds of optimizations, and provide recommendations based on many forms of data, both historical and current market data and conditions. AI can also be used to summarize contractual contents, highlight certain key elements in the contracts and much more. Sustainability has also become a part of the contract management process and aims to ensure that all the contracts align with the social and environmental aspects (ESG criteria, Environmental, Social, and Governance).

With all the modern technologies and aspects that need to be considered there has also been increasing attention towards information security and compliance. There are many threats with using the new AI features and these need to be evaluated and considered. The threats can comprise from contractual or content mistakes an Artificial Intelligence (AI) can make if it writes the contract or the text in a contract, but there are also risks with storing the contracts on different platforms, and the user rights to the contracts. Everything is possible, and there can be security breaches that are also good to prepare for, in the worst-case scenario that they happen.

Integration into other software and services brings many opportunities and better efficiency, but also some threats with them, by allowing the data steams to flow between one contractual party to another, as well as other possible third parties. Integrations between the Contract Lifecycle Management software and other software like ERP, CRM and HR systems have become increasingly important. Also, Blockchain technology has been used in smart contracts to make the contracts self-executing and more tamper-proof.

These are the current trends within the field of Contract Lifecycle Management (CLM), with the means to make it more efficient and secure and to use the latest and greatest technology to make the contract management more relevant and effective.

9.6 The result for the Contract Lifecycle Management

The case company implemented the changes suggested by this thesis research and they configured an advanced software to manage and optimize their Contract Lifecycle Management. This solution automates many features of the contract management including review intervals. With the adaptation of the software tool (Matrix42, Efecte) the contracts are stored in a centralized place that enhances accessibility and readability of the contracts.

The CLM software continuously monitors the contracts and sends out notifications when deadlines are approaching, and actions are needed. The CLM software also provides a good dashboard for all the contracts which makes the overview of contracts much easier. As a part of the software's good features, it can also be integrated with other existing ERP and CRM systems and the software (Matrix42, Efecte) also functions as the company's IT Service Management software (ITSM), and the other company resources can be connected to the contracts and the contract management.

With the use of the new and configured contract management software the case company (and other companies alike) can have great benefits and improvement in their Contract Lifecycle Management. There are many benefits to the new software and the automation of these processes.

9.6.1 Who would manage the Contract Lifecycle Management process

In Contract Lifecycle Management (CLM) the responsibilities can vary depending on the organizational structure as well as the complexity of the contracts. At the case company, which is a small-sized service-oriented company, the main responsibility for the contracts is at the department or branch managers and in some cases at the CEO of the company. The CEO has the best strategic oversight of the contracts and functions as the signee of the new contracts, the CEO has the approval authority for all contracts.

The operational management or the department managers have the responsibility of their own departments contracts and are typically responsible for the day-to-day contract management (keeping the contract up to date and they are the contact people for their own contracts). The department managers also oversee the execution of the contracts in their department and ensure that the contract terms are met.

The finance team again could check the financial aspects of the contracts, including payments, pricing, and budget compliance. Whereas the IT team, depending on the contracts and the company's operations, would support the CLM system and software and function as a main user for the program to ensure IT security and ensure that the software is functioning properly.

The case company does not have a legal team, however for a company that has one there could be additional roles within this team regarding contract management. The legal team could provide contractual expertise, and they could also review the contract terms to ensure that the contracts are compliant with the laws and regulations. If the company has their own procurement team, this team could also monitor the procurement requirements and terms to ensure that the contract meets the company's procurement requirements.

These additional roles could all ensure that the contracts are managed effectively throughout their lifecycle, from initiation to execution and the renewal of the contract. The different departments are all responsible for a better functioning Contract Lifecycle Management.

9.6.2 How the software was chosen and specified

The software was chosen to fit the case company, but the selection of software can be generalized and used by other similarly sized companies, and the software is also scalable to many different needs and environments.

The software that was selected for the case company was tailored to meet the specific requirements of the case company and remains both versatile and scalable to fit the future needs as well. The chosen software solutions are not only suitable for the case company, but they are also adaptable for many other similarly sized companies and the scalability of the software allows it to be configured to various different needs and environments, making it an excellent choice for many applications. The decision-making process involved the evaluation of many different software and their abilities to provide effective contract management and storage. The comparisons also included integration options with existing systems, support, and other relevant factors. With these criteria, the case company was assured that the software would enhance efficiency and maintain flexibility for future growth and changes. Matrix42 (previously Efecte) was selected as the software for CLM and provides good features and integration with the case company's other resources.

9.6.3 How the changes were implemented

The changes made to the contract management and the adoption of the new software tool (Matrix42, Efecte) were done in a few phases that are described below. It included gathering all of the contract data, comparing the possible tools, and the configuration of the selected tool. With this done there came the adding the contracts to the new CLM software. This process is also the general way to do contract management and not specific to the case company even if the case company used the process and implemented the selected changes and software. The process included the following steps.

1. Lookup and gathering of all contracts and contract data (also the expired contracts).
2. Correcting the contractual data and adding all the data to a big contract data spreadsheet (works as the dataset).
3. Looking at possible software tools for contract management and how they can be integrated into different systems (as well as their features).
4. Selecting a proper contract management software and configuring it to the case company's needs.
5. The configuration of the software was outsourced (the technical and IT aspects) to the software provider, but the configuration and specification data (also included in this thesis) was selected and defined by this thesis.
6. When the software was in production and ready to use, the contracts and all relevant contract data were added to the software (from the spreadsheet).

The process of the changes to the contract management software was quite clear and structured. The software changes were implemented by a third-party contractor that provided the services regarding the configuration of the CLM software. The other changes were implemented by the author of this thesis, including all the stages of gathering data, in addition to the people at the case company who had access and knew about the contracts. The specification of the software tool was also one of the main tasks for the case company, the selection of the tool, was based on this thesis and approved by the board of directors. Adding the contracts to this software was one of the last tasks to do, and to go through the contracts one more time and check that their information so that it is correctly stored in the new software. This process was a bit time consuming, but it was a great effort and experience to get to do such a project for the case company.

9.7 Challenges data processors face when aligning their CLM with the Data Act

The Data Act introduces new obligations that require that the data processors adapt their contract management practices. This can be a complex process, and the existing contract management practices may need to be changed to ensure that the contract management systems are compatible with the new requirements that the Data Act brings. The data processors must also ensure that the users can easily access and share their data if they which to, this can also require some changes to existing processes. The Data Act also promotes overall transparency and fairness in data sharing agreements, which can be difficult to implement, especially for smaller companies like the case company.

These compliance requirements that data processors could be facing include the access to data, and the data processors must provide the users with clear access to their data and access to update the data. The data sharing terms must be transparent and clear, and they may need to be updated. The data processors also need to conduct regular audits and provide detailed reports to ensure compliance with the Data Act and the Data Governance Act. The Data Governance Act (DGA, 2022/868) also aims to increase data availability across the EU (European Commission, 2023).

9.8 Provisions on unfair contract terms in article 13 of the Data Act

The Data Act article 13 (Regulation 2023/2854/EU) includes protection against unfair contract terms and conditions which protect the companies from contract terms that are unilaterally enforced by the other company. The Data Act also aims and provides for good commercial practices. The contract terms must also align with the good commercial practices to ensure fairness and transparency in the contracts. The Data Act also outlines specific contract terms that are considered unfair, such as limiting liability for intentional acts or gross negligence. However, the broad scope of the Data Act article 13 may lead to some legal uncertainty that requires careful drafting and review of contracts, even if the unfair contract terms said in Article 13 of the Data Act are not enforceable.

9.9 Definition of consents

The definition of consent or legal consent is the permission given by an individual or different entities to process their data in accordance with the legal requirements. Data privacy consent is the agreement in which individuals allow their personal data to be collected, processed, and stored at the data processor (for the service or products they use). The contractual consent is defined as the consent given within the context of the contract or outlining certain terms and conditions for the data used. The consents are an important part of the contracting process, and the consent occurs when there is an understanding and agreement between the

contracting parties which have agreed to certain obligations. Consent management is a way to systematically manage and process the given consents and policies in the agreements, this is an essential part of the contract management process as well as the CLM software features.

9.10 The usefulness of Contract Lifecycle Management tools

The Contract Lifecycle Management (CLM) tools are valuable tools for many companies that are seeking to streamline and optimize their Contract Lifecycle Management processes. These tools can offer a range of functions that help enhance efficiency, compliance, and the overall contract management processes. The CLM tools can automate the contract management from the creation of the contract to the signing of the contract. It can also substantially reduce the time and work that is required for these regular tasks.

The CLM tools also provide centralized storage for all contracts, this again can help improve accessibility and visibility to the contracts which provides for better tracking and management of the contracts as well as an easy overview of contract terms, renewal cycles, deadlines, and other contractual obligations. The best of CLM tools offer real-time monitoring and alerts for the different stages during the contract lifecycle and automated notifications can help prevent missed renewals and other compliance checks. These features help reduce the risk of non-compliance of the contracts.

The CLM software can provide analytics tools and reporting tools that are integrated into the CLM software and can provide valued insights into the performance of contracts. These tools can provide trends and statistics on the contract management processes so that companies can make better data-driven decisions and better strategic contract renewals. Compliance management is also another benefit of the CLM tools, these features can track contractual regulatory compliance as well as to identify certain risks and potential issues with the contracts. The automated processes can benefit from the use of standard contract clauses and by the use of standardized contract templates to increase consistency with the automated processes.

Integration is another key benefit for many of the CLM tools, the integration to different systems can bring many benefits by connecting the contract and contractual data to the product or service used by the contract. The integration of many software ensures a more seamless flow of data and information across many different platforms or departments. The CLM software can usually be integrated with CRM and ERP systems as well as ISTM systems (or the CLM process can be a part of the ISTM system for example).

The drawbacks for some of the CLM tools are that most tools do not have all the important features, and if the CLM tool is lacking certain important features they need to be addressed

in another way, for example some of the tools do not offer digital signatures in the same software as the contracts are stored in. Many of the simpler tools again cannot offer help with the management of contract terms and these tools also lack some automation features. However, if you find the tool that works best for the company's needs or use a combination of a couple software tools you can still have a good contract management system and an easy-to-follow contract management process. As for the case company, the software chosen was Matrix42 (previously named Efecte), which lacks the digital signature feature, but this was not a problem since the case company is using another software for this purpose (Visma Sign). It was also important to the case company to have a system that would not be too expensive to configure and manage, and due to this fact, I chose a software that was already in use for IT Service Management (ITSM) and could be customized to also function as the contract management tool. This also provides the benefits of connecting the contracts to the other IT sources and companies (vendors) that are already found in the ITSM software.

In conclusion, a CLM software is essential for good Contract Lifecycle Management, and can offer many features, including automation, centralized storage, real-time monitoring, and compliance checks for the contracts. They also offer analytics tools and integration options which help connecting them to the other company resources. These functionalities together enhance the efficiency of the contract management processes which can reduce risks, and improve overall contract performance, making the CLM tools a critical software for most companies, including the case company. The CLM tools can also help in facilitating the legal challenges introduced by the Data Act and GDPR by providing compliance checks, management of personal data, data security and privacy. They also provide documentation and minimize the risks of having outdated contracts with their technical features.

9.11 Evaluation of the result

The results regarding the case company's contract management and its processes and software were similar to the expected results at the beginning of the research. The CLM tools have several benefits for the case company and in this way the primary objective of improving the Contract Lifecycle Management processes has been achieved.

The automation of the Contract Lifecycle Management has led to a more coherent contract management process that has regular reviewal intervals and automated notifications. The CLM software provides centralized storage for storing all of the case company's contracts, which has greatly improved the accessibility and visibility of the contracts. This centralization has provided better tracking and management of the contracts and the renewal cycles and deadlines regarding the contracts are better monitored. The CLM software also provides easy access to the contract data and a good overview of the contracts which improves the readability

of the contracts. The integration of the contract data with the ITSM system also provides many benefits regarding related resources and supplier management, and the analytical tools also provide great benefits.

The implementation and customization of the CLM tools have successfully improved the case company's Contract Lifecycle Management processes and provides a good basis for the case company's contract management in the future also. The CLM system, in addition to the ITSM system provides a flexible and futureproof solution for the case company's contract management which will lead to improvements in efficiency, contract compliance, and overall, it will be demonstrating the value and effectiveness of the CLM tool and its features.

The case company will be able to manage their contracts with a modern solution and software that is a great fit to manage both the legal challenges that have been introduced by the Data Act and previously GDPR and the selected software (Matrix42, previously Efecte) can help the case company to achieve a regular review and efficient management of their contracts for a long time.

10 CONCLUSIONS

The conclusions provide a condensed view of all the relevant aspects of the Contract Lifecycle Management (CLM) process and give a summary of the findings that have been analyzed in the thesis. This includes the contract management process, the case company specific demands and results as well as the challenges that the new legislation (Data Act and GDPR) have provided on how the challenges in the field of contract management can be made better with the help of software tools and better automation within the CLM process.

The contract management process and the implementation of the Contract Lifecycle Management (CLM) tools within the case company have provided significant improvements in contract management processes. The automation of contract creation, negotiation, and approval has reduced the time and effort needed for these tasks, ensuring consistency and adherence to the legal standards. The centralized storage of the contracts has increased the accessibility and visibility of the contracts, which means better tracking and management of contract terms, deadlines, and other contractual obligations.

The real-time monitoring and automated alerts have proven to be effective in preventing missed contract renewals and provide for regular compliance checks, reducing the risk of non-compliance at the case company. Compliance management features have provided a robust framework for tracking adherence to contractual obligations and regulatory requirements, with regular audits and reporting capabilities further enhancing compliance (Phelan et al., 2023).

One of the other benefits for the case company is the advanced analytics and reporting tools that the CLM software has offered which provide important insights into the contract performance, and are enabling better data-based decision-making, and supporting the case company’s strategic objectives overall. The integration possibilities with existing ITSM, ERP and CRM systems has ensured a smooth flow of information across departments and systems, thus enhancing operational efficiency and coordination.

The staff at the case company that are using the CLM software in their daily work have been trained so that they can more effectively make use of the new CLM system. The support and training make for a better level of competence in regard to the contract management process and its tools. Overall, the implementation of the CLM tools has successfully enhanced the case company's contract management processes, demonstrating the CLM system’s value and effectiveness in achieving the company's goals on contract management. The case company will also make use of the empirical contract data found in this thesis that includes both the

process of contract management and other information such as the usual contractual clauses, data processor compliance and the core tools for CLM.

The changes to the case company's contract management practices were implemented and approved by the people using the contracts in their daily tasks and the universal opinion about the changes has been positive. This makes for a better more logical CLM process and gives guidelines on how the contracts should be made, stored, managed and also terminated. The result of the research also presents what needs to be considered when managing a company's contracts, and in this way the findings will function as a general guideline for all companies, including the case company.

When answering the main research question of how a small-sized company could manage the legal compliance that has been challenged by the new EU digital regulations with the use of contract management tools there are many different aspects to think of. The conclusion would be that the different software tools can help in managing the legal challenges that have become relevant with the GDPR and the Data Act to various degrees. Some tools are better than others and the correct tools should be chosen and specified according to the needs that the company has. The benefits in general include that you have a data management platform and a central storage for all the contracts and in this way, by having the right contract data easily available you can better ensure the compliance of the contracts with the use of the software tools. The software tools can also help companies to automate several parts of the contract management processes, including the renewal intervals of the contract, regular audits, and ensuring that the contracts and their information is easily available and up to date. The best software tools can in addition to the mentioned features offer additional automation tools, and make a process for the contract management, including the creation of the contract, the signing of the contract (digital signatures), contract storage, renewal and the archiving of the contracts when they are terminated.

The GDPR and the Data Act have introduced new challenges that companies need to tackle including sufficient data privacy, consent management, data portability, and transparency of the data. Companies, and especially smaller companies with lesser resources, like the case company in question may have some challenges due to the new requirements to protect personal data, consent management, and they may have to update some of their contracts to comply with the new regulations. This updating of contracts and systems is usually a bit more challenging for smaller companies due to lack of resources to implement the required changes.

Some of the other challenges introduced by the Data Act and GDPR include that companies need to provide clear information about data usage, and they must ensure that the data can be easily transferred between systems and service providers while maintaining adequate security

and meeting the compliance standards, which may require new contracts and appendixes to the already existing ones. For this and many other tasks most of the software tools can help streamline the contract management processes and provide for a better storage of the contracts with easily available information that helps with the reviews and audits of the contracts. The CLM software also helps to enhance the readability of the contracts when it becomes relevant to update and review them.

Even if the CLM software tools can be effective in automating the CLM process, they must be complemented by internal policies, instructions, and monitoring to ensure compliance, and there can still be some challenges if the people using the systems have different ideas on certain aspects of the process. So, as usual the CLM process needs to be clear, easy to understand and logical, without any unnecessary complications for people to use it in the correct way.

This process of analyzing and creating a contract management process for the case company has definitely been interesting, however everything cannot be done in one project. There are many opportunities for further research in the future. The future research could explore the long-term impact of CLM tools on organizational performance and look deeper into additional features that could further optimize contract management. These kinds of tools could include AI, ML and Blockchain technologies to name a few. It is also important to know that continuous monitoring, improvement, and adaptation of the CLM system will be essential to maintain a good level of compliance and efficiency in an evolving regulatory and technological landscape.

In conclusion, the GDPR and the Data Act present certain challenges regarding Contract Lifecycle Management, and the use of software tools can help companies like the case company to better navigate these complexities, maintain compliance of the contracts, and have a good contract management process overall. The integration of technology and software in combination with strong contract management practices is essential to effectively manage the legal landscape of the new digital EU regulations. The regulations and the legal framework are evolving and with the introduction of new regulations there will always be something new to consider in the field of contract management. There may be new contractual terms that need to be implemented, including data sharing and privacy terms, there might also be big changes to the core tools of CLM with new software and new software versions that offer better automation and integration possibilities as well as other challenges with both the legal, technical, and socio-economical aspects of the contract management processes. The key for a good contract management practice is to evolve with the world around and stay up to date as regards to the changing features, demands and opportunities within the field.

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The reference list includes both the legal references that have been used in this thesis as well as the literature, software tools and data processors that have been used in this thesis. Some of the content including the case company's internal documents, policies, and contracts cannot be shared in detail or found openly available. The information about the case company will also remain anonymous and only described in the text as the case company.

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