SCHOOL OF COMPUTATION, INFORMATION AND TECHNOLOGY - INFORMATICS

TECHNICAL UNIVERSITY OF MUNICH

Bachelor's Thesis in Information Systems

Expanding and Refining a Knowledge Base of Legal AI Use Cases

Benedikt Thiess

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Erweiterung und Verfeinerung einer Wissensbasis für juristische KI-Anwendungsfälle

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Submission Date:	15.07.2024

I confirm that this bachelor's thesis in information systems is my own work and I have documented all sources and material used.

Unterschleißheim, 12.07.2024

Location, Date

B. Gries

Author

AI Assistant Usage Disclosure

Introduction

Performing work or conducting research at the Chair of Software Engineering for Business Information Systems (sebis) at TUM often entails dynamic and multi-faceted tasks. At sebis, we promote the responsible use of *AI Assistants* in the effective and efficient completion of such work. However, in the spirit of ethical and transparent research, we require all student researchers working with sebis to disclose their usage of such assistants.

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Use of *AI Assistants* for Research Purposes

I have used AI Assistant(s) for the purposes of my research as part of this thesis.

Yes ☑ No ☐

Explanation: I have used ChatGPT for writing assistance, and proofreading purposes. I let it check my grammar, spelling, and the placement of commas. To translate from German to English and vice versa I have used DeepL.

I confirm in signing below, that I have reported all usage of AI Assistants for my research, and that the report is truthful and complete.

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Location, Date

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Abstract

Context: Natural language processing (NLP) has given computers the ability to understand human-written text. This, combined with the recent innovation of large language models (LLMs), has proven to be a significant driver of digitalization in the legal domain, where text is the main work product of legal professionals. In theory, AI could replace lawyers and transform the legal field as we know it, as described in Stage 3.0 by Goodenough. But are we there yet?

Aim: This thesis aims to explore where the gap lies between theoretical applications of Legal AI tools and its practical applications by legal practitioners. We build upon an existing knowledge base from related work, expanding and refining the use cases it contains.

Approach: Our study considers perspectives from both tool providers and appliers to derive two sets of use cases and compare them afterwards. To achieve this, we conducted 24 semi-structured interviews over two months: 15 with providers and 9 with appliers. Providers were mainly upper management employees in small or micro-sized companies, while appliers were primarily attorneys in medium and large-sized firms. We designed two distinct interview guides tailored to the these groups, covering not only their use cases but also about the development or adoption process of the tools. This approach led to additional findings about how AI models are applied, peculiarities of the market of Legal AI tools, specific user needs, and the impact and challenges of using such tools.

Results and Conclusion: We discovered that AI models are predominantly provided through Azure OpenAI's ChatGPT and that human verification of AI output is essential. The main motivation for adopting these tools is relieving appliers from the resource strain, which is also the benefit they value the most. A significant challenge during adoption is the skepticism of legal professionals towards AI. Additionally, the lack of legal training data complicates the development process. Regarding the use cases, we identified 17 use cases in provider interviews, 12 of which were validated through applier interviews. We expanded the knowledge base by adding four new use cases and refined an existing use case to include three more newly identified use cases. Comparing our sets of use cases with the already existing knowledge base, we refuted the practical existence of three use cases that could not be validated through provider or applier interviews in either our study or previous research.

Contents

1. Introduction

To introduce this topic properly, first, we give a short motivation as to why it is important. Secondly, we list the research questions. Lastly, we outline the structure of the thesis.

1.1. Motivation

Artificial Intelligence (AI) has continued to disrupt various sectors in recent years. In finance, AI models, particularly deep learning, are being utilized for credit risk assessment, allowing for more accurate evaluations of creditworthiness through the analysis of extensive data sets [1]. In manufacturing, AI-driven quality control systems use computer vision to inspect products on the assembly line for defects, significantly improving product quality and reducing waste [2]. In the entertainment industry, generative adversarial networks are employed for music generation and personalization, enabling music streaming services to offer highly tailored experiences to users based on their preferences [3]. The legal sector is no exception to this phenomenon. The leap in the legal industry is largely due to *Natural Language Processing (NLP)* a subdomain of AI that allows computers to understand human written text. This is particularly interesting for the legal domain, where text is the work product of legal professionals.

AI, with its ability to analyze large amounts of data and automate repetitive tasks, has the potential to transform the legal world. From legal research and e-discovery to document automation and predictive legal analysis, AI tools are reshaping the way legal professionals work. These advancements are not only increasing efficiency but also allowing legal professionals to focus on more complex legal issues.

A significant development in this context has been the rise of *Generative AI (GenAI)* and *Large Language Models (LLMs)*. Gartner predicts that "the Global Legal Technology Market Will Reach $50 Billion by 2027 as a Result of GenAI"[1]. These technologies can not only understand but also generate human-like text, making them particularly useful in the legal domain for tasks such as drafting legal documents and providing legal advice.

It is fascinating what Legal AI promises to be capable of in theory. Despite the abundance of information on legal technology providers and their tools, there is a noticeable scarcity of research on the practical applications of these tools within the legal sector. Acknowledging this, the thesis aims to explore this gap between the theoretical and practical applications of

[1] https://www.gartner.com/en/newsroom/press-releases/2024-04-25-gartner-predicts-global-legal%2Dtechnology-market-will-reach-50-billion-by-2027-as-a-result-of-genai

AI in the legal sector by expanding and refining an already existing knowledge base – the Legal AI Use Case Radar.

1.2. Research Questions

To clarify the goal of this thesis even further, we introduce the Research Questions.

RQ1: *What do startups reveal about the use cases they are developing NLP tools for?*

This first research question examines the use cases Legal AI tool providers are focusing on.

RQ2: *How does that compare to the use cases of their clients and practitioners in the legal field?*

This second research question focuses on the use cases appliers have for these Legal AI tools.

As you can see, we designed our research questions to distinguish between theoretical and practical applications by separating our investigation into two groups of interest: Legal AI tool providers and their appliers. This approach ensures that we both validate our current knowledge and identify additional use cases.

1.3. Outline

In the following we clarify the structure of this thesis through a systematic chapter overview. **Chapter 2** explores the essential concepts of NLP and *Legal Technology (Legal Tech)*, providing the reader with the critical understanding required for the rest of the thesis. **Chapter 3** positions this research within the academic landscape by highlighting a selection of relevant studies, thereby contextualizing our contributions. **Chapter 4** describes the methodological approach used for the exploration of the research questions. This includes a thorough explanation of the planning, conducting, and analysis of the *Semi-Structured Interviews (SSIs)*. A literature review has been excluded, as prior research has sufficiently addressed this domain; we refer the reader to the Related Work chapter for further information. In **Chapter 5**, the results from interviews with both providers and appliers of Legal AI tools are reported and systematically compared. **Chapter 6** initiates a discussion of these key findings and addresses limitations. The thesis concludes in **Chapter 7**, where we summarize the research and provide an outlook for future research on Legal AI tools.

2. Fundamentals

In this chapter we introduce the fundamentals important for understanding the further course of this thesis. This involves the explanation of the two terms Natural Language Processing and Legal Tech.

2.1. Natural Language Processing

In this section we address the terms *NLP*, *GenAI* and *LLMs* and how they relate to each other.

2.1.1. Definition of NLP

NLP is the foundational technology and a subdomain of AI that focuses on the interaction between computers and humans through natural language. It combines many other intellectual disciplines, like linguistics, computer science, and statistics [4]. The goal of NLP is to enable computers to understand, interpret, and respond to human language. This allows them to execute tasks like translation and sentiment analysis [5].

2.1.2. Generative AI and Large Language Models

GenAI refers to AI techniques that generate new content, such as text, images, or audio, based on existing data. LLMs are a significant innovation within this domain and are right at the intersection to NLP as visualized in Figure 2.1. As a subset of NLP they use its capabilities not only to understand language, but also to produce coherent and contextually relevant language. LLMs, such as GPT-3 and its successors, are trained on large amounts of text data [6] and are able to write essays, produce summaries and hold conversations that exhibit human-like characteristics [7]. The ability of LLMs to generate coherent and contextually relevant text makes them valuable tools in various applications, including automated content creation, conversational agents, and legal document drafting [8].

2.2. Legal Tech

In the following we clarify the term *Legal Tech* by distinguishing it from similar terms and differentiating levels of it. Finally we provide some examples of current applications.

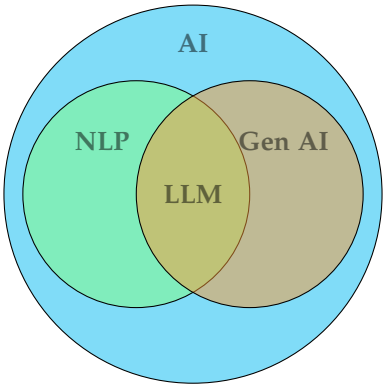

Figure 2.1.: Visualization of the relevant subdomains of AI

2.2.1. Definition Legal Tech

Different Terms
Legal Tech is the abbreviation of the term *Legal Technology* which, alongside with *law tech* can be used to describe the same thing:

> "the use of digital information and communication technologies to automate all or part of the legal work process, to offer decision support to legal service producers, and to provide legal information and advice directly to clients/end users." [9]

Different Stages
According to Oliver R. Goodenough, legal technology can be divided into three evolving stages visible in Figure 2.2 based on how it affects the legal profession [10].

- **Legal Tech 1.0:** Enhances current legal practices without changing the core system. Examples include computer-assisted legal research and e-discovery.
- **Legal Tech 2.0:** Disrupts traditional roles by replacing many human tasks with automated systems. This stage includes machine learning for document review and self-service legal platforms.
- **Legal Tech 3.0:** Envisions a radical redesign or complete replacement of the current legal system. Online dispute resolution could, for example, replace traditional courts.

Figure 2.2.: Stages of Legal Tech

Apart from the legal implications that arise while moving along these stages, the increasing application of technology, and with it the growing replacement of humans in this field, pose

ethical and social concerns. While these *Ethical, Legal and Social Aspects (ELSA)* are not the focus of this thesis, we do address them whenever they arise naturally in the interviews.

2.2.2. Current applications

The applications of technology in the legal industry are far-reaching. A non-exhaustive list is given in Table 2.1, showcasing the variety of applications, along with a description and real-world examples.

Category	Description	Example
Document Automation	Simplifies creation and management of legal documents.	LegalZoom [1]
Legal Research	Assists lawyers in conducting legal research efficiently.	LexisNexis [2]
e-Discovery	Aids in identification, collection, and production of electronically stored information.	Relativity [3]
Contract Management	Facilitates creation, negotiation, and management of contracts.	PACTA [4]
Case Management	Helps manage cases, track deadlines, and organize information.	June [5]
Online Dispute Resolution (ODR)	Resolves disputes through online mediation or arbitration.	Flightright [6]
Legal Analytics	Uses data analysis for insights into legal trends and outcomes.	Lex Machina [7]
Virtual Law Firms	Enables remote work and online legal services provision.	Axiom [8]

Table 2.1.: Legal Tech applications

Many, but not all, instances of Legal Tech application leverage AI. In this thesis, we focus exclusively on the application of AI technologies in the legal domain. To make this distinction clear, we used the term "Legal AI" instead of "Legal Tech" in the title of this thesis and will continue to use it throughout the thesis.

[1] www.legalzoom.com
[2] www.lexisnexis.com
[3] https://www.relativity.com
[4] https://pacta.ai
[5] https://www.june.de
[6] https://www.flightright.de
[7] https://lexmachina.com
[8] https://www.axiomlaw.com

3. Related Work

In this chapter, we review scientific work within our scope of interest. First, we give a short *Historical Context of AI in Legal Tech*. Then, we cover *Current AI Techniques for the Legal Domain*. This is followed by a section on the *Categories of AI Applications in the Legal Domain*. Finally, we discuss publications addressing the *Appliers' Point of View* on the introduction of Legal AI tools.

3.1. Historical Context of AI in Legal Tech

Development of Basic AI Tools (1990s-2000s)
The first uses of AI in the legal field started in the 1990s with rule-based systems and expert systems. These systems are designed to imitate the decision-making of human experts which could provide legal advice based on predefined rules and logic [11].

Rise of Machine Learning and NLP (2010s)
In the 2010s significant advancements in *Machine Learning* and *Natural Language Processing* were made. These technologies enabled the development of tools that could understand and process legal texts, perform document review, and assist in legal research [12].

Emergence of Advanced AI Tools (Late 2010s-Present)
More recently, AI applications in the legal domain include predictive analytics [13] and generative AI [14]. Tools like ROSS Intelligence use AI to predict case outcomes, and generative AI models like GPT-4 are being used to draft legal documents and contracts.

3.2. Current AI Techniques for Legal Domain

Various pieces of literature highlight specific AI techniques that are particularly relevant for the legal domain, such as word embeddings [15] and machine learning and deep learning methods [16]. Recent publications emphasize the significant impact of neural networks, particularly transformer-based models, in Legal AI [7]. The advancements of LLMs are also discussed in academia [14][17].

While these publications explain theoretical methods, they do not explore their practical applications in the field. This thesis seeks to investigate how these techniques are utilized by startups developing Legal AI technologies.

3.3. Categories of AI Applications in the Legal Domain

Besides abstract methods, numerous publications address their application in concrete use cases like *Legal Reasoning* [18], *Legal Judgement Prediction* [19], *Legal Question Answering* [20]. In addition to that, Dale [21] identified several other use cases, including *Legal Research*, *Electronic Discovery*, *Contract Review*, *Document Automation* and *Legal Advice*.

Katz and Hartung [22] summarize use cases for AI in the legal domain into the categories *Machine Summarization*, *Pre-Processing*, *Classification*, *Information Retrieval*, *Information Extraction*, *Text Generation* and *Resources*. While already covering a lot of use case categories the list is not exhaustive.

A more detailed categorization is provided by SEBIS-chair researchers [23], as shown in Table 3.1. This thesis will utilize the identified use cases and their categories as a foundation. Our work aims to expand and refine this knowledge base. Although the focus remains on Legal AI use cases, our approach differs. We begin by interviewing providers of Legal AI tools before proceeding to interview their users. This will also shine light on the gap that exists the gap between theoretical and practical applications of these tools [24], which has not yet been extensively explored by academia.

Category	**Use Cases**
Trustworthiness	Automation of Auditing, GDPR Compliance Check, Risk Assessment
Document Analysis	File Difference Tracking, Error Detection, Document Classification, Document Management
Document Development	Contract Generation, Enrichment of Documents, Summarization
Information Processing	Anonymization, Information Extraction, Document Retrieval
Legal Dispute Resolution	Legal Decision Making, Legal Reasoning, Recommendations from Previous Court Rulings
Legal Assistance	Digital Assistant, Question Answering, Ranking of Lawyers
Knowledge Management	Changes in Law, Database for Court Decisions, Law Firm Management Software

Table 3.1.: Categories and use cases of Legal AI

3.4. Appliers' Point of View

In the following we introduce related work that investigates the appliers' *Interest* in Legal AI tools, as well as the *Adoption* and *Impact* of such tools.

Interest
The interest in Legal AI is growing with the global legal AI market size expected to increase by 18.2% annually from 2023 to 2030 [25]. A LexisNexis report that surveyed more than 1,200 lawyers confirms that the interest in Legal AI tools continues to grow with 35% of lawyers stating that they plan to use AI in the future [26].

Adoption
The same LexisNexis report shows that adoption rates have more than doubled, increasing from 11% to 26% compared to a similar study conducted six months prior. While lawyers are increasingly eager to try out Legal AI tools, the adoption process remains challenging for law firms. A Thomson Reuters article argues that "the most important issues related to AI are not even about IT, but rather how that technology changes the way law firms produce work." [27].

Impact
This brings us to the impact that these tools have on the legal industry. According to an article by the American Bar Association [28], they offer a plethora of benefits like increased efficiency, improved accuracy, enhanced collaboration and cost savings. The article goes on to argue that Legal AI tools create a divide between the law firms embracing digital transformation and those lagging behind. Pierce and Goutos agree saying "AI won't replace lawyers, but lawyers who use AI will replace lawyers who don't." [14]. Miller in a Thomson Reuter article also dismisses the fear that lawyers will be replaced by AI, suggesting instead that "certain legal professionals' roles may change," "AI will create jobs," and "the benefits of AI will free lawyers from mundane tasks." [29]

The aforementioned publications discuss how appliers are affected by Legal AI tools. This thesis contributes to the discussion by addressing specific needs, challenges and benefits that appliers have with these tools.

4. Methodology

In this chapter we explain the methodology that is used to answer the two Research Questions introduced in Chapter 1:

RQ1: *What do startups reveal about the use cases they are developing NLP tools for?*

RQ2: *How does that compare to the use cases of their clients and practitioners in the legal field?*

4.1. Semi-Structured Interviews

Considering different qualitative research methods, we opted for *Semi-Structured Interviews (SSIs)* to explore the research questions. This is a method that combines the structured approach of standardized questions with the flexibility to explore topics in depth. Here, some interview questions are predetermined but the order and phrasing of them are not. Also, we leave room for the exploration of the interviewee's responses, taking into account verbal and non-verbal cues. This format feels more natural for participants than a formal interview, allowing for a conversational flow that helps them talk more openly.

4.1.1. Methodology Design

Now, we dive deeper into the interviews, describing the process of creating the interview guide and our approach to analyzing the interviews afterward.

Creation of Interview Guide
When developing our interview guide, we followed the five-phase framework proposed by Kallio, Pietilä, Johnson, and Kangasniemi [30], which we explain below. Since we interviewed two distinct groups, we created two different interview guides, resulting in repeating phases 3-5 for each group.

Phase 1: Identifying the Prerequisites for Using Semi-Structured Interviews
In this first phase, we evaluated whether SSIs are an appropriate approach to gather data in the context of our research questions. As discussed in the introduction to this section, we chose SSIs because of their ability to adapt to the interviewees flexibly. Additionally, Horton, Macve, and Struyven [31] recommend using SSIs when the novelty of a topic, such as the evolving use of AI in Legal Tech, makes it challenging to determine which questions are the important ones to ask.

Phase 2: Retrieving and Using Previous Knowledge
During the second phase we aimed to get a profound understanding of the Legal Tech landscape and existing literature on the topic. This was achieved by an extensive online search, using standard search engines as well as LinkedIn [1]. Search terms among others included "NLP", "Legal", "Law" "AI" and "Startup".

Phase 3: Formulating the Preliminary Semi-Structured Interview Guide
In the third phase, we developed an initial list of questions. This process spanned two weeks, during which we iteratively refined the order and phrasing of the questions. We began by using Lucidchart[2] to create a mind map, as shown in Figure 4.1, to help us jot down ideas for questions and group them into categories of interest. Lucidchart allowed us to share the project among team members, enhancing the collaborative aspect of this process.

Once we reached a point of saturation, we discussed the relevance of each question and kept only the most important ones, eliminating questions such as "How do you avoid hallucination?" and "What is your understanding of Legal Tech?" along with entire categories like "Testing" and "Categories." These questions, shown in red in Figure 4.1, were discarded for being outside our scope of interest. Conversely, questions found particularly interesting, like "What motivated you to develop the tool?" were marked in green.

From the creative question-finding process using mind maps, we converted the set of questions into a more structured list. When reviewing the phrasing of our questions, we took into account the principles of *Appreciative Inquiry* as an interview tool put forward by Sarah Michael [32]. Appreciative inquiry designs questions positively, open-ended and visionary. This encourages storytelling, provides more nuanced and spontaneous insights, and improves trust and openness [32]. In Table 4.1 we list all the questions that were affected by this change in their original and appreciative form.

Phase 4: Pilot Testing the Guide
In this fourth phase, we tested the interview guide to to see if there is a need to reformulate questions. *Internal testing* was performed with the advisors and another member of the SEBIS-chair. This resulted in merging questions with similar meaning:

- "Are there any plans to expand the functionality of the tool?" and "What are the next steps for the tool?" were merged into "Looking to the future, what exciting developments or enhancements do you envision for your tool?"
- "Could you elaborate on the positive impact your tool is making by addressing specific challenges or needs within the legal domain?" and "Reflecting on the impact of your tool, what unique value does it bring to clients or the legal industry" were merged into "Could you elaborate on the unique value your tool brings to clients or the legal industry by addressing specific challenges or needs?"

[1] https://www.linkedin.com
[2] https://www.lucidchart.com

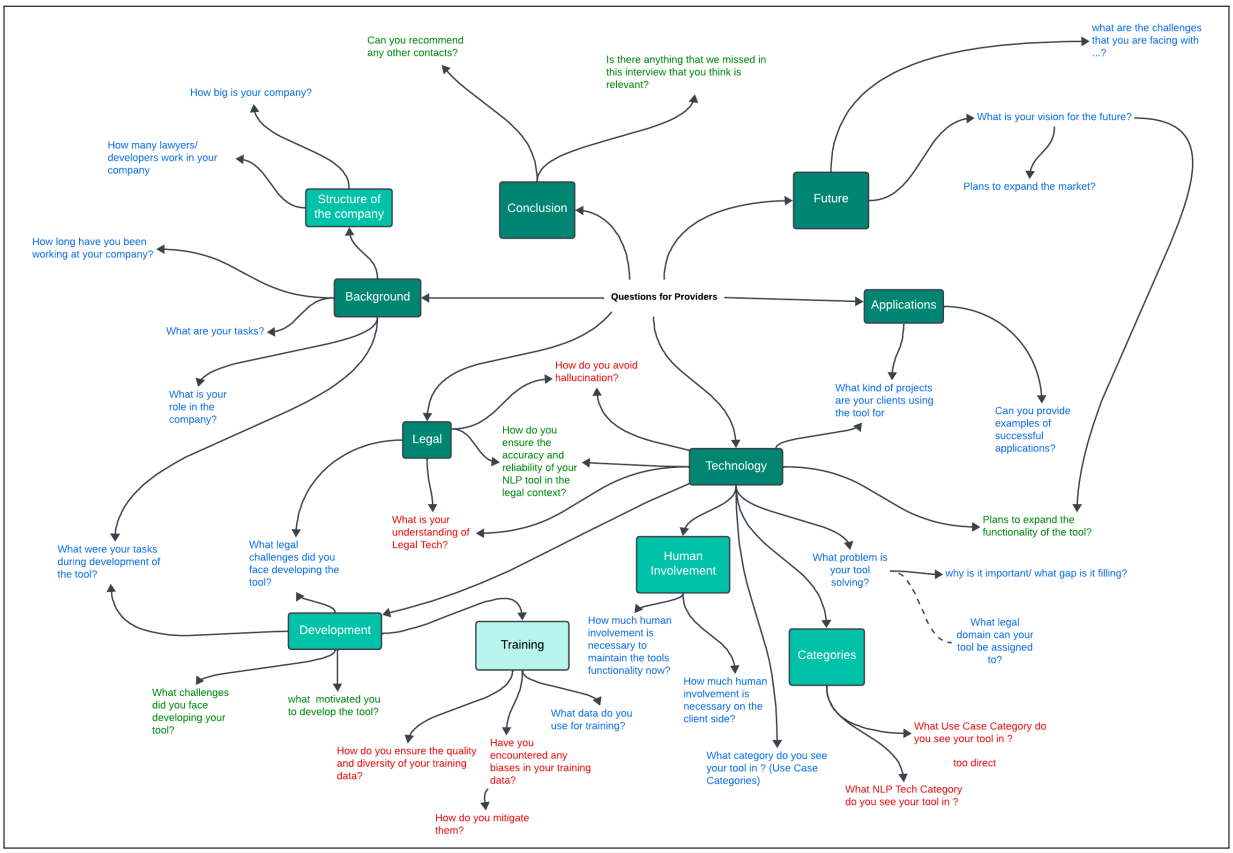

Figure 4.1.: Mindmap of questions for providers

Original	Appreciative
Could you describe the solution your company is providing?	Could you share some of the innovative aspects or key features that your company's solution brings to the legal landscape
What considerations did your company take during development?	Could you share some of the key strengths or unique perspectives your team brought to the table during the development process?
What challenges, if any, were faced during the development (legal and/or technical)?	Could you share some instances where your team successfully navigated challenges during the development (legal and/or technical)?
Did your company develop an own solution are you leveraging other solutions?	In exploring your company's approach to innovation, could you elaborate on the creative strategies employed, whether through developing proprietary solutions or leveraging existing solutions?
Is your company using Large Language Models or any other form of AI?	Could you highlight the transformative role that Large Language Models and other forms of AI have played in shaping your innovative solutions?
What problem is the tool solving?	Could you elaborate on the positive impact your tool is making by addressing specific challenges or needs within the legal domain?
How would you define the value proposition of this tool?	Reflecting on the impact of your tool, what unique value does it bring to clients or the legal industry?
Are there any plans to expand the functionality of the tool?	Looking to the future, what exciting developments or enhancements do you envision for your tool?
What steps will your company take to get more clients?	What innovative approaches or initiatives are you exploring to connect with and serve more clients?

Table 4.1.: List of appreciative questions

Additionally *Field-testing* was conducted by trying our interview guide on the first interviewee to see how the questions would be received. We realized that some of the appreciative questions confused the participant rather than leading to an improved response. Consequently, we condensed the wording of the questions:

- "Could you share some of the innovative aspects or key features that your company's solution brings to the legal landscape?" which was rewritten into "Could you briefly introduce the functionality of your company's solution?"
- "What innovative approaches or initiatives are you exploring to connect with and

serve more clients?" became "Are you currently exploring new ways to connect with and serve more clients?"

Phase 5: Presenting the Complete Semi-Structured Interview Guide
The fifth phase has the complete and final list of questions as a result. We fit the questions into six categories: Background, Development or Adoption respectively, Technology, Current Use Cases, Looking Forward and Conclusion. They are shown in Figure 4.2 and Figure 4.3 for providers and appliers respectively. The original interview guides in German can be found in the Appendix A.1.

Analysis of the Interviews
To analyze our interviews, we followed the *Grounded Theory Method* [33], a qualitative research method that takes an inductive approach. This means we did not assume any theory beforehand but derived one by breaking down the interview transcripts into manageable pieces, coding them, and linking them into a coherent theoretical framework. Braun and Clarke [34] provide a helpful guideline with a six-step process described below:

Step 1: Become familiar with the data
In this first step, we explore the interview transcripts. The interviews were held online via Zoom[3] and recorded to facilitate the transcription process. The recording was passed on to the external tool Whisper [4], which we used to transcribe the interviews. Then, we manually compared this initial transcript against the audio of the recording to distinguish speakers and correct mistakes.

Step 2: Generate initial codes
This step involves reading through the transcript and highlighting interesting passages with different colors, assigning them short descriptions - called codes. According to Braun and Clarke, codes are "the building blocks of analysis"[34] and help researchers understand their data in relation to the preliminary research topics. We used *open coding*, which means that we created and adjusted the codes as we went through the coding process rather than using pre-set codes. A popular tool for this task is MAXQDA [5], which offers a comprehensive platform for coding. With about 36 codes per transcript this step resulted in more than 860 initial codes.

Step 3: Search for themes
In this step we iterated over the initial codes to identify potential themes, which are a "patterned response or meaning within the data set" [34]. We grouped similar codes together and eliminated insignificant ones, which did not relate to our research interest. Some of the initial themes included:

- training own models

[3]https://zoom.us
[4]https://openai.com/index/whisper/
[5]https://www.maxqda.com/new-maxqda-24

Chair of Software Engineering for Business Information Systems
Department of Computer Science
School of Computation, Information and Technology
Technical University of Munich

Interview Guide

Background

1. What is your role in the company?
2. How long have you been working at your company?
3. How long have you been working in your current field of work?
4. How large is your company?

Development

5. Could you briefly introduce the functionality of your company's solution?
6. What motivated your company to develop the tool?
7. Could you share some of the key strengths or unique perspectives your team brought to the table during the development process?
8. Could you share some instances where your team successfully navigated challenges during the development (legal and/or technical)?
9. What were your tasks during the development of the tool?

Technology

10. In exploring your company's approach to innovation, could you elaborate on the creative strategies employed, whether through developing proprietary solutions or leveraging existing solutions?
11. Could you highlight the role that Large Language Models and other forms of AI have played in shaping your innovative solutions?
12. Could you elaborate on the unique value your tool brings to clients or the legal industry by addressing specific challenges or needs?
13. How does your company ensure the accuracy and reliability of the tool in the legal context?
14. What legal use cases can your tool be assigned to?

Current Use Cases

15. What would you estimate to be the primary use cases for which your clients use your tool?
16. Did you discover any discrepancies between this and the way your clients are using the tool?

Looking Forward

17. Did your company face any challenges expanding the reach of the tool?
18. Looking to the future, what exciting developments or enhancements do you envision for your tool?
19. Are you currently exploring new ways to connect with and serve more clients?

Conclusion

20. Is there anything that we missed in this interview that you think is important?
21. Can you recommend any other contacts who may be useful to this study?

Figure 4.2.: Final interview guide for providers

Chair of Software Engineering for Business Information Systems
Department of Computer Science
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Technical University of Munich

Interview Guide

Background

1. What is your role in the company?
2. How long have you been working at your company?
3. How long have you been working in your current field of work?
4. How large is your company?

Adoption

5. Could you briefly introduce the key aspects of the tool you adopted?
6. What motivated your company to adopt the tool?
7. Can you describe the process that led you to choose this particular provider?
8. Which other options did you consider and why did you choose this tool?
9. Could you describe the experience you had, adopting the tool?
10. Could you share some instances where your team successfully navigated challenges during the adoption (legal and/or technical)?
11. What were your tasks during the adoption of the tool?

Technology

12. What problem is the tool solving for you or your company?
13. How much human involvement is necessary to maintain the tool's functionality?

Current Use Cases

14. How often are you using the tool per week?
15. Could you provide examples of successful applications of the tool?
16. What would you estimate to be the primary use cases for which your company is using the tool?
17. Could you briefly outline the expectations you have towards the tool?
18. Did you discover any discrepancies between your expectations of the tool and the way your company is using the tool now?

Looking Forward

19. Do you plan to use the tool for more projects in the future?
20. Looking to the future, what exciting developments or enhancements would you wish for the tool to have?

Conclusion

21. Is there anything that we missed in this interview that you think is important?
22. Can you recommend any other contacts who may be useful to this study?

Figure 4.3.: Final interview guide for appliers

- user-tool interaction
- part of the tool/ technology
- what the user wants
- Hosting
- Impact
- regional differences
- Challenges
- Use Cases
- future outlook

These themes were either too specific, like "training own models" or too generic, like "Challenges" which meant that we had to review them.

Step 4: Review themes
Reviewing the themes meant to iterate over all of them to:

- **refine** the name e.g. "What the user wants" was rephrased into "Understanding User"
- **combine** some to over-arching themes e.g. "training own models", "part or the tool/ technology", "Hosting", "user-tool interaction" were combined into "Usage/ Application of AI models"
- **split** inflated themes e.g. "Challenges" was split into "Challenges in Customer Acquisition", "Challenges during Adoption" and "Providers' external challenges"
- **create** new ones e.g. "ELSA concerns"
- **delete** the ones that are irrelevant in relation to the research interest e.g. "regional differences" was deleted as it included regional differences between the US and Germany and our focus is on the DACH countries

Step 5: Define themes
According to Braun and Clarke, the objective of this last iteration of the themes is to "identify the 'essence' of what each theme is about."[34]. This means to check that all of the over-arching themes do not repeat themselves or overlap. The final list of over-arching themes is:

- Usage of AI models
- Market for Legal Tech tools
- Understanding User
- User Satisfaction
- Impact of Legal AI tools
- Challenges during Adoption

- Challenges during Development
- Use Cases
- Future trends

A detailed list of all over-arching themes, sub-themes, and codes can be found in the code book, included in Appendix A.2.

Step 6: Write-up
This final step concludes the process by weaving together the over-arching themes into a narrative. The goal "is to tell the complicated story of your data in a way which convinces the reader of the merit and validity of your analysis" [34]. We do this in the following Chapter *Results*.

4.1.2. Identifying Interview Participants

The recruitment of interview participants was not a random process but involved applying filters that we detail in the following, together with the channels used to reach the potential interviewees. We assigned an ID to each participant, which will be used for identification throughout this thesis. Participants are categorized as either appliers or providers, denoted by the letters "A" and "P," respectively, followed by a number. An overview of all participants is given in Table 4.4.

Filters for Selection of Interview Participants
The following filters were required for an individual to identify as a potential interview participant:

1. Located or has clients in DACH countries.
2. Provided/ applied solution leverages AI.
3. Provided/ applied solution affects work processes of legal professionals.

Channels for Reaching Interview Participants
In the following we list the channels that were used to contact potential interview participants:

- **Personal Introduction**
  People who we could reach through a personal contact introducing us.
- **Search Results**
  People we identified through a Google or LinkedIn search.
- **Referrals**
  People that we were referred to after conducting an interview.

The first contact for individuals of the channel *Search Results* was initiated through *InMail*[6]. Over 160 InMails were sent that always included a Calendly[7] link to facilitate the scheduling of appointments. Subsequently, further communication moved on naturally to standard email. Over the course of two months, we contacted 180 individuals, of whom 40 responded, resulting in an overall response rate of 22.22%. Out of the 40 respondents, 26 scheduled an interview, but two canceled, and are therefore not included in the statistics. This sets the overall acceptance rate at 13.33%. Table 4.2 shows the acceptance rate by channel.

Channel	Contacted	Accepted	Acceptance Rate
Personal Introduction	2	2	100%
Search Results	167	17	10.18%
Referrals	11	5	45.45%

Table 4.2.: Acceptance rate by channel

4.1.3. Demographics

To characterize interview participants, we break down their demographics, showing the distribution between *Applier and Provider*, the *Position* that they have in the company, their *Educational Background*, the *Company Size*, and their *Gender*.

Applier/ Provider
Figure 4.4 shows that we interviewed 15 providers and 9 appliers. This difference is due to two main reasons. Firstly, there is less accessible information on appliers using AI tools compared to providers developing these tools. Secondly, providers were more reluctant to refer us to their clients than to other providers.

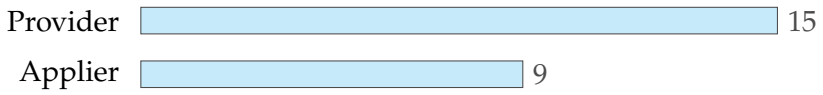

Figure 4.4.: Distribution of appliers and providers

Position
In Figure 4.5, we list the different positions of appliers and in Figure 4.6 of providers respectively, along with their frequencies. It is important to note that the position "Head of Legal Tech" was always filled by an attorney taking on an additional role, increasing the number of attorneys to seven out of nine.

[6]https://www.linkedin.com/help/linkedin/answer/a543895
[7]https://calendly.com

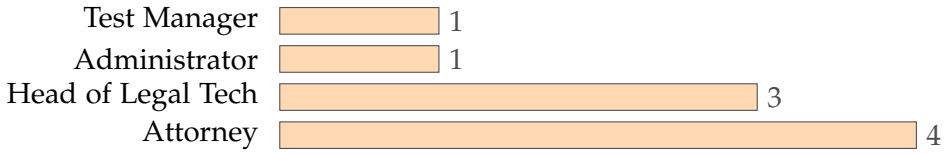

Figure 4.5.: Current position of appliers

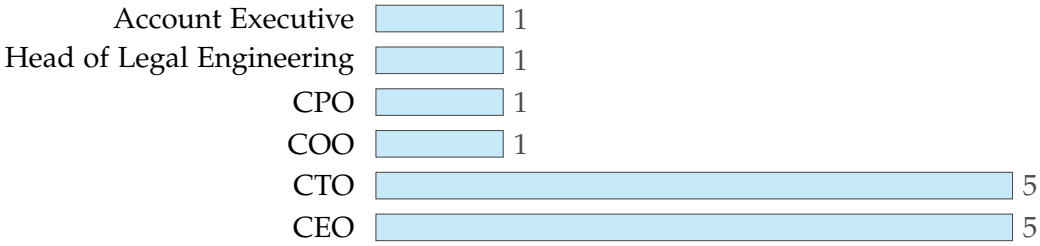

Figure 4.6.: Current position of providers

Educational Background
In Figure 4.7 the educational backgrounds of the interviewees are visualized. The blue bar represents the total number of interviewees, while the orange bar represents the number of appliers. The skewed distribution of appliers towards a background in Law underscores our focus on the application of tools in the legal domain.

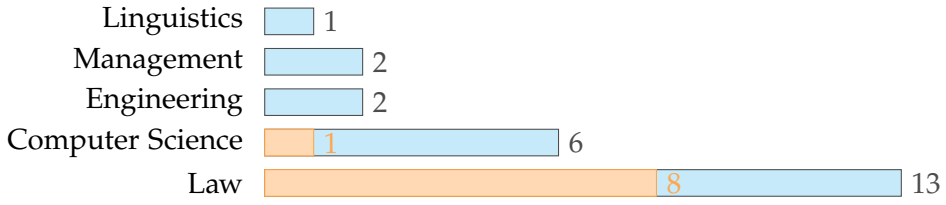

Figure 4.7.: Educational background of participants

Company Size
In this paragraph, we categorize interview participants by the size of the company they were working for during the period of the interviews. The categories are based on the European Union recommendation 2003/361 [35], which defines micro, small, medium, and large-sized enterprises, based primarily on employee count. The categorization of participants, along with the absolute and relative frequency of each category, can be seen in Table 4.3.

Category	Company (#)	Company (%)	Interviewee
Micro-sized	12	50.00%	A-4, P-1, P-10, P-11, P-12, P-14, P-2, P-3, P-6, P-7, P-8, P-9
Small-sized	4	16.67%	P-13, P-15, P-4, P-5
Medium-sized	4	16.67%	A-1, A-2, A-5, A-9
Large-sized	4	16.67%	A-3, A-6, A-7, A-8

Table 4.3.: Company size of participants

Gender
In Figure 4.8, we show that out of the 24 interviewees, 5 identified as female, while 19 identified as male.

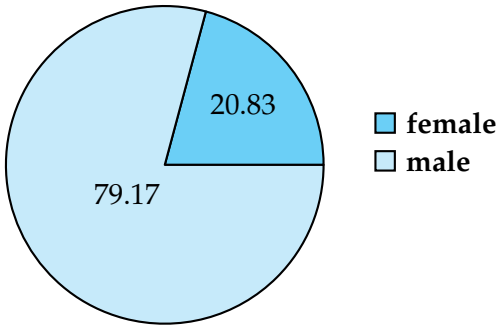

Figure 4.8.: Gender of participants

Overview of Participants
We summarized the most important information about the participants to provide the reader with a concise overview. We included the interviewee's position, company size, experience in ranges of five years, and the duration of the interview in minutes.

ID	Position	Company Size	Experience (years)	Duration (min)
P-1	CEO	Micro	10-15	60
P-2	CTO	Micro	5-10	58
P-3	CEO	Micro	10-15	42
P-4	CEO	Small	20-25	39
P-5	CPO	Small	5-10	42
P-6	CTO	Micro	0-5	29
P-7	CTO	Micro	5-10	37
P-8	Head of Legal Engineering	Micro	0-5	49
P-9	CTO	Micro	25-30	45
P-10	CTO	Micro	5-10	29
P-11	CEO	Micro	10-15	35
P-12	CTO	Micro	15-20	40
P-13	Account Executive	Small	5-10	30
P-14	COO	Micro	5-10	43
P-15	CEO	Small	10-15	44
A-1	Attorney	Medium	15-20	33
A-2	Attorney	Medium	5-10	17
A-3	Head of Legal Tech	Large	5-10	43
A-4	Administrator	Micro	0-5	29
A-5	Head of Legal Tech	Medium	0-5	39
A-6	Attorney	Large	0-5	32
A-7	Head of Legal Tech	Large	5-10	27
A-8	Test Manager	Large	20-25	28
A-9	Attorney	Medium	10-15	43
	Average:	**9.88**	**38.04**	

Table 4.4.: Overview of key information for participants

5. Results

In this chapter, we discuss the results of the semi-structured interviews, divided into seven sections. First, we provide insight into how Legal AI tools make use of AI models. Then, we characterize the market for these tools and introduce its peculiarities to the reader. Next, we explore providers' approaches to understanding the user and their results. After that, we discuss whether users are satisfied with the tools they are using and what additional features they wish for. Following that, we highlight the benefits and concerns that arise from using these tools. Afterward, we address challenges during adoption and development to help the reader understand the difficulties faced by providers and appliers. Finally, we present the use cases mentioned in the interviews, structuring them by the use case categories of Vladika, Meisenbacher, Preis, et al. [23], and expand and refine this knowledge base along the way.

20 out of the 24 interviews were held in German. Quotes from these interviews were translated with the tool DeepL. The German original and its English translation of these quotes can be found in Appendix A.1.

5.1. Usage of AI Models

In this section, we primarily focus on the providers, discussing how startups leverage AI models for their solutions. This includes the *Licensing of Models* subsection, where we distinguish between commercial, proprietary, and open-source models. The *Hosting of Models* subsection provides insight into the trend between hosting models on-premise or in the cloud. The subsection *Application of Models* explains how the AI models are applied in the context of the startup's solution. Finally, the *User-Tool Interaction* subsection offers the first insight into the appliers, detailing the mediums through which they interact with the provider's tool.

5.1.1. Licensing of Models

To begin, we provide an overview of the types of AI models that startups are leveraging for their solutions, as shown in Table 5.1. These insights were gathered from providers' answers to the question, "Could you highlight the role that Large Language Models and other forms of AI have played in shaping your innovative solutions?"
The table emphasizes that commercial models are the preferred choice, with more than half of the providers stating they use these types of models for their solutions. When providers use commercial models, they opt for ChatGPT through an Azure OpenAI subscription (P-2 to P-4, P-9, P-10, P-12 to P-15). The reason for this preference is the easy setup and assurance of data protection compliance, as expressed by P-3: "It was really very easy for us to connect

Licensing	Amount	Interviewee
Commercial	9	P-2, P-3, P-4, P-9, P-10, P-12, P-13, P-14, P-15
Proprietary	4	P-5, P-6, P-8, P-11
Open-Source	4	P-1, P-7, P-11, P-14

Table 5.1.: AI model licensing

[our system] to ChatGPT, so that the law firms [can work] in a data protection-compliant, and extremely simple way with AI." Apart from ChatGPT, the other commercial models mentioned during the interviews were Anthropic's Claude 3 Opus (P-4) and Nvidia's NeMo (P-14). Open-source models brought up by interview participants include Mistral AI (P-14) and LLama 3 (P-7).

In summary, we can confidently claim that the main approach for providers to include AI models in their solution is **opting for third-party models**, with twelve providers choosing this option. Most of them prefer **Azure OpenAI's ChatGPT**.

5.1.2. Hosting of Models

Further exploring providers' application of AI models, we looked into the critical decision of whether to host AI models on-premise or in the cloud.

The decision poses a trade-off for important factors:

- **Control and Security**: on-premise offers greater control over data and infrastructure, ensuring higher levels of security and compliance, especially important for sensitive data.
- **Scalability and Cost-Efficiency**: cloud provides scalable resources on demand and implies cost savings through pay-as-you-go pricing.

Since the legal industry works with sensitive data, such as client confidential information, personal identification information, and intellectual property, the initial intuition might be that AI models should be applied on-premise to guarantee the security of sensitive data. However, Table 5.2 shows that the trend goes more towards the opposite side, with 11 out of 15 providers running their AI models in the cloud.
A significant reason why many providers choose cloud hosting is that Azure OpenAI's ChatGPT cannot be hosted on-premise. Additionally, Provider P-5 explains that "you can't tell [the lawyers] 'on-prem', because they just want to have something that they can simply select, somehow on the web" arguing that lawyers prefer a fast, easy-to-use solution.
While one provider argues that "everything will go into the cloud eventually" (P-13), there are still five providers that run their model on-premise. The main reason for this is that these

Hosting	Amount	Interviewee
Cloud	10	P-2, P-3, P-8, P-9, P-10, P-11, P-12, P-13, P-14, P-15
On-Premise	3	P-1, P-6, P-7
Both	2	P-4, P-5

Table 5.2.: Hosting of AI models

providers work with public institutions that require completely local solutions (P-1, P-7, P-9) because "[...] they have very strict guidelines as to whether they are allowed to enter the cloud and with which data they are allowed to enter the cloud" (P-1).

Two providers (P-4, P-5) adopt a hybrid approach, offering both on-premise and cloud hosting. P-4 combines the two by anonymizing documents on-premise, allowing them to work with the resulting data in the cloud. P-5 selects the hosting option "depending on what the safety requirements and also what the possibilities are for the customer."

In conclusion, we argue that **hosting AI models in the cloud is the predominant choice** for Legal AI tool providers.

5.1.3. Application of Models

Recurring trends in how startups apply AI models for their solutions include changing models depending on the situation and adapting the model to fit specific use cases. These trends emerged naturally as providers shared their experiences, rather than being responses to specific interview questions.

Change of Models
Often times providers do not only leverage a single AI model but rely on various models (P-4, P-6, P-11, P-13 to P-15). Some of them benchmark these models to figure out which work best for a certain use case (P-13 to P-15). This is necessary because the landscape of available models "[...] it changes so quickly, so it develops so fast, that we constantly have to do new tests" (P-14).

Others are using different models depending on the use case (P-4, P-6, P-11, P-14). After testing the models, they discovered that some models work better for a certain use case, while others are more effective for another. P-4 gives the example:

> "[...] for the document comparison, where I now want to compare order conditions in my legal distribution with those that a customer or a client gives to me. In order to identify the contradictions and so on. These are things that we only do with Claude 3 Opus, because GPT-4 is not accurate enough for that. "

Adaption of Models
Third-party LLMs like Azure OpenAI's ChatGPT are not specialized enough for the legal domain because "they don't know anything in depth and especially not in such legal areas. "(P5) and P-4 agrees. This is why providers do not just rely on the output of the model but pre and post-process it.

Many providers combine LLMs with standard NLP methods such as Named Entity Recognition (P-4, P-9, P-15) or semantic search (P-4, P-5, P-9, P-15) to optimize the output. P-4 emphasizes this: "For each query, our semantic search is the first step and in the second step the results are processed with the prompt from a large language model."

Other examples where LLMs are supplemented with further methods include the following. P-1 states that "[...] we build in what we can to optimize and don't just rely on AI" and later on explained that they use Pattern Matching to find specific content. P-7 says that their "classification is like a combination of LLM and statistical methods."

> Summarizing all the above, we argue that **Large Language Models can't stand alone**, applied in the legal domain.

5.1.4. User-Tool Interaction

We explore the two interfaces providers described for interacting with their tool.

Interface	Amount	Interviewee
Web-App	12	P-2, P-3, P-4, P-5, P-6, P-7, P-8, P-9, P-10, P-11, P-12, P-14
Word add-in	3	P-1, P-13, P-15

Table 5.3.: Interaction with AI models

In Table 5.3 it is evident that the predominant choice is to provide access to the tool through a web application, with 12 providers opting for it. The Word add-in is a much less used interface, with only 3 providers choosing this option. While the web application allows users fast and easy access to the tool, the Word add-in has the advantage of allowing lawyers to work in "their trusted Word environments" (P-13), increasing the usability and facilitating change management.

> The four appliers that commented on this all used tools that they accessed through a web-application, further solidifying the claim that the **main interface for interaction is a web-application**.

5.2. Market of Legal AI Tools

In this section we characterize the market Legal AI tools have. First, the *Current Clients* subsection identifies the primary users of these tools. *Customer Acquisition* analyzes the strategies AI providers use to attract and retain clients, along with the challenges they face in that process. The *Motivation for Development and Adoption* subsection explores peculiarities of the market that drive providers' innovation and appliers' integration of Legal AI tools. Finally, *Managing Trust in AI Models* addresses common concerns about AI in legal practice and discusses methods to mitigate these concerns.

5.2.1. Current Clients

The client groups that providers currently serve are listed in Table 5.4, along with the number of mentions and the IDs of the providers who mentioned them. As expected, **Law Firms** are the main client group, cited by 11 out of 15 providers. Other groups within the legal industry include **Public Institutions**[1] and **Notaries**, each mentioned twice.

Client	Amount	Interviewee
Law Firms	11	P-2, P-3, P-4, P-5, P-6, P-9 , P-10, P-11, P-13, P-14, P-15
Public Institutions	2	P-1, P-7
Notaries	2	P-3, P-8
Legal Departments	3	P-4, P-5, P-13
Private Companies	5	P-3, P-10, P-12, P-14, P-15

Table 5.4.: Overview of clients by provider

Referring to the solutions as *Legal* AI tools suggests that only clients in the legal industry use them. However, this is not the case. The other two groups are **Legal Departments** and **Private Companies**[2], mentioned 3 and 5 times respectively (with no overlap between these two categories).

In summary, we argue that **Legal AI startups primarily serve clients in the legal industry but they are also discovering opportunities in other sectors** as they explore the use cases of their solution. This is supported by providers' responses to the question, "Looking to the future, what exciting developments or enhancements do you envision for your tool?" indicating their intention to expand into other markets. These findings are explored in more detail in Subsection 5.4.4.

[1] Public institutions refer to courts, government organizations, and regulatory offices.
[2] Private companies encompass those in the industries: banking, finance, real estate, and insurance.

5.2.2. Customer Acquisition

There are different ways in how providers approach customer acquisition. In the following we explore those and the challenges they encounter in the process.

Approach to Customer Acquisition
When asked, "Are you currently exploring new ways to connect with and serve more clients?" providers responded with various approaches for customer acquisition. In Table 5.5, we list the answers from 12 out of 15 providers who commented on that question. We categorized their responses into Personal Contacts, Events, Network and Advertisement.

Approach	Amount	Interviewee
Personal Contacts	4	P-1, P-5, P-11, P-14
Events	5	P-1, P-3, P-4, P-9, P-7
Network	4	P-2, P-6, P-10, P-13
Advertisement	2	P-8, P-12

Table 5.5.: Overview of customer acquisition approaches by provider

Personal Contacts are potential clients whom the participant already knows, often through previous work in the field. This approach facilitates contact and offers a straightforward method for acquiring more clients. For example, P-1 mentioned that in the beginning, "[...] we've done a bit of a sweep of my network."

Events refers to providers who attend gatherings like conferences, such as the 'Legal Revolution' in Germany, to connect with other startups and attract potential clients. Some providers (P-1, P-3, P-4) go even further by giving talks to present their solutions, thereby increasing their reach and level of awareness on the client side. An instance of where this is working particularly well is given by P-4: "And I do a lot of lecturing, keynotes at conferences, and that's helpful if people have known me for a while. And because people have known me for a while, we actually only have inbound at the moment. We work on all the requests we get."

Network differs from Personal Contacts as it refers to larger organizations partnering with law firms, rather than the personal network of the providers. This partnership facilitates distribution, allowing providers to streamline customer acquisition. P-10 exemplifies this approach: "We signed a contract with 'Diro' the largest network of law firms in Europe and they have more than 200 law firms and they are now going to to help us distribute our software to their members."

Advertisement is a standard approach but was only mentioned by two providers. P-8 noted that they were featured in the magazine 'Juve', describing it as "the biggest magazine from the legal market or, let's say, the most relevant magazine from the legal market when it comes to innovations." Both P-8 and P-12 mentioned using Google Ads to acquire more

clients, which helps them target the correct audience, illustrated by P-12 providing a solution for data protection compliance: "Yes, one of our ad strategies that works very well is that we do display advertising. That's basically advertising where you get little banners everywhere on 'Spiegel' or wherever, where you can click on them [...]. And we play them out to people who have been on some data protection page in Germany."

To summarize, we cannot argue that one approach is predominant over the others but rather that **providers have varying approaches to customer acquisition**. While Personal Contacts and Events were mentioned the most, Network and Advertisement also deliver good results, as demonstrated by the quotes.

Challenges in Customer Acquisition

The question "Did your company face any challenges expanding the reach of the tool?" was answered by 12 out of 15 providers. Their responses are explored in the following, ordered by number of mentions.

- P-7 mentions clients' **reluctance to change**, saying:

  > "the law section in Germany, [...]they are not open to change at all. So it's not about AI, it's not about if they trust AI [...], it's also about the fact that they are not open to change and they don't want to implement change, even if they trust AI."

- P-10 and P-11 argue that lawyers are **not interested in higher efficiency** because it decreases their billable hours. This refer to the amount of time, spent on work that can be charged to a client. P-10 illustrates it as follows:

  > "If you say, 'Okay, I can make you 30 percent faster at this or that task,' then it's like, 'Why would I want to do that?' because I can't bill as many hours,right? So that's a problem with the current system."

- P-6 and P-11 mentioned that **client infrastructure changes** held them back from closing a deal. P-6 gives an example:

  > "[The deal] has been delayed a bit at one law firm because they are currently undergoing a major infrastructure changeover to a new law firm system because they simply realized that their software would not be able to dock onto our system so easily."

- P-1 and P-5 said that it is hard to figure out who the **right person to talk to** is. P-5 details the problem:

  > "[...] with the exception of a few law firms, you don't have any external management or anything like that, which means you just talk to some partner who is responsible for it, who has somehow declared himself responsible for it or has been selected, who has to build these sales calls somewhere around the rest of his client work."

- P-2, P-6, P-7, P-9 and P-10 mentioned **skepticism** of lawyers towards AI. P-6 argues that this is because of "data protection implications, so lawyers are still a little cautious and reluctant.". Additionally, lawyers don't trust a system that makes mistakes. P-2 supports this by saying, "Lawyers are like 'Oh God, has a mistake been made? The tool cannot be used.'" Applier A-9 also confirms this view, responding, "[...] the skepticism of the partners, or the high demands placed on a law firm - to put it in a positive way - with regard to data protection and client confidentiality," when asked what the challenges during the adoption process were.
- P-1, P-2, P-4, P-5, P-10, P-11 and P-13 said that a big challenge, working with large corporates or public institutions is the **sales cycle**. P-1 tells us that "[...] the sales cycle for courts lasts at least two years," and P-10 lines out the pain points in the process for large corporates:

  > "A lot of compliance requirements and the procurement process. So it can take months and there are so many documents that you have to fill out and negotiate before you can get started."

Summarizing this, we argue that **the sales cycle and clients' doubts about AI are the biggest challenges in customer acquisition**.

5.2.3. Motivation for Development and Adoption

By analyzing the incentives for providers to develop Legal AI tools, as well as the motivations for appliers to adopt them, the discussion highlights the shared objectives.

Motivation for Development
Here we present the findings from providers' answers to the question, "What motivated your company to develop the tool?" As expected, there was a variety of responses. The most notable ones are listed below:

- P-4 aims to make lawyers **more efficient to reduce costs**, saying: "Now we are buying the answers from the lawyers. And so we were somehow obliged to provide the lawyers with technology so that they can answer the questions more quickly, so that we don't have to pay them so much."
- P-7 had a more holistic motivation, aiming to **improve efficiency** across the entire legal domain: "And after talking to some people, to some friends, I noticed like there is a huge need in this field to implement like algorithms and like computer science knowledge to automate and to increase the efficiency of this field."
- P-15 wanted to make **company data more easily accessible**: "[...] the idea is that you actually have such a treasure trove of company data, and that you make it usable, that you make this treasure trove of company data more easily accessible to others." with

P-13 agreeing by saying that "what we've heard from firms is that I mean it can be quite frustrating, right. You have so much knowledge within your firm but it's not always easy to find."

Additionally, seven providers (P-1, P-3, P-9, P-10, P-11, P-12, P-13) mentioned that they got their idea from a first hand encounter with the problem. Illustrative examples include:

- P-3 struggled with **outdated law firm software**: "It's impossible to describe it in any serious way to give someone who doesn't know anything about it an idea of how agonizing it can be to work with software that crashes three times a day and then takes an hour to recover. It's hard to imagine today. But that is still the status quo, the state of things [...]. And that was the motivation back then to do things better, to think about what could be done better. "
- P-9 had to deal with **large amounts of documents**: "All parties were quite overwhelmed with the amount of documents, emails in particular, but also some printed documents. And that's how the idea came about."
- P-11 saw a problem in the **scalability of lawyers' work**: "I worked in this field and what always annoyed me as a lawyer or as a legal professional was all this paperwork, so everything with reading, many tasks that I did, I didn't study for ten years, I'd say, and that annoyed me a bit about the whole legal world and that was also the basic motivation in the field to do something myself [...]. So somehow I always thought the business model of lawyers was [bad] because it's not scalable, because you're always exchanging your time for money.". P-5 agrees with P-11 here and says that lawyers work is not scalable because it is based on billable hours.

In summary, we claim that the **main motivation for development is providers' personal experience** with various problems in the legal domain.

Motivation for Adoption
Now we take a look at the appliers' side exploring their answers to the question "What motivated your company to adopt the tool?" as well as providers' opinion.

There were 5 providers (P-1, P-6, P-8, P-9, P-11) that spoke out on what they think causes legal professionals to adopt Legal AI tools. All of them mentioned some kind of **resource strain**:

- Lack of time (P-9).
- Too much manual work (P-6, P-8).
- Lack of personnel in law firms (P-1, P-6, P-11).
- Too many documents (P-6, P-9).

Appliers reasons are more varied but agree with providers that the resource strain is the main reason for adoption, highlighting the need to **improve efficiency** (A-2, A-7) and **large amounts of data** (A-3, A-5, A-6). Additional reasons appliers brought up include:

- Boost knowledge management (A-9).
- Ask questions about documents (A-6).
- Identify use cases for their company (A-1).
- Clients demanded it (A-2, A-8).
- Improve their marketing (A-2, A-3).

To summarize this, we argue that the **main motivation for adoption is the resource strain** on the appliers' side.

5.2.4. Managing Trust in AI Models

Lawyers' skepticism towards AI models is a significant challenge for providers, as discussed in the previous subsection 5.2.2 . In the following we detail providers' strategies to counteract this distrust. These strategies include responses to the question "How does your company ensure the accuracy and reliability of the tool in the legal context?". Below, we outline the various approaches and conclude with a claim based on these findings.

- Some providers employ creative approaches to ensure accuracy and reliability. For instance, using Symbolic AI, where "you try to put everything into logical relationships. [...] And on the basis of this relationship you can quickly check whether something was hallucinated or not" (P-5). Another innovative example is combining the AI model with decision trees to "[...] create legal certainty" (P-12).
- Other approaches are more standard, such as referring to ISO 27001 certification (P-10, P-14), which ensures the confidentiality, integrity, and availability of sensitive company information. Some participants (P-2, P-8, P-9) trust their AI model providers, like Azure OpenAI, which assures clients that their "prompts (inputs) and completions (outputs), [their] embeddings, and [their] training data are NOT available to other customers [and] are NOT available to OpenAI."[3].
- The most popular approach is using Retrieval Augmented Generation (RAG) with 5 providers mentioning it (P-2, P-4, P-9, P-11, P-15). RAG means using external databases to fetch relevant information during the response generation process of LLMs which provides more accurate and contextually relevant answers. This is important "[...] because we as lawyers[...], when I start a query, enter a prompt in a language model like this and then get an answer, I also want legal reasoning like this. I want to know

[3]https://learn.microsoft.com/en-us/legal/cognitive-services/openai/data-privacy

where it comes from. [...] How does the language model come up with this? [...] And that's why we use a lot of RAG pipelines like this, [...] to basically get an understanding of the source." (P-15).

- It is worth mentioning that two providers (P-3, P-7) admitted that they had no way of ensuring accuracy and reliability.

In summary, providers use a variety of innovative and standard approaches to ensure the accuracy and reliability of their AI tools, addressing lawyers' concerns and building trust in the technology. However, these measures alone are not sufficient, as all systems are prone to errors. The legal market is too sensitive to tolerate mistakes, which leads us to the claim that there is a **need for human verification**.

Need for Human Verification
Human verification is a recurring theme in all of the 24 interviews with both appliers and providers, except for P-7. While visions for the future vary (discussed further in Subsection 5.5.2), both appliers and providers agree that, given the current state of AI models, having a human in the loop to double-check the output is essential. For providers this finding came up naturally throughout the interviews but for appliers it is also partly a result of answers to the question "How much human involvement is necessary to maintain the tool's functionality?".

Illustrative examples from the providers' side include the following:

- "[The AI] does the preliminary work. We say that [our tool is] like an intern and the intern is not bad, but he is not as good as the person who then has to verify it and then you can make the specific adjustments to the decision that are required." (P-1).
- "Frankly, we're not there yet. Yes, so[...] you can certainly get a few larger double-digit percentage points out of it [the tool], I think so, in terms of efficiency. But I don't think you're going to get to a 90 percent document where you can say, okay, I can send that now." (P-15).
- "What I think is important in all things is that, even if it works abstractly, of course, the lawyer always has to stay in the driver's seat a bit.[...] That's why we built a command center. The idea was a bit like a pilot flying an airplane. And when you're on autopilot, you're still controlling the instruments."(P-5).

Appliers' examples that stand out are:

- "So that is also my urgent recommendation to everyone who uses the tool here. Firstly, the question must be asked correctly. And secondly, you have to check that the answer is correct. So if you then have a result that sounds good at first and also quotes standards, then please go back to the standards and check whether it really says exactly what it claims." (A-9).

- "What everyone has to learn is to live between these extremes, to be able to deal with the fact that you're only 70% right and that I'm still checking and incorporating this into my work process." (A-3).
- "At the point where nobody has to look over it anymore ... I don't know. That's too dangerous from a legal point of view. If you miss a deadline..." (A-5).

5.3. Understanding the User

Understanding the consumer is crucial for any product. This involves identifying the specific problems of consumers that your product solves, their needs, their usage frequency, and their preferences. Having discussed specific problems in the previous section, we now focus on the needs of appliers, particularly how these needs are identified and the results from the providers' perspective. In the following Section 5.4, we will address appliers' usage frequency, preferences, and their perspective on their needs.

To understand user needs, providers must engage in discussions with them. The interviews revealed that communication between technical and legal professionals is often challenging. P-4 noted that there is a high level of technical understanding at large law firms because "[...] there are dedicated positions also in the legal tech areas, in many law firms and legal departments, which are not necessarily occupied by lawyers." In contrast, P-6, who works in a spin-off of the law firm where he is employed (thus using "we" when referring to the applier), replied to the question if there was someone that could act as a mediator:

> "Difficult. We do have a legal tech department, it's not like that, but of course they have legal training and no technical training. And despite the fact that we have this legal tech department, it was still difficult to get this communication right and to agree on which problem should be solved and in what form."

The difficulty in communication is supported by providers P-3, P-9, and P-11, who shared their opinions on the topic. Appliers A-2 and A-7 also identified a lack of technical know-how among legal professionals as a challenge during adoption. A-7 noted, "[...] on average, lawyers are of course not the most technology-savvy people in the world, nor are they the most change-savvy people in the world."

This difficulty in understanding one another leads us to the claim that **providers need a legal professional on the team** to act as an intermediary between the technical and legal aspects.

This demand is supported by several providers (P-2, P-5, P-10, P-11, P-14). P-11 shares his experience being that middleman between problem and solution:

> "Before I sit down with [names of engineers][...] I usually already have an idea of how it could be solved or not. [...] And I play the middle man and then I don't [...]

> say, 'Here, we want to differentiate between a complaint and a defense' somehow, and try to explain the requirements to them, but I usually already have a solution of how to try it."

Other reasons why it is important to have a legal professional on board include:

- An advantage in acquiring new clients because they understand the legal industry and they have contacts (P2, P-5, P-10).
- Providing legal assistance when the AI cannot (P-10).

5.3.1. Providers' Approaches to Understanding the User

Providers recognize that communication is key to understanding user needs. This is evident in their responses to the question, "Did you discover any discrepancies between your expectations of the tool and the way your company is using the tool now?". There are five providers who directly answered that they did not find any difference because they developed the tool together with the client (P-10, P-14), or because they are working closely together with the client (P-1, P-6, P-11).

One provider (P-4) noted that clients used the tool for other purposes. As a result, these new use cases were identified and incorporated into the solution. This approach is also supported by P-9 and P-11 who say that users often come up with new use cases of the tool.

Other providers did not directly answer that question but provided similar insights into their strategies for understanding user needs:

- P-5 said that during sales calls "[...] we are already discussing very specific use cases with customers."
- P-7 is talking to experts, saying "we did like different rounds of interview with different people to understand what the use cases are."
- P-2 is working on client projects "[...] to gain more market insight into what exactly the challenges are and what productive use of AI can look like in the end."
- P-13 said that "we're continuously talking to the lawyers, right. So I mean defining the use case."
- P-12 mentioned that they have an "In-app chat, where we can now easily serve all our customers in a fraction of our working time." A-4, a client of them, reported that he was able to use that chat to ask for more functionality which they incorporated.

In summary, a **close collaboration with their clients** is the providers' approach to understanding what the user needs.

5.3.2. Providers' View of User Needs

The results of providers' effort to understand users are detailed in this subsection. There was no direct question that targeted this topic, so responses were only available from providers where the topic emerged naturally.

We list the different needs identified from provider interviews in the following, together with an explanation. In Table 5.6 we give an overview of them, including the amount of times each need was mentioned and the ID's of the providers. Additionally an ID (e.g. N-XX) is assigned to each need to be able to refer to them more easily later on.

ID	Need	Amount	Interviewee
N-01	Slow Incorporation of Change	1	P-5
N-02	Interaction with Humans	1	P-12
N-03	Technical Setup	1	P-4
N-04	Personal Documents	2	P-5, P-15
N-05	Confidentiality	3	P-9, P-13, P-14
N-06	Prepared Prompts	4	P-4, P-11, P-13, P-15
N-07	Specific vs. Comprehensive Solution	6	P-1, P-2, P-3, P-5, P-8, P-11, P-12

Table 5.6.: Overview of user needs by provider

- **N-01 - Slow Incorporation of Change**: it is important that the introduction of the tool and the transition to automation happens gradually "[...] to establish trust. [...] And I think you have to do it all step by step in practical implementation. So, typically you start in the law firms, when we say, okay, we're going to do a project in the law firm, [...] it's not the whole law firm, it's usually always a practice group" (P-5).
- **N-02 - Interaction with Humans**: Users want the option to interact with humans when necessary. P-12 highlighted the importance of their in-app chat: "As soon as we activated it, it was one of our most important features. [...] Really giving [the users] the feeling that, 'Okay, there are people sitting there who know what they're doing, who will respond if I have a problem.'"
- **N-03 - Technical Setup**: Refers to the setup of the solution for the user. Here, particularly "the smaller law firms, they are grateful if we set up the things for them and they don't have to deal with it" (P-4).
- **N-04 - Personal Documents**: Describes users' desire to use their company-specific documents in the tool. P-5 explained, "[...] of course, every law firm also wants to have its own fingerprint on this work product. This means that you have to integrate these documents, so to speak."

- **N-05 - Confidentiality**: In the legal industry confidentiality is crucial because law firms work with sensitive information. P-9 emphasized this, saying that during their first case "[...] confidentiality was not the big issue. But of course it is today, when you talk to customers, it's certainly a key issue."
- **N-06 - Prepared Prompts**: startups leveraging LLMs provide out-of-the-box prompts for better usability. This helps users who are not used to these tools. P-15 exemplified this: "But we quickly realized that the older colleagues were struggling with prompting. And then we included these document templates in the prompting. Because then we have the option for older colleagues to create things quickly without having to tweak the prompting."
- **N-07 - Specific vs. Comprehensive Solution**: This expresses the disagreement between providers about whether users prefer a tool that is specific to one use case or a tool that unites many different use cases. P-3 explained that the users don't accept small improvements: "They say, 'No, so either you can do everything or I won't use it.'" P-8 agreed, saying that users do not want an extra system to work with. P-11 emphasized, "[...] it is always about connecting many tools that are already used in the legal department with each other," arguing for comprehensive tools. Opposing opinions include P-1, who argued that "in the past, people thought, 'I want one thing for all problems,'" but now prefer multiple specialized tools: "Now you come back [...] to the fact that instead of one big solution, you then have maybe five." This opinion is also expressed by P-2, P-5 and P-12, with P-2 stating, "the issue is usually not that things have to be open source or for free in order to work, but that the solution has to specialize or focus specifically on the right use case."

5.4. User Satisfaction

In this section we focus even more on the user, mainly drawing information from appliers' interviews. We finish the characterization of the users by addressing the frequency with which they interact with the tool and their expectations in *User Engagement*, as well as their preferences in *User Preferences*. Next, in *Unsatisfied User Needs*, we discuss what appliers were unhappy about or wished the provider would incorporate. Finally, in *Providers' Future Trends* we show what providers already plan to incorporate into their solutions.

5.4.1. User Engagement

We provide additional insights into user behavior by detailing how frequently appliers use the tool and whether they plan to continue using it in the future. This information will help determine their satisfaction with the current solution. By examining their expectations, we can better understand the sources of their satisfaction.

Frequency
During the interviews, appliers were asked, "How often are you using the tool per week?" One applier (A-4) mentioned using the tool just once. This, however, was due to the nature of the service being a one-time use, not because of dissatisfaction. All other appliers reported using the tool multiple times a week, with the majority (A-1, A-5, A-6, A-7, A-9) using it daily. This indicates that appliers are satisfied with the solution they are currently using.

Another reason why appliers are satisfied is their responses to the question, "Do you plan to use the tool for more projects in the future?" All appliers, except A-4, mentioned that they will continue using the tool in the future. A-1 and A-5 also stated that they plan to increase their use of AI. For example, A-1 mentioned that they will adopt Microsoft Copilot for Microsoft 365, "which enables us to discuss our office 365 files with the assistant."

Expectations
The insights we gathered came from appliers' responses to the question, "Could you briefly outline the expectations you have towards the tool?" and the follow-up question, "Did you discover any discrepancies between your expectations of the tool and the way your company is using the tool now?".

On one hand, three appliers (A-3, A-4, A-8) reported no difference between their expected and current usage of the tool because they selected it particularly for their specific use case. For example, A-3 stated, "And the expectations we had of identifying these classic contract clauses have been fulfilled." Similarly, A-5 noted no difference in their expectation because the tool "[...] is really custom for us. And that's why it definitely didn't disappoint any expectations.". A-2 also expressed satisfaction, mentioning, "increasing efficiency, of course the greatest expectation, that you save time. And it has fulfilled that very successfully."

On the other hand, the four remaining appliers (A-1, A-6, A-7, A-9) mentioned that the tool did did not fully meet users' expectations. A-6, using a tool with LLM functionalities, explained, "There was an expectation which was that ChatGPT would allow you to ask questions directly, like a dialog. And we don't yet have a dialog option with [name of the tool]. We would like to have that.". A-7 admitted that his expectations were too high, saying, "I also had very exaggerated expectations, in the sense that the tool would do the work out-of-the-box, which is of course unrealistic." A-1, working with ChatGPT, shared a similar example: "My first experience was that I expected it just to have the person walk into my room. And I hand them a job, and I say, just go do it. But since then, I've now learned that you have to teach it." A-6, A-8 and A-9 agreed that some users have too high expectations towards the tool, illustrated by A-6: "But users always have the expectation, even with this tool, that 'Yes, but we're using AI now, so it can produce my final work product for me. So it can then completely create this document for me in a Word file with our formatting,' and they just have to sign it or something."

P-1 also highlighted the issue of unrealistic expectations, noting that the challenge has moved from taking the clients' fear of AI to managing their growing expectations:

> "But two years ago you still had to explain to people what AI is 'And no, the end of the world is not imminent', to put it a bit pointedly, and now it's almost more difficult because many people think they know a lot because they perhaps know a little and then they set expectations and have expectations that can't be met."

To conclude this subsection, we argue that **appliers are generally satisfied with the tool** even though **some users have too high initial expectations** of it. This issue could be resolved through better communication from providers about their tools' capabilities.

5.4.2. User Preferences

By examining the specific preferences of appliers regarding the adoption and use of Legal AI tools, we explore the features, functionalities, and user experiences they value the most. Insights are partially derived from answers to the question, "Can you describe the process that led you to choose this particular provider?"

We list the preferences identified from applier interviews below, along with explanations and comparisons to the needs that providers' mentioned, if applicable. Table 5.7 provides an overview, including the amount of times they were mentioned and the IDs of the appliers.

ID	Preference	Amount	Interviewee
Pr-01	Professional On-boarding	1	A-2
Pr-02	Resemblance to Legal Language	1	A-6
Pr-03	User Interface	1	A-3
Pr-04	Price	2	A-3, A-4
Pr-05	Communication	2	A-3, A-4
Pr-06	Word Environment	2	A-8, A-9
Pr-07	Prepared Prompts	4	A-1, A-6, A-7, A-9

Table 5.7.: Overview of user preferences

- **Pr-01 - Professional On-boarding**: Applier A-2 mentioned that the provider's professional and supportive on-boarding process convinced him of the tool's value.
- **Pr-02 - Resemblance to Legal Language**: For applier A-6, the tool's output closely resembling German legal language made it stand out from other providers.
- **Pr-03 - User Interface**: Applier A-3 noted that the decision to choose this provider was partially based on the user interface's quality and usability.

- **Pr-04 - Price**: Appliers A-3 and A-4 stated that the price of the tool was one decisive factor when making the decision which provider to choose.
- **Pr-05 - Communication**: Appliers A-3 and A-4 also emphasized the importance of being able to contact the provider, validating the need N-02 identified by provider P-12.
- **Pr-06 - Word Environment**: Applier A-9 expressed the need to use Word due to their company-specific templates, highlighting the importance of N-04 for appliers. Additionally, applier A-8 preferred using Word because it is independent of the input format.
- **Pr-07 - Prepared Prompts**: Appliers A-7 and A-9 emphasized that the tool provides use cases out-of-the-box as prepared prompts. Applier A-1 said, "the challenge is that nobody wants to cut and copy text and make a prompt," with A-6 agreeing. This challenge for users of prompting and their preference for prepared prompts further underscore the need N-06, identified by providers.

5.4.3. Unsatisfied User Needs

In this subsection we present the unmet needs mentioned by appliers during the interviews. These insights were mainly derived from responses to the question, "Looking to the future, what exciting developments or enhancements would you wish for the tool to have?"

Some general needs that appliers highlighted which are primarily directed at **further functionality** to be incorporated into the solution, include:

- A-2 wants the tool to suggest recommendations from documents of other law firms, saying it should "also propose clauses that come from other law firms."
- A-3 desires the tool to incorporate LLM functionality to help them structure data better, explaining, "The hope is that Gen AI or something will help a little, so that we can say, I want to know this, this, this, this, this under the following conditions and then please summarize it here in this cell."
- A-6 wants to be able to ask follow-up questions, stating, "[...] with ChatGPT you can ask questions directly, just like having a dialog."
- A-7 mentions usability and functionality, wishing "[...] that the usability will be even higher" and "that even more is already available out-of-the-box."
- A-8 says that in general the users want the tool to recognize even more, giving the example, "One of [the requests] was all cantons, meaning all localities [...] in our canton, that they are anonymized, that they are recognized."

Other unsatisfied needs were directed at improving the **processing of documents**:

- A-3 is looking for a tool that can extract data from forms effectively because their current NLP tool "[...] simply needs language. And it can do that pretty well. So if there are complex legal clauses, it recognizes them because there is a lot of language, meaning anchor text, that it can use as a starting point. But there are already many documents, especially in continental Europe, that work more like forms."
- A-9 wants the documents in his company to be added to the tool automatically from their "[...] Document Management System, so that we then actually build the interface directly, which means that the data that we have in the DMS is then automatically available as data for the tool."

Further unsatisfied user needs can be summarized by the term **automation**:

- A-7 wants training and testing of the tool to be automated, stating, "[...] that you no longer have to train the tool manually, so to speak, and develop the quality to where it should be, so that it can more or less be taken over by artificial intelligence."
- A-8 notes that many users "[...] of course they would prefer everything to be automatic, so they don't have to look at anything."

The last unsatisfied user needs that we identified from the interviews refer to **customization**:

- A-2 mentions that the tool should have legal area specific hints or reminders, saying, "Another improvement would be if [name of the tool] added legal notes to the clause."
- A-6 would like to integrate their own workflows into the tool, explaining, "So that every department really does have its own individual workflows, which are then tailored to the daily work of the users."

5.4.4. Providers' Future Trends

Providers already have plans for future changes of their tool. We summarized trends, identified in providers' responses to the question "Looking to the future, what exciting developments or enhancements do you envision for your tool?" into the categories *Integration*, *Expansion*, and *Functionality*.

Integration
Two providers, P-6 and P-13, intend to integrate their tool into external systems. This improves usability because they don't have to switch between applications anymore. P-6 said that they want to integrate their tool into law firm software so "[...] that we take the leverage with us, so to speak, because they have already connected 100 law firms, that we integrate this into this software, so to speak, instead of approaching law firms directly ourselves, because some of them lack the know-how on how to connect it." P-13 noted their focus on targeting larger firms, "we're going to focus more on like a knowledge management platform, [so that] the knowledge management team can curate that knowledge even further."

Expansion
This trend includes scaling up internally, by increasing the employee count, and expanding into other markets. A total of seven providers (P-1, P-5, P-6, P-7, P-12, P-13, P-15) mentioned expansion as a future development for their companies. Providers P-5 and P-15 are looking to grow their team to be able to serve more customers. P-5 highlighted their plans to increase their employee number: "We have ten and we are currently fundraising. And then we want to somehow increase that to 25 within twelve months," showing their determination to expand the reach of their company. The other five providers, P-1, P-6, P-7, P-12, and P-13, want to extend their company's reach to different geographical regions, industries or user profiles. This increases and broadens and diversifies the company's customer base. P-13 provided an example of targeting a different user profile, noting that "[currently] we focus 100% on contracts," but in the future they would like to include "litigators that are not focusing on contracts but [...] letters documents." P-7 wants to expand into different industries, saying, "we wanted to start with the public sector," and later explains, "[...] financial and health section these kind of processes we will include them later with time." P-1 is already starting to expand into different geographical regions, stating, "we are currently in the process of introducing in Austria, in French-speaking Switzerland also."

Functionality
The intention to enhance the functionality of the solution is expressed by 11 providers (P-1, P-4 to P-11, P-14, P-15). P-9, for example, wants to include a template approach for standard use cases such as in "[...] mergers and acquisitions. An M&A department of a company advises the buyer or seller, typically commissioned by the buyer, and wants to complete the due diligence as quickly as possible." Other examples include:

- Adding more AI capabilities, mentioned by P-6, P-8, P-9, P-10 and P-15. Providers P-9, P-10 and P-15 noted that they would like to use other LLMs apart from ChatGPT in the future: "[...] not with OpenAI, but with open source and then self-hosted models" (P-9).
- Improving or expanding the processing of language, mentioned by P-1, P-4, P-5, P-8 and P-14. P-5 said: "What we are already working on are solutions that allow me to simply talk to the system," with P-4 working on including the same. This would enable the user to simply talk to the system instead of having to write, further increasing usability. P-8 wants the AI to correct spelling mistakes. P-1 and P-14 want the AI to recognize even more languages. Additionally, P-14 also noted that their tool only recognizes the Latin alphabet but "[...] no Arabic or no Russian[...] so those would probably be the first developments we should make."
- Rather complex ideas, which P-5, P-7, P-11 and P-15 want to include in the future. P-5 said they are working on a behavioral science model to check "[...] how this output would be perceived by the negotiating partner, contractual partner, whoever." P-7, developing an anonymization model, noted, "we are working on synthetic data for synthetic benchmark data set [...] for benchmarking such models."

5.5. Impact of Legal AI Tools

This section discusses the impact of Legal AI tools on the legal domain. In the subsection *Benefits*, we examine the benefits providers claim their tool offers and the ones appliers highlight from using the tool. Lastly, in the subsection *ELSA Concerns*, we address the ethical, legal and social impacts of these tools.

5.5.1. Benefits

Results are partially gathered from providers' responses to the question, "Could you elaborate on the unique value your tool brings to clients or the legal industry by addressing specific challenges or needs?" and appliers' answers to the questions, "What problem is the tool solving for you or your company?" and "Could you provide examples of successful applications of the tool?"

Promised Benefits
We list the benefits identified from provider interviews below, along with explanations and specific instances from the interviews. We assign each benefit an ID (e.g., PB-XX) for easy reference. Table 5.8 provides an overview of the benefits, categorized in Sovereignty, Access to Knowledge, Efficiency, and Transparency. It also includes the IDs of the providers who mentioned each benefit.

ID	Benefit	Category	Interviewee
PB-01	User-Driven Automation	Customization	P-11
PB-02	Transparent Case Data	Access to Knowledge	P-9
PB-03	Accessible Documents	Access to Knowledge	P-13, P-15
PB-04	Reduced Workload	Efficiency	P-6
PB-05	Familiarization	Efficiency	P-9
PB-06	Relevancy Check	Efficiency	P-6
PB-07	Time Savings	Efficiency	P-1, P-9, P-12, P-15
PB-08	Verdict Publication	Transparency	P-1, P-7

Table 5.8.: Overview of benefits by provider

- **PB-01 - User-Driven Automation**: Provider P-11 noted, "[...] we enable the lawyer himself or the specialist himself, let's say, to introduce automation." This significantly improves **Customization** for the user, allowing them to implement change as needed.
- **PB-02 - Transparent Case Data**: Provider P-9 claims, "The main function, or goal of [name of the tool], or the use of [name of the tool] is to bring transparency into the case

data." This enhances users' **Access to Knowledge** by providing a clearer overview of the documents available for a specific case.

- **PB-03 - Accessible Documents**: Providers P-13 and P-15 mentioned that their solution facilitates access to the company's knowledge base. This improves users' **Access to Knowledge** as exemplified by P-13, who says, "What we typically see is that, I mean if you're a lawyer working within a firm, I mean there's so much knowledge available within that firm but it's not accessible for every single person, right? [...] so we want to make sure that we really give access to knowledge."
- **PB-04 - Reduced Workload**: Provider P-6 highlights that their tool reduces the workload for users significantly, increasing **Efficiency**: "So, we currently process around 3,000 documents a day with the AI. So it's quite a lot when you think about how many employees you would need to go through all these documents."
- **PB-05 - Familiarization**: Provider P-9 notes that their tool makes it easier and faster for users to familiarize themselves with documents, thus increasing **Efficiency**: "[...][the user] is paid by the public sector, so to speak, and he doesn't have an infinite amount of time for it, nor does he get an infinite amount of money for it. In other words, efficiency is a big issue here, as well as efficiency when I take the case out again after two weeks of rest to get back into it quickly."
- **PB-06 - Relevancy Check**: Provider P-6 also mentioned that the tool can help decide what is relevant for the user to look at: "And this is something that our AI can filter out in advance and say, here, this is a transfer note, you don't need to take a closer look here. And here are the relevant things." This increases **Efficiency** because the user does not have to check every single document anymore.
- **PB-07 - Time Savings**: Providers P-1, P-9, P-12 and P-15 highlighted that their tool saves users time, thus increasing **Efficiency**. P-9 gives an example: "If you have to scan through 10 or 20 pages for a search term that you don't know, then that is simply a huge time saver."
- **PB-08 - Verdict Publication**: Providers P-1 and P-7 contribute to publishing court verdicts, which increases **Transparency** in the legal domain. P-7 explains that "[...] we are trying to offer innovative solutions for the courts to anonymize the verdicts and to publish them. And anonymizing court verdicts [...] is kind of difficult and super challenging; it's under, it's not an easy process."

Actual Benefits

Below we list the benefits identified from applier interviews, as well as explanations and specific examples from the participants. Her we also assign an ID (e.g., AB-XX) to the benefits. Table 5.9 summarizes the benefits, categorized into Discovery, Accessibility, Access to Knowledge, Data Processing and Efficiency. The IDs of the appliers who mentioned each benefit are also included.

ID	Benefit	Category	Interviewee
AB-01	Novel Insights	Discovery	A-6
AB-02	Enabling Users	Accessibility	A-7
AB-03	Accessible Documents	Access to Knowledge	A-2, A-9
AB-04	Process Large Amounts of Documents	Efficiency	A-3, A-6, A-7
AB-05	Familiarization	Efficiency	A-6, A-9
AB-06	Summary	Efficiency	A-3, A-7
AB-07	Less Personnel	Efficiency	A-5
AB-08	Time Savings	Efficiency	A-1, A-4, A-8

Table 5.9.: Overview of benefits by applier

- **AB-01 - Novel Insights**: Applier A-6 mentioned that "[...] often it is the case that so many new insights are gained that would probably not be gained in any other way or only with a great deal of effort." This enhances users' **Discovery** capabilities.
- **AB-02 - Enabling Users**: Applier A-7 noted that the tool enables even the most unskilled users, increasing **Accessibility**. A-7 goes on to explain that the reason is "[...] the complete elimination of the hurdle of technology knowledge, so every fool, to put it bluntly, who can read and write, can now use the technology because the models understand what you want from them through colloquial language."
- **AB-03 - Accessible Documents**: Appliers A-2 and A-9 confirmed that the tool provides easier access to the entire company's knowledge base, increasing **Access to Knowledge**. A-2 emphasized this by saying: "That means I no longer have to go through my old contracts and look where I can find this clause. Or, I only know my contracts and not those of my colleagues, then of course the clauses from the contracts of my colleagues are also retrieved, which are then set as suitable clauses. So it helps immensely to save time when calling up such clauses."
- **AB-04 - Process Large Amounts of Documents**: Appliers A-3, A-6, and A-7 noted that the solution increases their **Efficiency** by facilitating the processing of large amounts of documents. A-7 gave an example where they "[...] screened the entire investment portfolio for a global asset management or venture capital firm and extracted key contract data. That took a fraction of the time of what you would normally need with traditional methodology. And the quality was groundbreaking." A-3 highlighted that it is persuasive "[...] to be able to say, 'People, if thousands of documents come in somehow, don't worry, we have a tool ready.' That often doesn't happen, but it reassures everyone and perhaps gives them that nudge to give us the job after all."
- **AB-05 - Familiarization**: Appliers A-6 and A-9 said the tool helps familiarize themselves with documents. A-9 explained that as a beginner you don't have an overview but "[...]

with such an AI, [you can] quickly progress in a certain direction in a still unknown area of law. This will then improve the quality and speed," thus increasing users' **Efficiency**.

- **AB-06 - Summary**: Appliers A-3 and A-7 noted that the tool boosts **Efficiency** because it can "[...] quickly summarize documents of all kinds, especially contracts, and extract information with pinpoint accuracy" (A-7).
- **AB-07 - Less Personnel**: Applier A-5 observed an increase in users' **Efficiency** and "that's why the team is now relatively reduced. [...] we went in stages from 40 to 20, 15 and then to 7."
- **AB-08 - Time Savings**: Appliers A-1, A-4 and A-8 mentioned that the tool saves them time, increasing **Efficiency**. A-8 quantified this: "Efficiency has definitely increased. People have time for other things and, above all, we were able to publish significantly more, which was really the goal. Significantly more. We used to publish around 100 a year and now 1673, which is only possible if we can do it faster."

Benefits in Comparison
Looking at the benefits identified by both providers and appliers, we observe recurring themes. In the following, we compare these groups of benefits and discuss the importance of certain benefits. The categories mentioned most frequently are Access to Knowledge and Efficiency.

The category Access to Knowledge is mentioned by three providers (P-9, P-13, P-15) and two appliers (A-2, A-9). Here the most important benefit is Accessible Documents (PB-03, AB-03), mentioned four times in total. This benefit refers to the ability to easily access the entire company's knowledge base, which was previously an impossible task. Enabling users to quickly find their own and colleagues' documents significantly enhances the way legal professionals work.

Efficiency is the most mentioned category, highlighted by five providers (P-1, P-6, P-9, P-12, P-15) and eight appliers (A-1, A-3 to A-9). Within this category, the most important benefits are Familiarization (PB-05, AB-05), mentioned three times in total, and Time Savings (PB-07, AB-08)), mentioned seven times in total. Legal AI tools make users more efficient in familiarizing themselves with content that is either new or not recently reviewed. These tools also enhance time efficiency by handling repetitive or rudimentary tasks, allowing users to focus on more important matters. Both benefits notably improve the work of legal professionals.

In conclusion, we assert that the most important benefits are the **ability to access the company's knowledge base**, **time savings**, and the **simplification of familiarizing oneself with documents**. This claim is supported by various applier as well as provider interviews.

5.5.2. ELSA Concerns

Legal AI tools have an impact regarding Ethical, Legal and Social Aspects (ELSA) on the legal domain. Since ELSA concerns are not a primary focus of this work, there is no dedicated question in either of the interview guides. Despite this, one major topic emerged naturally, which we will address in the following.

AI and unemployment
The topic of AI and unemployment arose in 11 out of 24 interviews. The key question is:

> *Will the introduction of AI lead to unemployment or not?*

Interview participants had differing views on this issue, which we will explore now.

P-5 envisions AI to: "[...] replace, not support. So of course in the legal field, in my opinion, you can actually replace the lawyers and judges, they don't want to admit it, but you can actually replace everything." Two other providers (P-10, P-11) share the same vision: automating until the lawyer becomes unnecessary. Applier A-9 noted that while young professionals are enthusiastic about the Legal AI tool, "[...] they all say they're a bit afraid of losing their jobs: 'So what I did the whole morning before, I can do in a quarter of an hour now.'" This shows that the fear of unemployment due to growing implementation of AI is present for some legal professionals. This is not without reason. Participants P-6 and A-5 observed that the introduction of the tool led to a drastic reduction in employees, as mentioned in the previous subsection under AB-07.

Advocates of the opposite opinion, who believe that AI will not be able to replace the work of legal professionals, include P-2, P-5, P-8, P-9, P-10, P-15, A-6, A-9. They provide various reasons for this:

- Participants P-15 and A-9 argue that AI will not replace but rather **relieve humans from excessive work**. P-15 explains, "[...] people are always afraid of, well, I also have colleagues, 'Yeah, we'll get rid of ourselves with that' and [I say], 'No, we won't get rid of ourselves at all'. We don't have enough people anyway."
- Provider P-9 says that the introduction of AI will lead to **more interesting jobs rather then unemployment**, explaining, "[...] instead of firing the intern, [the legal professional] [...] can continue to employ him, but simply at a higher level [...] and he also has an interesting job."
- Participants P-2, P-5, A-6 and A-9 mention that legal experts are necessary "[...] simply because so much in the legal profession is **based on trust**" (P-5) and because "especially in our field, so in law, I think it would be wrong to just blindly trust the [tool]." (A-6) posing the need for humans to **evaluate the output** of the tool. This is supported by A-9, saying, "You need a certain amount of expertise to **ask the right questions**. And then you also have to make sure at the end that the results really are correct."

- Another reason is the **labor law for lawyers** [4] which is even more restrictive than the GDPR and forbids lawyers from applying AI holistically. This is mentioned by participants P-8, P-10 and P-15. Provider P-10 explains, "it's a regulated industry so even if you can you are not allowed to. [...] you can't have an automated system that's just suing people. So it's going to be almost automated but then with a human lawyer in the loop to review the different steps of the workflow."

It is interesting to note that only one participant addressed the moral acceptability of introducing more AI and consequently putting legal professionals out of work:

> "I think it's good, it's also morally justifiable to say, 'Okay, we're putting lawyers out of work somewhere,' because it simply has so much more value for the clients. But it's still something you have to think about, right. So you're just causing a very blatant disruption of the entire industry, which has also become more and more artificially complex. And that means it also profited from it for a long time. Nevertheless, it's a moral question, I think, which is also exciting to think about how to deal responsibly with something like that, simply because the legal area, well, of course, it's just text, but there's also a lot behind it somewhere." (P-5)

In conclusion, there are convincing reasons why AI will not replace legal professionals, but there are also instances where this is envisioned and has occurred. We did not investigate this ongoing debate thoroughly enough to make a definitive claim, so it remains an area to be explored in future work.

5.6. Challenges

During the adoption and development of Legal AI tools, various challenges arise. In the following subsections, we explore these challenges, divided into two categories: challenges specific to appliers in *Challenges during Adoption* and challenges specific to providers in *Challenges during Development*.

5.6.1. Challenges during Adoption

The introduction of a new system into existing business processes is always challenging. Appliers were asked, "Could you share some instances where your team successfully navigated challenges during the adoption (legal and/or technical)?" From their responses, we identified certain trends that we explore below.

Migration & Integration
Two main phases during the adoption are the migration of data into the new system and its integration with existing software components. Two appliers (A-3, A-7) reported issues

[4] in German "anwaltliches Berufsrecht"

during this process. A-7 explained, "[...] I would say there are always three main challenges: change management, which is essential, data migration, meaning legacy data migration and interface management, meaning integrating the new tools into the existing landscape." A-7 has already introduced the next challenge in this quote: Change Management.

Change Management
Introducing a new tool in a landscape of already existing processes brings change. This requires helping individuals manage the impact and minimize resistance. Apart from A-7, A-2 also mentioned this challenge, saying, "You have to change the way you work to a certain extent. So I think that's a longer way to get away from my routine in order to scale the new routine. In the end, of course, I get efficiency gains."

Slow Adoption Process
Three appliers (A-2, A-6, A-9) mentioned challenges that slow down the adoption process at their company. A-2 said that lawyers have to help implement the tool but "[...] the law firm reduces this because it wants to charge for this time.", referring to the business model of billable hours. A-6 and A-9 cited data privacy procedures as an reason for the slow adoption. A-6 noted, "The biggest problem is actually always [...] this data privacy agreement, that we can upload the data securely, so to speak, that the data does not end up on any servers where we do not want it, for example in the USA."

Reluctance
We already addressed this challenge in Subsection 5.2.2, arguing that there is a certain reluctance to change in the legal domain and that lawyers are skeptical of AI. Applier A-9 also highlighted reluctance by lawyers as one of the challenges during the adoption of the tool, saying it is "[...] a natural reflex of people who are not involved in these topics now, they first want to show what AI can't do."

5.6.2. Challenges during Development

We asked providers "Could you share some instances where your team successfully navigated challenges during the development (legal and/or technical)?" From their replies we identified two typical challenges that they face: *Training Data* and *Law Firm Software*. Below we discuss each point in more detail.

Training Data
The problem with training data in the legal domain is that it is hard to acquire, especially if you do not collaborate with a law firm that can provide this data. Seven providers (P-2, P-5, P-7, P-8, P-9, P-10, P-14) reported difficulties in acquiring training data. The root of the problem is that "you can't have real data because if something is not anonymized then you can't publish it as a benchmark" (P-7), because legal data is highly sensitive and cannot leave the legal institution, such as a law firm, that stores it. Provider P-10 describes the dilemma:

"It's a chicken and egg problem because we can't have a model with great performance before we have some data to actually feed into the model." Providers P-9 and P-14 note that their tools cannot train the model on one client's data and then apply it to another client, further reducing the available training data. P-9 narrows it down even further saying, "[...] drawing conclusions from one customer to another doesn't work under any circumstances. At the moment, I think you even have to be careful when drawing conclusions from one case to another." Third-party LLMs face the same issue because for these AI models "[...] the entire web is scraped somehow, and then, of course, the models are trained on it. And of course, you have a lot of junk in there, and these regulated industries, such as the German legal market, are characterized by the fact that you don't have a lot of good information publicly available" (P-5).

Law Firm Software
The challenge with Law Firm Software came up in six interviews (P-3, P-4, P-8, P-13, A-5, A-7). P-8 calls law firm software the heart of the law firm and explains, "now there are legal tech companies like ours that build smart solutions for certain use cases that law firm software cannot cover." However, for these two systems to interact, a functioning API is necessary. The problem is that most law firm software is based on legacy systems that were not designed for the interconnectedness of current software products, thus lacking easy-to-use APIs. P-3 illustrates the problem: "Hardly any [law firm software] really works the way you would expect it to in this day and age. It's not like you just have the clean API documentation and then you just get started. You're actually happy if there is an API or something comparable at all. And at least half of it works.", conveying the difficulty of connecting to law firm software. To escape this problem, the law firm of A-5 uses Salesforce to manage their company data. Other workarounds mentioned by interviewees include using an import option in the law firm software, so "[users] download the XML [in the tool], upload it again in their law firm software or notary software and then receive the structured data" (P-8) or "connect to the document management system of the law of the law firm" (P-13).

In conclusion, we claim that the two biggest challenges for providers of Legal AI tools are **acquiring training data** for AI models and the **difficulty of connecting to law firm software**.

5.7. Use Cases of Legal AI Tools

In this section we present the main findings of our interviews: the Use Cases that we identified. First, in Subsection *Providers' Use Cases*, we examine the use cases mentioned in providers' interviews. Next, in Subsection *Appliers' Use Cases*, we address the use cases from appliers' interviews. Each use case is assigned an ID (e.g., UC-XX). Furthermore, we map each use case to one of the Use Case Categories of Vladika, Meisenbacher, Preis, et al. [23], visualized in Table 3.1.

5.7.1. Providers' Use Cases

Providers were asked "Could you provide examples of successful applications of the tool?" and "What would you estimate to be the primary use cases for which your company is using the tool?" The following is a categorization of the use cases, identified from their answers.

Trustworthiness
Here use cases are included that assess or ensure the trustworthiness of documents. The use cases *Automation of Auditing*, *Risk Assessment* and *GDPR Compliance Check* for documents were not mentioned in provider interviews. However, there is an instance that fits into this category:

- **UC-01 - GDPR Compliance for Websites**: The solution offered by provider P-12 ensures GDPR compliance for websites. It assists users in creating data privacy policies. P-12 claims that the tool can "[...] map all the data protection requirements that a small company has in the app fully automatically in self-service."

This use case is not yet covered by the use cases identified by Vladika, Meisenbacher, Preis, et al. Consequently, we argue that the category *Trustworthiness* should be refined to not only cover GDPR compliance for documents but also include UC-01, focusing on websites.

Document Analysis
For analyzing documents, we identified instances of the following use cases:

- **UC-02 - File Difference Tracking**: Comparing documents to see changes that have been made has various applications, such as comparing different clauses: "To see the difference between the the clause in the documents to the one in [the tool] we can also ask for a comparison in a table format" (P-13). Provider P-4 stated that their solution is similar to ChatGPT, "except that we have a very extensive prompt library where you can select the various use cases, whether you want to compare documents with each other or [...]."
- **UC-03 - Document Classification**: Automatically classifying documents reduces the time users spend reading through them to understand their importance. Providers P-5, P-6 and P-11 mentioned this use case, with P-6 highlighting it as their most important use case.

We identified two additional use cases that fit into this category but are not yet listed there:

- **UC-04 - Legal Argument Extraction**: Automatically identifying legal arguments makes users more time efficient, accurate, and reduces the risk of human error. This use case was mentioned by provider P-10, saying that when you "get a reply from the counter party," their solution provides a module for "the identification and classification of their legal arguments."

- **UC-05 - Contract Review**: This involves examining a contract's terms, conditions, clauses and overall structure. Tools can help make that process faster and more accurate. This is another use case that is available in the prompt library of provider P-4 (mentioned in UC-02).

We argue that the newly identified use cases UC-04 and UC-05 should be included in the category *Document Analysis* as standalone use cases because they cannot be summarized under any of the existing ones.

Document Development
For developing documents, we found instances for all the use cases listed:

- **UC-06 - Contract Generation**: The automatic generation of legal contracts was mentioned by Providers P-2, P-4, P-5, P-13 and P-15. The tool assists users because it takes existing contracts and "[...] recycled them, so to speak. And you have a new document, which of course has to be reviewed again, but which already looks like something" (P-15). Provider P-13 noted that this helps with "[...] speeding up the drafting process".

- **UC-07 - Enrichment of Documents**: This refers to "adding additional information, annotations, or references to enhance legal documents" [23], offered by solutions of P-6 and P-9. P-6 gave an example: "Then we also have the option of using NLP models to go into the document in even more detail and analyze the document on a semantic level and assign further labels or tags to the document."

- **UC-08 - Summarization**: Providers P-3 and P-9 reported that their solution helps summarizing legal documents to retrieve the key points. P-9 gives an example where a lawyer told them that "[...] he had a document, he didn't really know how to categorize it. Then he wanted to have it all summarized with the chat, with two or three iterations and from the summary it became clear to him in which direction it was going."

Furthermore, we identified instances where other legal documents were generated through the tool:

- **UC-09 - Letter Generation**: Provider P-10 mentioned that their solution provides modules for the "[...] drafting of letters to counter parties."

- **UC-10 - Statement of Defense Generation**: The solution's prompt library of P-4 (mentioned in UC-02) also helps with writing statements of defense.

- **UC-11 - Lawsuit Generation**: The same prompt library also offers an option when "[...] a lawsuit should be written" (P-4).

The aforementioned instances of *Document Development* must be included in this category because they assist users in this process. We suggest renaming *Contract Generation* to *Legal Document Generation* to include UC-09 to UC-11.

Information Processing
Providers gave instances for all of the use cases in this category:

- **UC-12 - Anonymization**: Providers P-7 and P-13 offer solutions for the anonymization of sensitive data and personally identifiable information (PII) in legal documents. This is important, for example, when court verdicts need to be published.
- **UC-13 - Information Extraction**: Eight providers (P-2 to P-4, P-6, P-8, P-10, P-11, P-13) mentioned extracting information from documents. This includes instances such as"[...] file numbers, dates for a court hearing" (P-6), land register extracts (P-8), or "clauses and the definitions [and] [...] metadata attached to it, [retrieved] from the document management system" (P-13).
- **UC-14 - Document Retrieval**: The "Search and retrieval of documents from knowledge bases" [23] was mentioned by P-13 and P-15. These solutions speed up this process and allow the entire company knowledge base to be searched.

Legal Assistance
For this category, we validated the following use cases:

- **UC-15 - Digital Assistant**: Instances of "conversational agents that can help lawyers in their work" [23] are given by eight providers (P-2 to P-5, P-9, P-12, P-13, P-15). These tools incorporate functionality similar to ChatGPT, offering an interface where users can interact with the system.
- **UC-16 - Question Answering**: Six providers (P-2, P-4, P-5, P-9, P-10, P-11) explicitly mentioned getting questions answered by the tool. P-4 called this "e-Lawyer", giving the examples "answering complex legal questions, compliance questions, [and] data protection questions."

We added a further use case that was not yet part of any use case category:

- **UC-17 - Translation**: Legal professionals, especially those working in an international context, often need to translate text from one language to another. Provider P-14 offers a tool specifically for this purpose, emphasizing its necessity for lawyers: "That's because it's often the case that they suddenly have to translate 100 documents at once for a court case and it's complete chaos because they suddenly need this huge amount of translations."

Summarizing the provider interviews, we could not validate any use cases of the categories *Trustworthiness*, *Legal Dispute Resolution* and *Knowledge Management*.

We **validated** the use cases: File Difference Tracking (UC-02), Document Classification (UC-03), Contract Generation (UC-06), Enrichment of Documents (UC-07), Summarization (UC-08), Anonymization (UC-12), Information Extraction (UC-13), Document Retrieval (UC-14), Digital Assistant (UC-15) and Question Answering (UC-16).

We **refined** the categories *Trustworthiness* and *Document Development* to include the use cases: GDPR Compliance for Websites (UC-01), Letter Generation (UC-09), Statement of Defense Generation (UC-10) and Lawsuit Generation (UC-11).

We **expanded** the categories *Document Analysis* and *Legal Assistance* to include the use cases: Legal Argument Extraction (UC-04), Contract Review (UC-05), and Translation (UC-17).

5.7.2. Appliers' Use Cases

Appliers were asked, "Could you provide examples of successful applications of the tool?" and "What would you estimate to be the primary use cases for which your company is using the tool?" We categorize their answers using the same use case categories as for the providers.

Trustworthiness
For this category, we could only validate the use case we just identified:

- **UC-01 - GDPR Compliance for Websites**: Applier A-4, a client of P-12, confirmed using this tool to create the data privacy policy for their website. This demonstrates the credibility of the use case and its application as a Legal AI tool.

Document Analysis
The interviews provided instances of the following use cases for this category:

- **UC-02 - File Difference Tracking**: Besides tracking changes in clauses, comparing documents is important in Mergers & Acquisitions for creating redline summaries. A-6 explains the benefit of having a tool for this purpose: "[...] in the redline there's a long contract, with all the changes highlighted. And normally, old school, you go through it and look at all the changes and write them in parallel in an excel spreadsheet [...]. In [the tool] you can simply upload both documents and then you will be given a nice table, showing you which topic has been changed."
- **UC-03 - Document Classification**: The automatic classification mentioned by three providers was also brought up by applier A-3, validating its relevance for appliers.

- **UC-05 - Contract Review**: This newly identified use case was also mentioned by applier A-3 in response to the question about the main use case of the tool for his company. This justifies its existence in this list of use cases and supports its relevance for the legal domain.

Document Development
For this category, we found instances for the following use cases:

- **UC-06 - Contract Generation**: Appliers A-2 and A-7 noted that the tool they are using helps generate legal contracts. A-2 illustrates the difference between the process with and without the tool, saying that when they create contracts "[...] we always take many clauses from other old contracts and build on them, so we generate our knowledge and our clauses from old contracts. [The tool] automates this and brings clauses from old contracts into the contract according to the parameters we want."
- **UC-08 - Summarization**: Summarizing legal documents and retrieving the main takeaways is a use case mentioned by three appliers (A-6, A-7, A-9). Applier A-6, an admin for all user requests, claimed that this is the biggest use case for them, highlighting the benefit: "[...] if someone is new to a project and first needs to understand what this is all about, something like this is great, because then I can put 500 pages in there somehow and have a nice summary within 10 seconds. And at the same time I can ask follow-up questions and then ask questions specifically related to the topic."

Information Processing
Applier interviews provided instances of all the use cases listed in this category:

- **UC-12 - Anonymization**: The use case of anonymizing sensitive data is validated by applier A-8, where data is anonymized for the publication of court verdicts.
- **UC-13 - Information Extraction**: This use case is mentioned by four appliers (A-1, A-3, A-5, A-9). A-5 is extracting deadlines and file numbers from documents. A-9 is looking for more coherent information: "I now have one or more documents and want to know whether they contain certain clauses or not."
- **UC-14 - Document Retrieval**: Applier A-9 mentioned that the tool enables them to search through all of the law firm's data, which offers "[...] a considerable increase in know-how management."

Legal Assistance
Through the applier interviews we validated all use cases identified through provider interviews:

- **UC-15 - Digital Assistant**: Four appliers (A-4, A-6, A-7, A-9) provided instances of this use case, confirming its importance for legal professionals.

- **UC-16 - Question Answering**: This use case was mentioned by three appliers (A-6, A-7, A-9). A-6 noted that users frequently use the tool for "[...] fundamental legal questions". A-9 mentioned that after the tool summarized documents, "If it is still not completely clear because it is too unspecific, then I can ask a concrete question."
- **UC-17 - Translation**: Appliers A-1 and A-6 prefer using their tool with LLM capability over DeepL for translating text. A-1, a native English speaker, uses the solution to translate into German and explains: "We do have access to DeepL. However, if you create a nice prompt and you have more text, or you can give it a better context, I would argue that the GPT can translate it better."

Summarizing the applier interviews, we could not validate any use cases in the categories *Trustworthiness*, *Legal Dispute Resolution* and *Knowledge Management*.

We **validated** the use cases: File Difference Tracking (UC-02), Document Classification (UC-03), Contract Review (UC-05), Contract Generation (UC-06), Summarization (UC-08), Anonymization (UC-12), Information Extraction (UC-13), Document Retrieval (UC-14), Digital Assistant (UC-15), Question Answering (UC-16), and Translation (UC-17).

5.7.3. Comparison

When comparing providers' and appliers' Legal AI use cases, the biggest similarity between them is that we could not identify any instances of any use cases in the categories *Trustworthiness*, *Legal Dispute Resolution* and *Knowledge Management*, provided by Vladika, Meisenbacher, Preis, et al. [23]. For the use cases that also did not have any mentions in semi-structured interviews with legal professionals in their report (Automation of Auditing, GDPR Compliance Check, Error Detection, Ranking of Lawyers), we argue that **they only have theoretical applications in academia but no real-world application**.

In Table 5.10, we provide an overview of the use cases by category, including their unique IDs, the amount of times they were mentioned in interviews, and the IDs of the providers or appliers who mentioned them. Our newly discovered UC-01, UC-05, and UC-17 were validated by an applier and can therefore be considered to have practical applications. However, the use cases UC-04, UC-09 to UC-11, which were also newly discovered, could not be validated by appliers. This raises the question of whether they exist outside of their theoretical application. Nevertheless, the practical application of these use cases is likely, given that the providers we interviewed closely collaborate with their clients, as discussed in Subsection 5.3.1.

The use cases that were mentioned the most are UC-06, UC-16, UC-13 and UC-15 (in ascending order). All of them were widely used by appliers, validating their practical application in the legal domain. This leads us to claim that the **most important use cases of Legal AI**

tools are Contract Generation, Question Answering, Information Extraction and Digital Assistant.

Category	Use Case	UC-ID	Amount	Provider	Applier
Trustworthiness	GDPR Compliance for Websites	UC-01	2	P-12	A-4
Document Analysis	File Difference Tracking	UC-02	3	P-4, P-13	A-6
	Document Classification	UC-03	4	P-5, P-6, P-11	A-3
	Legal Argument Extraction	UC-04	1	P-10	-
	Contract Review	UC-05	2	P-4	A-3
Document Development	Legal Document Generation	UC-06	7	P-2, P-4, P-5, P-13, P-15	A-2, A-7
		UC-09	1	P-10	-
		UC-10	1	P-4	-
		UC-11	1	P-4	-
	Enrichment of Documents	UC-07	2	P-6, P-9	-
	Summarization	UC-08	5	P-3, P-9	A-6, A-7, A-9
Information Processing	Anonymization	UC-12	3	P-7, P-13	A-8
	Information Extraction	UC-13	12	P-2 to P-4, P-6, P-8, P-10, P-11, P-13	A-1, A-3, A-5, A-9
	Document Retrieval	UC-14	3	P-13, P-15	A-9
Legal Assistance	Digital Assistant	UC-15	12	P-2 to P-5, P-9, P-12, P-13, P-15	A-4, A-6, A-7, A-9
	Question Answering	UC-16	9	P-2, P-4, P-5, P-9, P-10, P-1	A-6, A-7, A-9
	Translation	UC-17	3	P-14	A-1, A-6

Table 5.10.: Legal AI use cases by category

6. Discussion

This chapter is structured in two sections. Firstly, we present the *Key Findings* of this thesis. Secondly, we address the *Limitations* that influenced these findings.

6.1. Key Findings

Licensing Preference
Table 5.1 shows that 9 out of 15 appliers chose to use commercial AI models for their solution. Only four providers opted for developing a proprietary solution and four are leveraging open-source solutions. Combining commercial and open-source we found 12 unique[1] providers that went for third-party models. Between these third-party models most providers preferred Azure Open AI's ChatGPT with all of the nine providers, choosing commercial models, going for ChatGPT. Provider P-3 explains the reason for the trend towards this option:

> "It was really very easy for us to connect [our system] to ChatGPT, so that the law firms [can work] in a data protection-compliant, and extremely simple way with AI."

User-Tool Interaction
Providers mainly offer their solution through a web-application, with 12 out of 15 providers using this method, as shown in Table 5.3. Only three providers have their solution embedded in Microsoft Word. This stands in contrast to user preference Pr-06, identified in 5.4.2, which emphasizes that appliers prefer to use their trusted Word environment. Providing a Word add-in would also reduce appliers' issues with changing their existing processes, identified as a common challenge in 5.6.1. The Word add-in is an under-recognized option but should be considered if the providers' solution and the appliers' requirements allow it, to better meet user demands.

Need for Human Verification
While visions about the future diverge, 23 out of 24 interview participants agreed that the tool cannot be used without a human in the loop. This human is imperative for checking the output of the AI because these models are not correct 100% of the time and the legal domain is too sensitive to tolerate mistakes. So after the tool delivers a result, the user has to revise and rework it. Having a human verify the AI's output not only ensures accuracy but also instills trust in users, counteracting their skepticism toward AI, identified as a major

[1]There were double mentions

challenge for customer acquisition in Subsection 5.2.2. Providers have to offer options for users to verify the output of the AI model. An example of such a feature is given by P-5:

> "What I think is important in all things is that, even if it works abstractly, of course, the lawyer always has to stay in the driver's seat a bit.[...] That's why we built a command center. The idea was a bit like a pilot flying an airplane. And when you're on autopilot, you're still controlling the instruments."

Resource Strain
Interviews provided opinions on the motivations behind the adoption of Legal AI tools from both the appliers' and providers' perspectives. Five providers highlighted resource strain on the appliers' side as the main reason. More specifically, the lack of time, excessive manual work, insufficient personnel, and the overwhelming number of documents. The majority of appliers supported this view, emphasizing their need to improve efficiency and handle large amounts of data. For providers of Legal AI tools, this shows the importance of developing solutions that directly address these pain points. Appliers experiencing similar challenges in their daily work should consider adopting Legal AI tools to better manage these situations.

Providers need Legal Professional
In Section 5.3, we identified the need for providers to have a legal professional on their team. Three providers mentioned that it is advantageous for acquiring new clients, as they often have a network of contacts, an approach identified in Subsection 5.2.2. Most importantly, a legal professional on the provider's team is necessary to be the intermediary between the technical and the legal sides, as most lawyers on the appliers' side lack technical know-how, noted by four providers. Two appliers identified this as a challenge during adoption. This communication between provider and applier is crucial. Appliers mentioned wanting to be able to contact the provider, as identified through Pr-05 in Subsection 5.4.2. This need is recognized by providers, as discussed by N-02 in Subsection 5.3.2. Additionally, communication is essential for providers trying to figure out the use cases of their tool, as concluded in Subsection 5.3.1, where many providers mentioned collaborating with their clients to understand user needs. Providers need a legal professional on the team who can lead this communication and act as a mediator between the legal and technical spheres.

Specific vs. Comprehensive Tool
We identified a significant dissonance among providers in Subsection 5.3.2, regarding whether users prefer a comprehensive tool that unites many use cases or a specific tool that focuses on just one use case. The following quotes illustrate that disagreement:

- "[The users] say, 'No, so either you can do everything or I won't use it'" (P-3).
- "[...]the solution has to specialize or focus specifically on the right use case." (P-2).

A specific solution offers more accurate results for a particular use case but requires users to learn and integrate another system into their existing processes, which is challenging, as

mentioned before. Finding a way to integrate a specific tool into an existing solution would be ideal but remains difficult, as identified in Subsection 5.6.2.

Prepared Prompts
Providers and appliers agree that the solution should provide prepared prompts, offering out-of-the-box use cases to increase usability, especially important for less tech-savvy users. This need (identified as N-06 for providers and Pr-07 for appliers) is the most mentioned in both Table 5.6 and Table 5.7. Consequently, providers should consider including such prompts in their solution if it offers LLM functionality.

Main Benefits
When comparing the benefits from the providers' perspective in Table 5.8 and benefits from the appliers' perspective in Table 5.9, we concluded that the most important benefits from using Legal AI tools are:

- The ability to easily access the entire company's knowledge base, mentioned by three providers and two appliers.
- Efficiency gains, highlighted by five providers and eight appliers. Here, the specific benefits of time savings and simplification of familiarizing oneself with documents were mentioned the most.

This key finding can motivate appliers who are uncertain about introducing Legal AI tools and provide guidance for providers on what their tool should focus on improving.

Missing Training Data
A major challenge during the development of Legal AI tools is the lack of training data, mentioned by seven providers. Since the legal domain involves highly sensitive information, this data is not openly available. One solution is to collaborate with a law firm that can provide this data for training the AI model. Another potential solution is the use of synthetic data (artificial data that mimics real-world data), explored by P-7 and P-10. Solving this problem would significantly advance development in the Legal AI sector, increasing competition and benefiting appliers by improving both the price and quality of the tools.

Main Use Cases
The main benefits are also reflected in the most frequently mentioned use cases. The comparison between providers' and appliers' use cases in Table 5.10 shows that the most important applications of Legal AI tools for both parties, in ascending order, are Contract Generation (UC-06), Question Answering (UC-16), Information Extraction (UC-13), and Digital Assistant (UC-15). This demonstrates that lawyers value tools the most that automate routine tasks and provide easy access to relevant legal information and documents.

6.2. Limitations

Despite the comprehensive approach of this study, several limitations must be acknowledged.

Generalizability
The scope of this research was limited by the availability and diversity of participants, with only 24 individuals interviewed. While this is a considerable sample size for this thesis, it is still not sufficient to make general claims. Breaking down the interviewees into groups further reduces the number to 15 providers and 9 appliers. This small sample size may limit the generalizability of the findings across different legal practices. Additionally, the gender ratio among interviewees is unequal, with only 5 out of 24 participants (20.83%) identifying as female, skewing the findings toward the male perspective. Future research would benefit from including a broader spectrum of stakeholders to provide a more holistic understanding of the field.

Participant Recruitment
When recruiting participants, we relied heavily on LinkedIn, contacting 167 out of 180 individuals (92.78%) and having 17 accept, resulting in 70.83% of interviewees coming from that source. This reliance on a digital tool favors companies with a strong online presence and overlooks those without one. Future research could benefit from a more varied approach, leveraging additional contact channels such as cold calling.

Biases
Researcher bias is a factor in this thesis since only the main researcher conducted and analyzed the interviews. To counteract this bias, we iterated over the transcripts and identified codes multiple times. Additionally, two other researchers were involved to verify the codes in the transcripts. *Desirability bias* may have affected providers, who might have presented their tool, its impact, and its use cases in an overly positive light. We attempted to mitigate this by reaching out to their direct clients. However, this was only possible for 5 out of 15 providers.

7. Conclusion

In this chapter we conclude the thesis by providing a *Summary*, as well as an *Outlook* on future research.

7.1. Summary

The goal of this thesis was to examine the Legal AI landscape from the perspective of tool providers and appliers to identify the gap between theoretical and practical applications of Legal AI tools. By doing so, we aimed to expand and refine the existing knowledge base, as characterized in Subsection 3.3. Interviews with experts led to a variety of interesting findings, discussed in Chapter *Results*, with key findings highlighted in Chapter *Discussion*. In the following, we want to summarize the findings that directly relate to the research questions guiding this thesis:

> **RQ1:** *What do startups reveal about the use cases they are developing NLP tools for?*
>
> **RQ2:** *How does that compare to the use cases of their clients and practitioners in the legal field?*

In total we identified 17 use cases in our interviews. Seven of these were newly identified by us and ten already existed in the knowledge base. Three of the new use cases could be identified by both providers and appliers:

- **UC-01 - GDPR Compliance for Websites**, assigned to category *Trustworthiness*, mentioned twice.
- **UC-05 - Contract Review**, assigned to category *Document Analysis*, mentioned twice.
- **UC-17 - Translation**, assigned to category *Legal Assistance*, mentioned three times.

The new use cases that could not be validated by appliers and each only mentioned once are:

- **UC-04 - Legal Argument Extraction**, assigned to category *Document Analysis*.
- **UC-09 - Letter Generation**, assigned to category *Document Development*.
- **UC-10 - Statement of Defense Generation**, assigned to category *Document Development*.
- **UC-11 - Lawsuit Generation**, assigned to category *Document Development*.

We were able to validate nine out of the ten already existing use cases.
In category *Document Analysis*:

- **UC-02 - File Difference Tracking**, mentioned three times.
- **UC-03 - Document Classification**, mentioned four times.

In category *Document Development*:

- **UC-06 - Contract Generation**, mentioned seven times.
- **UC-08 - Summarization**, mentioned five times.

In category *Information Processing*:

- **UC-12 - Anonymization**, mentioned three times.
- **UC-13 - Information Extraction**, mentioned 12 times.
- **UC-14 - Document Retrieval**, mentioned three times.

In category *Legal Assistance*:

- **UC-15 - Digital Assistant**, mentioned 12 times.
- **UC-16 - Question Answering**, mentioned 9 times.

The one use case we could not validate through applier interviews is part of category *Document Development*:

- **UC-07 - Enrichment of Documents**, mentioned twice.

In order to include the use cases UC-9 to UC-11, we refined the name of UC-06 from *Contract Generation* to *Legal Document Generation*.

The already existing use cases of categories *Trustworthiness*, *Legal Dispute Resolution* and *Knowledge Management* never surfaced in the interviews. The specific use cases Automation of Auditing, GDPR Compliance Check, Error Detection and Ranking of Lawyers could also not be validated in the report of [23]. This led us to refute their practical application in the legal field.

7.2. Outlook

The key findings and limitations of this thesis open several interesting directions for future research in the field of Legal AI tools.

Given the identified need for legal professionals capable of communicating between the legal and technical sides, future work should explore the benefits and challenges, as well as best practices of interdisciplinary collaboration between AI developers and legal professionals.

Improving the communication between these groups would significantly enhance the design and implementation of AI tools, ensuring they are better tailored to meet the practical needs of legal practitioners.

Our study of the Legal AI tool landscape was limited by the thesis deadline. Given the speed of technological advancements and the ever changing legal requirements, future research would benefit from a more longitudinal approach. Tracking the development of these tools and their use cases over time would provide insights into how Legal AI technologies develop, adapt, and impact legal practices as they become more integrated into the profession.

Running a behavioral science approach to understand the factors that contribute to distrust in AI among legal professionals is another interesting area for future research. This would involve identifying the psychological and social factors that cause hesitation or resistance to using AI and developing strategies to mitigate these concerns.

Another interesting direction for further investigation is the use of synthetic data. By offering realistic, anonymized data sets for AI model training and testing, synthetic data can help in overcoming the challenges related to obtaining sensitive legal data. This approach could ensure data security and privacy while accelerating the development of Legal AI tools.

A. General Addenda

In Section A.1, we provide the reader with the interview guides that were used for the 20 interviews that were held in German. Section A.2 includes a table with the direct quotes in German, translated into English. Finally, in Section A.3 we give an extensive overview of the codes derived from the interview transcripts.

A.1. Interview Guides in German

Figure A.1 and Figure A.2 show the questions asked to providers and appliers in German.

A.2. Translation

Table A.1 shows the original German quote and its English translation for the interviews that were held in German. The table is structured by applier and provider IDs in ascending order.

ID	German	English
A-2	Effizienzsteigerung, natürlich die größte Erwartung, dass man Zeit spart. Und das hat es sehr erfüllt.	Increasing efficiency, of course the greatest expectation, that you save time. And it has fulfilled that very successfully.
A-2	[. . .] auch Klauseln vorschlägt die von anderen Kanzleien kommen.	[...] also proposes clauses that come from other law firms.
A-2	Eine andere Verbesserung wäre, wenn [Name des Tools] mir Legal Notes an die Klausel machen.	Another improvement would be if [name of the tool] added legal notes to the clause.

ID	German	English
A-2	Heisst ich muss nicht mehr durch meine alten Verträge gehen und schauen wo ich diese Klausel finde. Oder, ich kenne ja nur meine Verträge und nicht die von meinen Kollegen dann rufen natürlich auch die Klauseln aus den Verträgen meiner Kollegen raus, die dann so gepasste Klauseln gesetzt werden.Also hilft es enorm, bei dem Aufrufen solcher Klauseln Zeit zu sparen.	That means I no longer have to go through my old contracts and look where I can find this clause. Or, I only know my contracts and not those of my colleagues, then of course the clauses from the contracts of my colleagues are also retrieved, which are then set as suitable clauses. So it helps immensely to save time when calling up such clauses.
A-2	Man muss seine Arbeitsweise in gewisser Weise umstellen. Also ich glaube, das ist ein etwas weiterer Weg von meiner Routine wegzukommen, um die neue Routine zu skalieren. Mache dann natürlich am Ende Effizienzgewinne.	You have to change the way you work to a certain extent. So I think that's a longer way to get away from my routine in order to scale the new routine. In the end, of course, I get efficiency gains.
A-2	[...] die Kanzlei mindert das, weil sie diese Zeit in Rechnung stellen will.	[...] the law firm reduces this because it wants to charge for this time.
A-2	[...] packen wir viele Klauseln immer aus anderen alten Verträgen und bauen darauf auf, also wir generieren unser Wissen und unsere Klauseln aus alten Verträgen. [Das Tool] automatisiert das und bringt Klauseln aus alten Verträgen nach den Parametern, die wir wollen, in den Vertrag.	[...] we always take many clauses from other old contracts and build on them, so we generate our knowledge and our clauses from old contracts. [The tool] automates this and brings clauses from old contracts into the contract according to the parameters we want.
A-3	Was alle lernen müssen, ist, so zwischen diesen Extremen zu leben, damit umgehen zu können, dass man nur 70% richtig ist und dass ich immer noch prüfe und dass ich das in meinen Arbeitsprozess einbinde.	What everyone has to learn is to live between these extremes, to be able to deal with the fact that you're only 70% right and that I'm still checking and incorporating this into my work process.

ID	German	English
A-3	Und die Erwartungen, die wir gestellt hatten, also diese Klassiker-Vertragsklauseln zu identifizieren, das ist in Erfüllung gegangen.	And the expectations we had of identifying these classic contract clauses have been fulfilled.
A-3	Die Hoffnung ist, dass Gen AI oder irgendwas da so ein bisschen hilft, dass wir halt sagen, also ich will wissen, das, das, das, das, das unter folgenden Bedingungen und dann fässt du mir das bitte hier in dieser Fassungszelle zusammen.	The hope is that Gen AI or something will help a little, so that we can say, I want to know this, this, this, this, this under the following conditions and then please summarize it here in this cell.
A-3	[...]braucht halt Language. Und das kann die ziemlich gut. Also wenn da so komplexe juristische Klauseln sind, das erkennt sie, weil es viel Language, also Anker-Text, an dem sie ansetzen kann. Aber, es gibt ja schon viele Dokumente, gerade, im kontinentaleuropäischen Raum, die arbeiten eher formularartig.	[...] simply needs language. And it can do that pretty well. So if there are complex legal clauses, it recognizes them because there is a lot of language, i.e. anchor text, that it can use as a starting point. But there are already many documents, especially in continental Europe, that work more like forms.
A-3	[...] es sagen zu können, 'Leute, wenn da jetzt noch irgendwie Tausende von Dokumenten kommen, keine Sorge, wir haben da ein Tool bereit.' Das kommt oft nicht, aber es beruhigt alle und gibt einem vielleicht dann noch so diesen Schubser, dann doch uns den Auftrag zu geben.	[...] to be able to say, 'People, if thousands of documents come in somehow, don't worry, we have a tool ready.' That often doesn't happen, but it reassures everyone and perhaps gives them that nudge to give us the job after all.
A-5	An dem Punkt, dass dann kein Mensch mehr drüber schauen muss ... das weiß ich nicht. Das ist zu gefährlich im rechtlichen Bereich. Wenn man da mal eine Frist reißt...	At the point where nobody has to look over it anymore ... I don't know. That's too dangerous from a legal point of view. If you miss a deadline...
A-5	[...] ist ja wirklich custom für uns. Und deswegen hat das auf jeden Fall keine Erwartungen enttäuscht.	[...] is really custom for us. And that's why it definitely didn't disappoint any expectations.

ID	German	English
A-5	Deswegen quasi ist das Team jetzt auch relativ reduziert. [...] wir sind in Schritten quasi von 40 auf 20, 15 und dann auf 7.	That's why the team is now relatively reduced. [...] we went in stages from 40 to 20, 15 and then to 7.
A-6	Es gab eine Erwartung, und zwar bei ChatGPT kann man ja Fragen direkt nachstellen, also wie einen Dialog führen. Und einen Dialog Möglichkeit haben wir bei [Name des Tools] noch nicht. Das hätten wir gerne.	There was an expectation, which was that ChatGPT would allow you to ask questions directly, like a dialog. And we don't yet have a dialog option with [name of the tool]. We would like to have that.
A-6	Aber die Nutzer haben immer und auch bei diesem Tool die Erwartungshaltung 'Ja, aber wir nutzen jetzt KI, das kann mir dann ja mein endgültiges Arbeitsprodukt herstellen. Also es kann mir dann komplett dieses Dokument erstellen in Word file mit unserer Formatierung,' und quasi, dass die nur noch unterschreiben müssen oder so.	But users always have the expectation, even with this tool, that 'Yes, but we're using AI now, so it can produce my final work product for me. So it can then completely create this document for me in a Word file with our formatting,' and they just have to sign it or something.
A-6	[...] bei ChatGPT kann man ja Fragen direkt nachstellen, also wie einen Dialog führen.	[...] with ChatGPT you can ask questions directly, just like having a dialog.
A-6	Dass dann wirklich jeder Fachbereich seine einzelnen Workflows hat, die dann zugeschnitten sind auf die tägliche Arbeit von den Nutzern.	So that every department really does have its own individual workflows, which are then tailored to the daily work of the users.
A-6	[...] oft ist es so, dass dadurch eben so viele neue Erkenntnisse gewonnen werden, die wahrscheinlich anders gar nicht entweder gewonnen werden würden oder nur mit sehr, sehr viel Aufwand.	[...] often it is the case that so many new insights are gained that would probably not be gained in any other way or only with a great deal of effort.
A-6	Gerade in unserem Fachbereich, also in der Juristerei, glaube ich, wäre es falsch, wenn man dem [Tool] einfach blind vertrauen würde.	Especially in our field, so in law, I think it would be wrong to just blindly trust the [tool].

ID	German	English
A-6	Das größte Problem ist eigentlich [...] dieses Data Privacy Agreement, dass wir quasi die Daten sicher hochladen können, dass die Daten nicht auf irgendwelche Server laufen, wo wir sie nicht haben möchten, zum Beispiel in den USA.	The biggest problem is actually [...] this data privacy agreement, that we can upload the data securely, so to speak, that the data does not end up on any servers where we do not want it, for example in the USA.
A-6	[...] in der Redline ist dann so ein langer Vertrag, ist dann angestrichen quasi, was sich verändert hat. Und normalerweise, Oldschool, geht man da durch und schaut sich alle Änderungen an und schreibt die nebenher parallel in so eine Excel [...]. In [dem Tool] kannst du beide Dokumente einfach reinladen und dann wird dir direkt eine schöne Tabelle gezeigt, welches Thema denn verändert wurde.	[...] in the redline there's a long contract, with all the changes highlighted. And normally, old school, you go through it and look at all the changes and write them in parallel in an excel spreadsheet [...]. In [the tool] you can simply upload both documents and then you will be given a nice table, showing you which topic has been changed.
A-6	[...] grundlegende juristische Fragen	[...] fundamental legal questions
A-6	Wenn jemand jetzt zum Beispiel neu in ein Projekt reinkommt und muss erst mal verstehen, was geht es hier, ist sowas halt super, weil dann kann ich 500 Seiten irgendwie da reingeben und habe innerhalb von 10 Sekunden irgendwie eine schöne Zusammenfassung, kann dann gleichzeitig nochmal nachgehend Fragen stellen und dann eben Fragen, also konkret auf das Thema nochmal bezogen.	[...] if someone is new to a project and first needs to understand what this is all about, something like this is great, because then I can put 500 pages in there somehow and have a nice summary within 10 seconds. And at the same time I can ask follow-up questions and then ask questions specifically related to the topic.
A-7	Ich hatte auch sehr überzogene Erwartungen, im Sinne von, dass das Tool quasi out-of-the-box die Arbeit alleine macht, was natürlich unrealistisch ist.	I also had very exaggerated expectations, in the sense that the tool would do the work out-of-the-box, which is of course unrealistic.

ID	German	English
A-7	[...] dass natürlich die Nutzerfreundlichkeit noch höher wird, dass noch mehr out of the box schon vorhanden ist.	[...] of course, that the usability will be even higher, that even more is already available out of the box.
A-7	[...] dass man halt nicht mehr manuell das Tool quasi anlernen muss und die Qualität dahin entwickeln muss, wo sie sein soll, dass sie mehr oder weniger auch durch künstliche Intelligenz übernommen werden kann.	[...] that you no longer have to train the tool manually, so to speak, and develop the quality to where it should be, so that it can more or less be taken over by artificial intelligence.
A-7	[...] das völlige Wegfallen der der Hürde der Technologiekenntnis, also jeder Depp, mal ganz platt gesagt, der lesen und schreiben kann, kann die Technologie inzwischen nutzen, weil eben die Modelle, das, was man von ihnen will, verstehen durch Umgangssprache.	[...] the complete elimination of the hurdle of technology knowledge, so every fool, to put it bluntly, who can read and write, can now use the technology because the models understand what you want from them through colloquial language.
A-7	[...] für eine globale Asset-Management- oder Venture-Capital-Firma das komplette Beteiligungsportfolio gescreent haben und wesentliche Vertragsdaten extrahiert haben. Das hat einen Bruchteil der Zeit nur gebraucht von dem, was man normalerweise bei traditioneller Methodik brauchen würde. Und die Qualität war bahnbrechend.	[...] screened the entire investment portfolio for a global asset management or venture capital firm and extracted key contract data. That took a fraction of the time of what you would normally need with traditional methodology. And the quality was groundbreaking.
A-7	[...] Juristen jetzt natürlich im Durchschnitt nicht die technologieaffinsten Menschen der Welt und auch nicht die change-affinsten Menschen der Welt.	[...] on average, lawyers are of course not the most technology-savvy people in the world, nor are they the most change-savvy people in the world.

ID	German	English
A-7	[...] ich würde sagen drei wesentliche Herausforderungen, sind es immer wieder: Change-Management, ganz wesentlich, Datenmigration, also Legacy-Datenmigration und Schnittstellen-Management, also Einbindung der neuen Tools in die bestehende Landschaft.	[...] I would say there are always three main challenges: change management, which is essential, data migration, meaning legacy data migration and interface management, meaning integrating the new tools into the existing landscape.
A-7	[...] schnell Dokumente aller Art, insbesondere Verträge zusammenfassen und punktgenau Informationen extrahieren.	[...] quickly summarize documents of all kinds, especially contracts, and extract information with pinpoint accuracy.
A-8	Einer [der Anfragen] war sämtliche Kantone, also sämtliche Ortschaften [...] in unserem Kanton, dass die anonymisiert werden, dass die erkannt werden.	One of [the requests] was all cantons, meaning all localities [...] in our canton, that they are anonymized, that they are recognized.
A-8	[...] die hätten es natürlich am liebsten, dass alles automatisch ist, sie müssen gar nichts mehr gucken.	[...] of course they would prefer everything to be automatic, so they don't have to look at anything.
A-8	Die Effizienz wird definitiv gesteigert. Die Leute haben Zeit für was anderes und eben vor allem, wir konnten, was ja wirklich das Ziel war, bedeutend mehr publizieren. Bedeutend mehr. Vorhin etwa 100 im Jahr und jetzt 1673. Das geht nur, wenn es schneller geht.	Efficiency has definitely increased. People have time for other things and, above all, we were able to publish significantly more, which was really the goal. Significantly more. We used to publish around 100 a year and now 1673, which is only possible if we can do it faster.

ID	German	English
A-9	Also das ist auch meine dringende Empfehlung an alle Personen, die hier bei uns das Tool nutzen. Dass ich denen natürlich sage, also erstens muss die Frage richtig gestellt sein. Und zweitens müsst ihr zwingend die Richtigkeit der Antwort überprüfen. Also wenn ihr dann ein Ergebnis habt, das erstmal gut klingt, auch Normen zitiert, dann geht bitte nochmal in die Normen und guckt euch das an, ob das wirklich genau so da drin steht.	So that is also my urgent recommendation to everyone who uses the tool here. Firstly, the question must be asked correctly. And secondly, you have to check that the answer is correct. So if you then have a result that sounds good at first and also quotes standards, then please go back to the standards and check whether it really says exactly what it claims.
A-9	[...] Document Management System, dass wir dann eigentlich da direkt die Schnittstelle bauen, das heißt, dass die Daten, die bei uns in der DMS sind, dann automatisch auch als Daten für das Tool zur Verfügung stehen.	[...] Document Management System, so that we then actually build the interface directly, which means that the data that we have in the DMS is then automatically available as data for the tool.
A-9	Man braucht schon eine gewisse Sachkunde, um die richtigen Fragen zu stellen. Und du musst dann aber auch noch am Ende auch gucken, dass es wirklich passt, was rausgekommen ist.	You need a certain amount of expertise to ask the right questions. And then you also have to make sure at the end that the results really are correct.
A-9	[...] die Skepsis der Partner, oder auch der hohe Anspruch an eine Kanzlei - kann man auch so positiv ausdrücken - was Datenschutz und Mandantengeheimnis angeht.	[...] the skepticism of the partners, or the high demands placed on a law firm - to put it in a positive way - with regard to data protection and client confidentiality.
A-9	[...] ein natürlicher Reflex von Leuten, die jetzt nicht in diesen Themen drin sitzen, die wollen erstmal zeigen, was die KI nicht kann.	[...] a natural reflex of people who are not involved in these topics now, they first want to show what AI can't do.
A-9	Ich habe jetzt ein Dokument oder mehrere und will wissen, ob da jetzt gewisse Klauseln drin sind oder nicht.	I now have one or more documents and want to know whether they contain certain clauses or not.
A-9	[...] eine erhebliche Steigerung des Know-how-Managements.	[...] a considerable increase in know-how management.

ID	German	English
A-9	Wenn es dann noch nicht ganz klar ist, weil es zu unspezifisch ist, dann kann ich da nochmal eine konkrete Nachfrage stellen.	If it is still not completely clear because it is too unspecific, then I can ask a concrete question.
A-9	[...] mit so einer KI, [kann man] erst mal ganz schnell in eine gewisse Richtung kommen, im noch unbekannten Rechtsgebiet. Dadurch wird dann die Qualität und die Geschwindigkeit besser.	[...] with such an AI, [you can] quickly progress in a certain direction in a still unknown area of law. This will then improve the quality and speed.
A-9	Und sagen halt, sie haben alle so ein bisschen Angst eher so, um ihren Arbeitsplatz zu haben. Also was ich jetzt vorher den ganzen Vormittag gemacht habe, geht jetzt hier in der Viertelstunde.	And they all say they're a bit afraid of losing their jobs. So what I did the whole morning before, I can do in a quarter of an hour now.
P-1	[...] die haben sehr strikte Vorgaben, ob sie in die Cloud dürfen, mit welchen Daten sie in die Cloud dürfen	[...] they have very strict guidelines as to whether they are allowed to enter the cloud and with which data they are allowed to enter the cloud.
P-1	[...] wir haben wir bauen ein was was wir können, um zu optimieren und bauen nicht nur auf KI.	[...] we build in what we can to optimize and don't just rely on AI.
P-1	[...] wir haben mein Netzwerk ein bisschen abgegrast.	[...] we've done a bit of a sweep of my network.
P-1	[...] der sales cycle bei gerichten mindestens zwei jahre	[...] the sales cycle for courts lasts at least two years.
P-1	[Die KI] macht die Vorarbeit. Wir sagen dass [unser Tool ist] wie ein Praktikant und der Praktikant der ist nicht schlecht aber er ist nicht so gut wie die Person die das dann verifizieren muss und dann kann man auf den Entscheid spezifisch dann noch die Anpassungen machen, die es dann benötigt.	[The AI] does the preliminary work. We say that [our tool is] like an intern and the intern is not bad, but he is not as good as the person who then has to verify it and then you can make the specific adjustments to the decision that are required.
P-1	Früher hat man gedacht 'Ich will ein Ding für alle Probleme.'	in the past, people thought, 'I want one thing for all problems.'

ID	German	English
P-1	Jetzt kommt man [...] wieder zurück darauf, dass man dann halt anstelle einer großen Lösung hat man dann vielleicht fünf.	Now you come back [...] to the fact that instead of one big solution, you then have maybe five.
P-1	Aber vor zwei Jahren musste man noch den Leuten erklären, was KI ist 'Und nein, der Weltuntergang steht nicht unmittelbar bevor', also ein bisschen pointiert ausgedrückt und jetzt ist es fast schwieriger weil viele meinen, sie wissen viel weil sie vielleicht ein bisschen wissen und dann stellen sie Erwartungen und haben Erwartungen, die nicht erfüllt werden können.	But two years ago you still had to explain to people what AI is 'And no, the end of the world is not imminent', to put it a bit pointedly, and now it's almost more difficult because many people think they know a lot because they perhaps know a little and then they set expectations and have expectations that can't be met.
P-1	wir sind gerade daran einzuführen in Österreich, in der französisch sprechenden Schweiz auch.	we are currently in the process of introducing in Austria, in French-speaking Switzerland also.
P-2	Juristen sind so 'Oh Gott, ist da ein Fehler gemacht? Das Tool ist nicht einsetzbar.'	Lawyers are like 'Oh God, has a mistake been made? The tool cannot be used.'
P-2	[...] mehr Marktinsight zu bekommen, was eigentlich genau die Challenges sind und wie am Ende auch produktiver AI-Einsatz aussehen kann.	[...] to gain more market insight into what exactly the challenges are and what productive use of AI can look like in the end.
P-2	Das Problem ist da üblicherweise nicht, dass die Dinge Open Source oder gratis sein müssen, um zu funktionieren, sondern dass die Lösung sich konkret auf den passenden Anwendungsfall spezialisieren oder fokussieren muss.	The issue is usually not that things have to be open source or for free in order to work, but that the solution has to specialize or focus specifically on the right use case.
P-3	Es ist uns wirklich sehr leicht gefallen, [unser System] an ChatGPT anzubinden, sodass die Kanzleien bei uns datenschutzkonform, extrem einfach mit KI, wie ChatGPT [arbeiten können].	It was really very easy for us to connect [our system] to ChatGPT, so that the law firms [can work] in a data protection-compliant, and extremely simple way with AI.

ID	German	English
P-3	Also man kann es gar nicht seriös beschreiben, um jemandem, der sowas nicht kennt, eine Vorstellung zu geben, wie qualvoll teilweise die Arbeit mit einer solchen Software ist, die so dreimal am Tag abstürzt und dann eine Stunde braucht, um sich wieder zu fangen. Das kann man sich heute kaum noch vorstellen. Das ist aber immer noch Status quo, Stand der Dinge [...]. Und das war damals die Motivation, das besser zu machen, zu überlegen, was kann man überhaupt besser machen.	It's impossible to describe it in any serious way to give someone who doesn't know anything about it an idea of how agonizing it can be to work with software that crashes three times a day and then takes an hour to recover. It's hard to imagine today. But that is still the status quo, the state of things [...]. And that was the motivation back then to do things better, to think about what could be done better.
P-3	Die sagen, 'Ne, also entweder ihr könnt alles oder ich benutze es halt nicht.'	They say, 'No, so either you can do everything or I won't use it.'
P-3	Es geht bei kaum [einer Kanzleisoftware] wirklich so, wie man es erwarten würde in der heutigen Zeit. Das ist nicht so, dass du halt die cleane API-Dokumentation hast und dann legst du da einfach los. Du bist überhaupt froh, wenn es überhaupt eine API oder irgendwas Vergleichbares gibt. Und die dann wenigstens zur Hälfte funktioniert.	Hardly any [law firm software] really works the way you would expect it to in this day and age. It's not like you just have the clean API documentation and then you just get started. You're actually happy if there is an API or something comparable at all. And at least half of it works.
P-4	[...] für den Dokumentenvergleich, wo ich jetzt meine Auftragsbedingungen in meiner Rechtsverteilung vergleichen möchte mit denen, die mir irgendwie einen Kunden der einen Auftraggeber zugeben. Um dort die Widersprüche zu identifizieren und so. Das sind Sachen, die wir nur mit Opus machen, weil GPT-4 nicht genau genug ist dafür.	[...] for the document comparison, where I now want to compare order conditions in my legal distribution with those that a customer or a client gives to me. In order to identify the contradictions and so on. These are things that we only do with Claude 3 Opus, because GPT-4 is not accurate enough for that.

ID	German	English
P-4	Bei jeder Anfrage springt als erstes unsere semantische Suche an und im zweiten Schritt werden die Ergebnisse dann mit dem Prompt von einem Large Language Modell verarbeitet.	For each query, our semantic search is the first step and in the second step the results are processed with the prompt from a large language model.
P-4	Und ich mache halt viel Vortragstätigkeit, Keynotes bei Konferenzen und das ist halt hilfreich, wenn man mich schon länger kennt. Und dadurch, dass man mich halt schon länger kennt, haben wir aktuell eigentlich nur inbound. Wir arbeiten die ganzen Anfragen ab, die wir kriegen.	And I do a lot of lecturing, keynotes at conferences, and that's helpful if people have known me for a while. And because people have known me for a while, we actually only have inbound at the moment. We work on all the requests we get.
P-4	Jetzt kaufen wir die Antworten bei den Anwälten ein. Und da sind wir dann irgendwie in der Pflicht gewesen, den Anwälten, damit wir denen nicht so viel zahlen müssen für die Antworten, auch Technologie zur Verfügung zu stellen, dass sie schneller die Fragen beantworten können.	Now we are buying the answers from the lawyers. And then we were somehow obliged to provide the lawyers with technology so that they can answer the questions more quickly, so that we don't have to pay them so much for the answers.
P-4	[...] es gibt dedizierte Positionen auch in den Legal Tech-Bereichen, in vielen Kanzleien und Rechtsabteilungen, die nicht unbedingt von Juristen ausgefüllt werden.	[...] there are dedicated positions also in the legal tech areas, in many law firms and legal departments, which are not necessarily occupied by lawyers.
P-4	Bei den kleineren Kanzleien ist das so, dass die dankbar sind, wenn wir die Sachen für die aufsetzen und sie sich nicht damit beschäftigen müssen.	The smaller law firms, they are grateful if we set up the things for them and they don't have to deal with it.
P-4	[...] außer dass wir halt eine sehr umfangreiche Prompt-Library haben, wo du dann die verschiedenen Use-Cases schon auswählen kannst, ob jetzt Dokumente miteinander verglichen werden sollen oder [...].	except that we have a very extensive prompt library where you can select the various use cases, whether you want to compare documents with each other or [...].

ID	German	English
P-4	[...] eine Klage geschrieben werden soll	[...] a lawsuit should be written
P-4	Komplexe rechtliche Fragen, Compliance-Fragen, Datenschutz-Fragen beantworten.	Answering complex legal questions, compliance questions, data protection questions.
P-5	Und [den Anwälten] kann man nicht sagen 'On-Prem', weil die wollen halt irgendwie was haben, was sie einfach mal so auswählen können, irgendwie im Web.	You can't tell [the lawyers] 'on-prem', because they just want to have something that they can simply select, somehow on the web.
P-5	Je nachdem, wie die Sicherheitsanforderungen sind und auch wie die Möglichkeiten sind beim Kunden.	Depending on what the safety requirements and also what the possibilities are for the customer.
P-5	[...] die kennen sich ja nirgendwo in der Tiefe aus und gerade nicht in so Rechtsbereichen.	[...] they don't know anything in depth and especially not in these legal areas.
P-5	[...] ein paar Kanzleien ausgenommen, hast du kein externes Management oder so, das heißt, du sprichst halt mit irgendeinem Partner, der dafür zuständig, sich irgendwie zuständig erklärt hat oder ausgewählt wurde, der muss diese Sales Calls irgendwo um seine übrige Mandatsarbeit herum bauen.	[...] with the exception of a few law firms, you don't have any external management or anything like that, which means you just talk to some partner who is responsible for it, who has somehow declared himself responsible for it or has been selected, who has to build these sales calls somewhere around the rest of his client work.
P-5	Man probiert alles in so logische Beziehungen zu setzen. [...] Und anhand dieser Beziehung kann man schnell checken, ob irgendwas halluziniert wurde oder nicht.	You try to put everything into logical relationships. [...] And on the basis of this relationship you can quickly check whether something was hallucinated or not.

ID	German	English
P-5	Was glaube ich wichtig ist bei allen Sachen, ist, dass auch wenn es abstrakt natürlich geht, dass der Anwalt oder die Anwältin immer so ein bisschen im Driver-Seat bleiben muss. [...] Deswegen haben wir so ein Command-Center gebaut. Der Gedanke war ein bisschen wie so ein Pilot, der irgendwie ein Flugzeug fliegt. Und wenn du auf Autopilot bist, ist es ja trotzdem so, dass du die Instrumente kontrollierst.	What I think is important in all things is that, even if it works abstractly, of course, the lawyer always has to stay in the driver's seat a bit.[...] That's why we built a command center. The idea was a bit like a pilot flying an airplane. And when you're on autopilot, you're still controlling the instruments.
P-5	[...] wir ganz konkrete Use Cases schon besprechen mit den Kunden tatsächlich.	[...] we are already discussing very specific use cases with customers.
P-5	[...] um Vertrauen herzustellen. [...] Und ich glaube, man muss das alles in der praktischen Umsetzung Schritt für Schritt machen. Also, du fängst ja auch typischerweise in den Kanzleien, wenn wir jetzt sagen, okay, wir machen jetzt irgendwie ein Projekt mit in der Kanzlei, [...] dann ist es ja nicht die ganze Kanzlei, sondern es ist meistens immer eine Praxisgruppe.	[...] to establish trust. [...] And I think you have to do it all step by step in practical implementation. So, typically you start in the law firms, when we say, okay, we're going to do a project in the law firm, [...] it's not the whole law firm, it's usually always a practice group
P-5	[...] will natürlich auch jede Kanzlei einen eigenen Fingerabdruck auf diesem Arbeitsprodukt haben. Das heißt, du musst sozusagen diese Dokumente anbinden.	[...] of course, every law firm also wants to have its own fingerprint on this work product. This means that you have to link these documents, so to speak.

ID	German	English
P-5	ich glaube, dass es schon gut ist, auch moralisch kann man das gut vertreten, dass man sagt, 'okay, wir machen Anwälte irgendwo arbeitslos,' weil es einfach so viel mehr Wert für die Kunden. Aber es ist trotzdem halt was, was man sich überlegen muss, ne. Also man macht halt eine ganz ganz krasse Disruption von der gesamten Branche, die allerdings auch immer künstlich komplexer wurde, ne. Und das heißt auch lange davon profitiert hat. Trotzdem ist es eine moralische Frage, glaube ich, die auch mal spannend ist, sich mal zu überlegen wie man also verantwortungsvoll mit sowas umgeht einfach, weil natürlich der Rechtsbereich, also klar, es ist nur Text, aber da steckt auch viel noch irgendwo dahinter.	I think it's good, it's also morally justifiable to say, 'Okay, we're putting lawyers out of work somewhere,' because it simply has so much more value for the clients. But it's still something you have to think about, right. So you're just causing a very blatant disruption of the entire industry, which has also become more and more artificially complex. And that means it also profited from it for a long time. Nevertheless, it's a moral question, I think, which is also exciting to think about how to deal responsibly with something like that, simply because the legal area, well, of course, it's just text, but there's also a lot behind it somewhere.
P-5	[...] ersetzen, nicht unterstützen. Also du hast natürlich in dem anwaltlichen Bereich meines Erachtens kannst du eigentlich die Anwälte, Anwältinnen und Richter und Richterinnen, die wollen das nicht so wahrhaben, aber eigentlich kann man alles ersetzen.	[...] replace, not support. So of course in the legal field, in my opinion, you can actually replace the lawyers and judges, they don't want to admit it, but you can actually replace everything.
P-5	[...] weil einfach auch viel im anwaltlichen Bereich auf so Vertrauen basiert.	[...] simply because so much in the legal profession is based on trust.
P-5	Wir haben zehn und wir fundraising gerade. Und wollen dann innerhalb von so zwölf Monaten jetzt irgendwie auf so 25 aufstocken.	We have ten and we are currently fundraising. And then we want to somehow increase that to 25 within twelve months.
P-5	woran wir jetzt schon arbeiten, sind Lösungen, dass ich einfach einfach mit dem System sprechen kann.	What we are already working on are solutions that allow me to simply talk to the system.

ID	German	English
P-5	[...] wie dieser Output von dem Verhandlungspartner, Vertragspartner, wer auch immer, aufgefasst werden würde.	[...] how this output would be perceived by the negotiating partner, contractual partner, whoever.
P-5	[...] das gesamte Web irgendwo gescrapet wird und dann werden natürlich darauf die Modelle trainiert. Und du hast natürlich viel Schrott drin und gerade so diese regulierten Industrien, wie zum Beispiel der deutsche Rechtsmarkt, zeichnen sich dadurch aus, dass du halt nicht viel Information öffentlich verfügbar hast, die gut sind.	[...] the entire web is scraped somehow and then, of course, the models are trained on it. And of course you have a lot of junk in there and these regulated industries, such as the German legal market, are characterized by the fact that you don't have a lot of good information publicly available.
P-6	Ja, bei einer Kanzlei hat sich [der Deal] ein bisschen verzögert, weil die selber aktuell eine größere Infrastrukturumstellung machen auf ein neues Anwaltssystem, weil die einfach auch gemerkt haben für sich, dass deren Software gar nicht in der Lage wäre, so einfach an unser System anzudocken.	[The deal] has been delayed a bit at one law firm because they are currently undergoing a major infrastructure changeover to a new law firm system because they simply realized that their software would not be able to dock onto our system so easily.
P-6	[...] datenschutzrechtliche Implikationen, dass Anwälte da noch ein bisschen vorsichtig und zurückhaltend sind.	[...] data protection implications, so lawyers are still a little cautious and reluctant.
P-6	Schwierig. Also wir haben zwar eine Legal-Tech-Abteilung, so ist es nicht, aber die haben natürlich eine juristische Ausbildung und keine technische Ausbildung. Und trotzdem dass man eben diese Legal-Tech-Abteilung hat, war es immer noch schwierig, diese Kommunikation dann hinzubekommen und sich abzustimmen, welches Problem überhaupt gelöst werden soll und in welcher Form.	Difficult. We do have a legal tech department, it's not like that, but of course they have legal training and no technical training. And despite the fact that we have this legal tech department, it was still difficult to get this communication right and to agree on which problem should be solved and in what form.

ID	German	English
P-6	Ja, also pro Tag verarbeiten wir aktuell mit der KI um die 3000 Dokumente. Also es ist schon ordentlich, wenn man sich bedenkt, wie viele Mitarbeiter man dafür bräuchte, um diese ganzen Dokumente durchzugehen.	So, we currently process around 3,000 documents a day with the AI. So it's quite a lot when you think about how many employees you would need to go through all these documents.
P-6	Und das kann dann halt auch unsere KI, erstmal vorab rausfiltern, sagen, hier, das ist ein Transfervermerk, brauchst du hier gar nicht genauer weiter angucken. Und hier sind die relevanten Dinge.	And this is something that our AI can filter out in advance and say, here, this is a transfer note, you don't need to take a closer look here. And here are the relevant things.
P-6	[...] dass wir quasi den Leverage dadurch mitnehmen, weil die schon 100 Kanzleien angebunden haben, dass wir quasi das in diese Software integrieren, anstatt dass wir selber direkt an Kanzleien drantreten, weil da teilweise auch dann das Know-how fehlt, wie man das anschließt.	[...] that we take the leverage with us, so to speak, because they have already connected 100 law firms, that we integrate this into this software, so to speak, instead of approaching law firms directly ourselves, because some of them lack the know-how on how to connect it.
P-6	Dann haben wir noch die Möglichkeit, mittels NLP-Modellen im Prinzip noch detaillierter in das Dokument reinzugehen und quasi auf semantischer Ebene dann das Dokument zu analysieren und dem Dokument dann weitere Labels oder Tags zuzuweisen.	Then we also have the option of using NLP models to go into the document in even more detail and analyze the document on a semantic level and assign further labels or tags to the document.
P-6	[...] Aktenzeichen, Termine zu einem Gerichtstermin.	[...] file numbers, dates for a court hearing.
P-8	[. . .] die größte Zeitschrift aus dem Rechtsmarkt, oder sagen wir mal die relevanteste Zeitschrift aus dem Rechtsmarkt, wenn es um Neuerungen geht.	[. . .] the biggest magazine from the legal market or let's say the most relevant magazine from the legal market when it comes to innovations.

ID	German	English
P-8	[...] jetzt gibt es Legal-Tech-Unternehmen wie unseres, die bauen smarte Lösungen für gewisse Use-Cases, die die Kanzlei-Software nicht abdecken kann.	[...] now there are legal tech companies like ours that build smart solutions for certain use cases that law firm software cannot cover.
P-8	[Benutzer] laden sich [im tool] die XML runter, laden die in ihrer Kanzlei-Software oder Notariats-Software wieder hoch und kriegen dann die strukturierten Daten übergeben.	[users] download the XML [in the tool], upload it again in their law firm software or notary software and then receive the structured data.
P-9	Alle Parteien waren ziemlich überfordert mit der Menge an Unterlagen, E-Mails etc. Insbesondere E-Mails, aber auch teilweise ausgedruckte Unterlagen. Und da, so ist die Idee entstanden.	All parties were quite overwhelmed with the amount of documents, emails in particular, but also some printed documents. And that's how the idea came about.
P-9	[...] da war jetzt die Confidentiality nicht, nicht das große Thema. Ist es aber natürlich heute schon, wenn man mit Kunden spricht, ist das sicher ein zentraler Punkt.	[...] confidentiality was not the big issue. But of course it is today, when you talk to customers, it's certainly a key issue.
P-9	Die Hauptfunktion, oder das Ziel von [Name des Tools], oder die Anwendung von [Name des Tools] ist, die Transparenz in den Falldaten zu, reinzubringen.	The main function, or goal of [name of the tool], or the use of [name of the tool] is to bring transparency into the case data.
P-9	Wenn man 10, 20 Seiten durchscannen muss, nach einem Suchbegriff, den man nicht weiss, dann ist das einfach eine riesen Zeitersparnis.	If you have to scan through 10 or 20 pages for a search term that you don't know, then that is simply a huge time saver.
P-9	[...][the user] wird quasi von der öffentlichen Hand bezahlt und hat dann nicht unendlich Zeit dafür, er bekommt auch nicht unendlich viel Geld dafür. Das heisst, Effizienz ist da ein grosses Thema und eben auch Effizienz, wenn ich den Fall nach zwei Wochen Ruhe wieder hervornehme, wieder schnell drin zu sein.	[...][the user] is paid by the public sector, so to speak, and he doesn't have an infinite amount of time for it, nor does he get an infinite amount of money for it. In other words, efficiency is a big issue here, as well as efficiency when I take the case out again after two weeks of rest to get back into it quickly.

ID	German	English
P-9	[...] anstatt, dass er den Praktikanten kündigt [...] er kann ihn weiterhin beschäftigen, aber einfach auf einem höheren Level [...] und der hat auch eine interessante Arbeit.	[...] instead of firing the intern,[...] he can continue to employ him, but simply at a higher level [...] and he also has an interesting job.
P-9	[...] also grundsätzlich vom einen Kunden auf den anderen schließen, funktioniert es sowieso nicht. Ich bin im Moment der Meinung, man muss sogar vorsichtig sein, mit einem Fall auf den anderen Fall schliessen.	[...] So basically drawing conclusions from one customer to another doesn't work under any circumstances. At the moment, I think you even have to be careful when drawing conclusions from one case to another.
P-9	[...] Merger and Acquisition. Eine M&A-Abteilung einer Firma berät da den Käufer oder Verkäufer, typischerweise wird die vom Käufer beauftragt, und will möglichst schnell die Due Diligence.	[...] mergers and acquisitions. An M&A department of a company advises the buyer or seller, typically commissioned by the buyer, and wants to complete the due diligence as quickly as possible.
P-9	[...] nicht mit OpenAI, sondern eben mit, mit Open Source und dann selbst gehosteten Modellen	[...] not with OpenAI, but with open source and then self-hosted models.
P-9	[...] er hätte ein Dokument, hätte er nicht so recht gewusst, wie er das einordnen soll, dann wollte er das alles zusammenfassen lassen mit dem Chat, mit zwei, drei Iterationen und aus der Zusammenfassung wurde ihm dann klar, auf welche Richtung dass es geht.	[...] he had a document, he didn't really know how to categorize it, then he wanted to have it all summarized with the chat, with two or three iterations and from the summary it became clear to him in which direction it was going.

ID	German	English
P-11	Ich habe in dem Bereich gearbeitet und was mich als Anwalt oder als Jurist immer genervt hat, ist so diese ganze Papierarbeit, also alles mit Lesen, viele Aufgaben, die ich gemacht habe, da habe ich keine zehn Jahre für studiert, sage ich mal und das hat mich so ein bisschen genervt an der ganzen, an der rechtlichen Welt und das war so auch die Grundmotivation in dem Bereich, was selbst zu machen [...]. Also irgendwie fand ich das Business-Modell von Anwälten immer Mist, weil es nicht skalierbar ist, weil man immer seine Zeit gegen Geld tauscht.	I worked in this field and what always annoyed me as a lawyer or as a legal professional was all this paperwork, so everything with reading, many tasks that I did, I didn't study for ten years, I'd say, and that annoyed me a bit about the whole legal world and that was also the basic motivation in the field to do something myself [...]. So somehow I always thought the business model of lawyers was [bad] because it's not scalable, because you're always exchanging your time for money.
P-11	Bevor ich jetzt mit [den Ingenieuren][...] zusammensetze, habe ich meistens schon eine Idee, wie man es vielleicht auch lösen könnte oder nicht. [...] Und ich spiele da schon den Mittelmann und dann komme ich nicht dazu und sage 'Hier, wir wollen jetzt eine Klage und eine Klageerwiderung unterscheiden' irgendwie und versuche denen die Voraussetzungen zu erklären, sondern habe meistens schon irgendwie eine Lösung, wie man es probieren könnte.	Before I sit down with [names of engineers][...] I usually already have an idea of how it could be solved or not. [...] And I play the middle man and then I don't [...] say, 'Here, we want to differentiate between a complaint and a defense' somehow, and try to explain the requirements to them, but I usually already have a solution of how to try it.
P-11	[...] es geht immer darum, viele Tools, die im Legal Department schon genutzt werden, miteinander zu verbinden.	[...] it is always about connecting many tools that are already used in the legal department with each other.
P-11	[...] ermöglichen wir dem Juristen selbst oder dem Spezialisten selbst, sag ich mal, Automationen einzuführen.	[...] we enable the lawyer himself or the specialist himself, let's say, to introduce automation.

ID	German	English
P-12	Ja, eine unserer Ad-Anzeigen-Strategien, die sehr gut funktioniert, ist, dass wir Display-Werbung machen. Das ist im Prinzip Werbung, wo du überall auf Spiegel oder wo auch immer quasi so kleine Banner angezeigt bekommst, wo du halt draufklicken kannst, Display-Kampagnen. Und die spielen wir an die Leute aus, die auf irgendeiner Datenschutz-Seite in Deutschland waren.	Yes, one of our ad strategies that works very well is that we do display advertising. That's basically advertising where you get little banners everywhere on Spiegel or wherever, where you can click on them, display campaigns. And we play them out to people who have been on some data protection page in Germany.
P-12	In-App-Chat, wo wir jetzt alle unsere Kunden locker mit einem Bruchteil unserer Arbeitszeit noch bedienen können.	In-app chat, where we can now easily serve all our customers with a fraction of our working time.
P-12	Also das war, sobald wir das aktiviert haben, eines unserer wichtigsten Features. [...] [den Benutzern] auch wirklich das Gefühl geben, 'Okay, da sitzen Menschen, die haben Ahnung, die reagieren drauf, wenn ich, wenn ich ein Problem habe.'	As soon as we activated it, it was one of our most important features. [...] Really giving [the users] the feeling that, 'Okay, there are people sitting there who know what they're doing, who will respond if I have a problem.'
P-12	[...] alle Datenschutzerfordernisse, die ein kleines Unternehmen hat, in der App vollautomatisch im Self-Service abzubilden.	[...] map all the data protection requirements that a small company has in the app fully automatically in self-service.
P-12	[...] Rechtssicherheit zu erzeugen.	[...] create legal certainty.
P-14	[...] es ändert auch so schnell, also es entwickelt sich so schnell, dass wir, ja, konstant dann neue Tests machen müssen	[...] it changes so quickly, so it develops so fast, that we constantly have to do new tests.
P-14	[...] kein Arabisch oder kein Russisch[...] also das wären wahrscheinlich die ersten Entwicklungen, die wir machen sollten.	[...] no Arabic or no Russian[...] so those would probably be the first developments we should make.

ID	German	English
P-14	Denn das ist oft der Fall, dass sie plötzlich für einen Fall vor dem Gericht 100 Dokumente auf einmal übersetzen müssen und das ist dann das komplette Chaos, weil sie plötzlich diese große Menge von Übersetzungen brauchen.	That's because it's often the case that they suddenly have to translate 100 documents at once for a court case and it's complete chaos because they suddenly need this huge amount of translations.
P-15	[. . .] die Idee ist halt schon so, dass man so einen Unternehmensdatenschatz ja eigentlich hat, ja, und dass man den eben nutzbar macht, dass man diesen Unternehmensdatenschatz anderen leichter zugänglich macht.	[...] the idea is that you actually have such a treasure trove of company data, and that you make it usable, that you make this treasure trove of company data more easily accessible to others.
P-15	[...] weil wir als Juristen[...], wenn ich eine Anfrage starte, in so ein Sprachmodell ein Prompt reingebe und dann eine Antwort bekomme, möchte ich auch so ein Legal Reasoning. Ich möchte wissen, woher kommt das? [...] Wie kommt das Sprachmodell darauf? [...] Und deswegen nutzen wir halt viel solche RAG Pipelines, [...] um dann im Prinzip auch ein Quellenverständnis zu bekommen.	[...] because we as lawyers[...], when I start a query, enter a prompt in a language model like this and then get an answer, I also want legal reasoning like this. I want to know where it comes from? [...] How does the language model come up with this? [...] And that's why we use a lot of RAG pipelines like this, [...] to basically get an understanding of the source.
P-15	So weit sind wir auch offen gesagt noch nicht. Ja, also [...] du kannst [aus dem Tool] sicherlich ein paar größere zweistellige Prozentpunkte rausholen, glaube ich schon, was Effizienz angeht. Aber ich glaube nicht, dass du jetzt da auf ein 90-Prozent-Dokument kommst, wo du sagen kannst, okay, das kann ich jetzt so auch versenden.	Frankly, we're not there yet. Yes, so[...] you can certainly get a few larger double-digit percentage points out of it [the tool], I think so, in terms of efficiency. But I don't think you're going to get to a 90 percent document where you can say, okay, I can send that now.

ID	German	English
P-15	Aber wir haben schnell festgestellt, dass die älteren Kollegen sich mit dem Prompting schwer tun. Und dann haben wir halt diese Dokumentenvorlagen ins Prompting mit reingenommen. Weil dann haben wir halt die Möglichkeit für die älteren Kollegen, dass sie sich schnell Sachen erzeugen, ohne jetzt noch groß am Prompting rumzufeilen.	But we quickly realized that the older colleagues were struggling with prompting. And then we included these document templates in the prompting. Because then we have the option for older colleagues to create things quickly without having to tweak the prompting.
P-15	[...] man hat immer Angst vor, also ich habe auch Kollegen, 'Ja, damit schaffen wir uns doch ab' und [ich sage], 'nee, wir schaffen uns überhaupt nicht ab.' Wir haben eh zu wenig Leute.	[...] people are always afraid of, well, I also have colleagues, ' Yeah, we'll get rid of ourselves with that' and [I say], 'No, we won't get rid of ourselves at all'. We don't have enough people anyway.
P-15	[...] recycelt sozusagen. Und hast hast ein neues Dokument, das dann natürlich noch mal gereviewt werden muss, aber der schon mal nach was aussieht.	[...] recycled them, so to speak. And you have a new document, which of course has to be reviewed again, but which already looks like something.

Table A.1.: Translated quotes from German to English

A.3. Code Book

Interesting parts of the interview transcripts were highlighted with specific codes, which were then grouped into themes and sub-themes. This process is detailed in Subsection 4.1.1. Table A.2 provides an overview of these themes and sub-themes, along with their respective frequencies.

Themes	1st Sub-Themes	2nd Sub-Themes	3rd Sub-Themes	4th Sub-Themes	#
Usage of AI models					0
	Third-party or proprietary model				0
		Using open-source models			1

Themes	1st Sub-Themes	2nd Sub-Themes	3rd Sub-Themes	4th Sub-Themes	#
		Using both open-source and proprietary			1
		Using proprietary models			6
		Using commercially available models			7
			Using Chat GPT through Azure OpenAI		6
	Hosting of models				0
		Both on-prem and cloud			2
		On-prem			3
		Cloud			4
	User-tool interaction				0
		Interaction through a web-app			15
		Interaction through word add-in			3
	Benchmarking LLMs				3
	Using different models depending on the use case				6
	AI models can't stand alone, applied in the legal domain				0

Themes	1st Sub-Themes	2nd Sub-Themes	3rd Sub-Themes	4th Sub-Themes	#
		Drawbacks of AI			5
		Combining AI models with other methods			4
			LLM one step in a chain of modules		2
			Using classical NLP methods		10
		Preparatory work before the AI model			3
Market for Legal Tech tools					0
	Current Clients				0
		Private companies			6
		Law firms			10
		Public institutions			2
		Law departments			3
	Customer Acquisition				0
		Approach to Customer Acquisition			0
			Personal contacts		4
			Events		2
			Network		4
			Advertisement		3
		Challenges in Customer Acquisition			0

Themes	1st Sub-Themes	2nd Sub-Themes	3rd Sub-Themes	4th Sub-Themes	#
			Larger law firms have more technical knowledge		1
			Not open to change		2
			Not clear what they are allowed to do with AI		1
			Lawyers have no interest in sales talk		1
			Finding contact person		3
			No intrinsic interest in higher efficiency		2
			Client infrastructure		2
			Understanding clients fears		3
			Sales cycle		7
		Concerns about AI			0
			Skepticism		2
			No trust in system that makes mistakes		2
			Reluctance because of data privacy concerns		1
	Managing trust in AI models				0
		Accuracy and Reliability			0

Themes	1st Sub-Themes	2nd Sub-Themes	3rd Sub-Themes	4th Sub-Themes	#
			Retrieval augmented generation		6
			ISO certification		1
			Symbolic AI		1
			Combining GPT with decision trees		1
			No approach		2
			Trusting provider		3
			Human verification		9
		Need for human verification			0
			Verification is important		8
			Possibility to verify		3
			User changes the output		3
			Appliers think human involvement is necessary		9
	Motivation for development				0
		Efficiency			2
		First hand encounter with problem			8
		Make knowledge base accessible			3
	Reason for adoption of the tool				0

Themes	1st Sub-Themes	2nd Sub-Themes	3rd Sub-Themes	4th Sub-Themes	#
		Ressource strain			5
		Improve efficiency			2
		Large amounts of data			3
Understanding User					0
	Provider needs legal professional on the team				0
		Understand requirements			1
		Understanding legal domain			2
		Intermediary			1
		Acquiring new clients			3
		Help when AI cannot			1
		Difficult communication btw. technical and professional team			7
	Providers' approaches				0
		Users come up with new use cases			2
		Concrete use cases in sales calls			1
		Interviewing experts			1
		Working on client projects			1

Themes	1st Sub-Themes	2nd Sub-Themes	3rd Sub-Themes	4th Sub-Themes	#
		Continuously talking to the lawyers			1
		Communicating with users through an In-App-Chat			1
	Differences in the usage of the tool by appliers				0
		No differences			0
			Developing with client		2
			Working closely with client		3
		Incorporated through prompts			1
	Providers' View of User Needs				0
		Slow incorporation of change			1
		Interaction with humans			1
		Help with technical setup			1
		Confidentiality			3
		Personal documents			2
		Prepared prompts			4
		Comprehensive vs. Specific			0
			Specific		5
			Comprehensive		5

Themes	1st Sub-Themes	2nd Sub-Themes	3rd Sub-Themes	4th Sub-Themes	#
User Satisfaction					0
	Growing usage of AI				0
		Increase AI usage			2
		Planning on using the tool in the future			8
		Going to adopt microsoft's co-pilot for office 365			1
	Frequency of usage				0
		Two times a week			2
		Everyday			5
	Expectations				0
		No difference in expectations			5
		Expectation of dialog function			1
		Too high expectations			7
	Reasons for provider choice				0
		Professional onboarding			1
		Resemblance to legal language			1
		Price			2
		User Interface			1
	User preferences				0

Themes	1st Sub-Themes	2nd Sub-Themes	3rd Sub-Themes	4th Sub-Themes	#
		Prepared prompts			4
		Word environment			2
		Communication			2
	Unsatisfied user needs				0
		Further functionality			0
			Better usability		1
			More out-of-the-box functionality		1
			Suggest things from other law firms		1
			Recognize more		1
		Chatbot function			1
		Integrate GenAI			1
		Processing of documents			0
			Connecting tool to document management system		1
			Working with forms better		1
		Automation			0
			No human involvement		1
			Automatic training of tool		1
		Customization			0

Themes	1st Sub-Themes	2nd Sub-Themes	3rd Sub-Themes	4th Sub-Themes	#
			Integrating processes for specific legal areas		1
			Legal area specific hints or reminders		1
			Integrate their own processes		1
			Customized for their busines		1
Impact of Legal AI tools					0
	Promised impact				0
		Customization			0
			User-driven automation		1
		Access to knowledge			0
			Bringing transparency into case data		1
			Easily accessible documents		2
		Efficiency			0
			Reduce workload		1
			Time savings		4
			AI checks what is relevant		1
			Familiarize with documents		1
		Verdict publication			2
	Actual impact				0

Themes	1st Sub-Themes	2nd Sub-Themes	3rd Sub-Themes	4th Sub-Themes	#
		Novel insights			1
		Enabling users			1
		Access to knowledge			2
		Efficiency			1
			Processing large amounts of data		3
			Summary		2
			Familiarization		2
			Less personnel		1
			Time savings		3
	ELSA concerns				0
		AI vs. unemployment			0
			Morally okay to automate the lawyers away?		1
			Relieve humans from excessive work		2
			More interesting jobs rather than unemployment		1
			Legal expert is necessary		1
				Legal domain is based on trust	1
				Need the knowledge to ask right questions	1
				Dangerous to trust the tool completely	1

Themes	1st Sub-Themes	2nd Sub-Themes	3rd Sub-Themes	4th Sub-Themes	#
			Labor law forbids complete automation		3
			Trying to replace the lawyer completely		2
			Automate as much as possible with AI		1
			Autmate until human becomes obsolete		2
			Amazed by tool but afraid of loosing their job		1
			Tool actually replaced human work		2
Challenges during Adoption					0
	Migration & Integration				2
	Change management				3
	Slow adoption process				3
	Reluctance				1
Challenges during Development					0
	High requirements due to labor law				1

Themes	1st Sub-Themes	2nd Sub-Themes	3rd Sub-Themes	4th Sub-Themes	#
	Training data				7
	Law firm software				6
Use Cases					0
	Providers' use cases				0
		Information processing			0
			Anonymisation of documents		2
			Data extraction from documents		6
			Document Retrieval		2
		Assistance in the creation of privacy policy			1
		Summarizing documents			2
		Document generation			0
			Drafting letters		1
			Writing a statement of defense		1
			Writing a lawsuit		1
			Drafting clauses		1
			Contract creation		4
		Document analysis			0
			Enrichment of documents		1
			File difference tracking		2

Themes	1st Sub-Themes	2nd Sub-Themes	3rd Sub-Themes	4th Sub-Themes	#
			Pre-classification of documents		3
			Legal argument extraction		1
			Contract review		1
		Legal assistance			0
			Question answering		8
	Appliers' use cases				0
		Translation			2
		Document analysis			0
			Contract review		1
			Classification of documents		1
		Information processing			0
			Question answering		3
			Document retrieval		1
			Anonymization for publication of verdicts		1
			Information extraction		4
		Document analysis			1
			File difference tracking		1
		Document development			0
			Summarization		3

Themes	1st Sub-Themes	2nd Sub-Themes	3rd Sub-Themes	4th Sub-Themes	#
			Contract generation		2
			Creation of excel sheets		1
			Emails		1
			Generation of text		1
Future trends					0
	Future developments				0
		Expansion			0
			Expanding into other markets		5
			Increase employee count		2
		Integrations			0
			integrate into knowledge management platform		1
			integration with law firm software		1
		Functionality			0
			Anonymization for PDF		1
			Recognizing financial transactions		1
			Template approach for standard use cases		1
			Application interface		1
			Adding more AI capabilities		6
			Advanced		0

Themes	1st Sub-Themes	2nd Sub-Themes	3rd Sub-Themes	4th Sub-Themes	#
				Synthetic data	1
				Reinforcement learning	1
				Behavioral science model	1
				Knowledge Graphs	1
			Language		0
				Processing of language	2
				Correct spelling mistakes	1
				Recognizing different alphabets	1
				Other languages	2
			Automation		2
Total:					723

Table A.2.: Codes with respective frequency

Chair of Software Engineering for Business Information Systems
Department of Computer Science
School of Computation, Information and Technology
Technical University of Munich

Interview Leitfaden

Hintergrund

1. Welche Rolle haben Sie im Unternehmen?
2. Wie lange arbeiten Sie bereits in Ihrem Unternehmen?
3. Wie lange arbeiten Sie bereits in Ihrem aktuellen Tätigkeitsbereich?
4. Wie groß ist Ihr Unternehmen?

Entwicklung

5. Könnten Sie kurz die Funktionalität der Lösung vorstellen, die Ihr Unternehmen anbietet?
6. Was hat Ihr Unternehmen motiviert, das Tool zu entwickeln?
7. Können Sie einige der wichtigsten Stärken oder einzigartigen Perspektiven nennen, die Ihr Team während des Entwicklungsprozesses eingebracht hat?
8. Können Sie uns einige Beispiele nennen, in denen Ihr Team während der Entwicklung erfolgreich Herausforderungen (rechtlicher und/oder technischer Art) gemeistert hat?
9. Was waren Ihre Aufgaben während der Entwicklung des Tools?

Technologie

10. Könnten Sie auf die kreativen Strategien eingehen, die entweder durch die Entwicklung proprietärer Lösungen oder durch die Nutzung bestehender Lösungen angewandt wurden?
11. Können Sie die Rolle hervorheben, die Large Language Models und andere Formen von KI bei der Gestaltung Ihrer innovativen Lösungen gespielt haben?
12. Könnten Sie näher erläutern, welchen einzigartigen Wert Ihr Tool für Kunden oder die Rechtsbranche hat, indem Sie auf bestimmte Herausforderungen oder Anforderungen eingehen?
13. Wie stellt Ihr Unternehmen die Genauigkeit und Zuverlässigkeit des Werkzeugs im rechtlichen Kontext sicher?
14. Welchen Legal Use Cases kann Ihr Tool zugeordnet werden?

Aktuelle Anwendungsfälle

15. Was glauben Sie, sind die wichtigsten Anwendungsfälle, für die Ihre Kunden Ihr Tool nutzen?
16. Haben Sie dabei Unterschiede in der Art und Weise festgestellt, wie Ihre Kunden das Tool verwenden?

Ausblick

17. Hat Ihr Unternehmen Herausforderungen beim Ausbau der Reichweite des Tools erlebt?
18. Welche spannenden Entwicklungen oder Erweiterungen sehen Sie für Ihr Tool in der Zukunft vor?
19. Erkunden Sie aktuell neue Wege, um mit mehr Kunden in Kontakt zu treten?

Fazit

20. Gibt es etwas, das wir in diesem Interview Ihrer Meinung nach übersehen haben, aber wichtig ist?

Figure A.1.: Interview Guide for Providers in German.

Chair of Software Engineering for Business Information Systems
Department of Computer Science
School of Computation, Information and Technology
Technical University of Munich

Interview Leitfaden

Hintergrund

1. Welche Rolle haben Sie im Unternehmen?
2. Wie lange arbeiten Sie bereits in Ihrem Unternehmen?
3. Wie lange arbeiten Sie bereits in Ihrem aktuellen Tätigkeitsbereich?
4. Wie groß ist Ihr Unternehmen?

Einführung

5. Könnten Sie kurz die wichtigsten Teile der Lösung vorstellen, die Ihr Unternehmen eingeführt hat?
6. Was hat Ihr Unternehmen motiviert, das Tool einzuführen?
7. Können Sie den Prozess beschreiben, der Sie dazu geführt hat, diesen bestimmten Anbieter zu wählen?
8. Welche anderen Optionen haben Sie in Betracht gezogen und warum haben Sie sich für dieses Tool entschieden?
9. Können Sie Ihre Erfahrung mit der Einführung des Tools schildern?
10. Können Sie uns einige Beispiele nennen, in denen Ihr Team während der Einführung erfolgreich Herausforderungen (rechtlicher und/oder technischer Art) gemeistert hat?
11. Was waren Ihre Aufgaben während der Einführung des Tools?

Technologie

12. Welches Problem löst das Tool für Sie oder Ihr Unternehmen?
13. Wie viel menschliches Eingreifen ist erforderlich, um die Funktionalität des Tools aufrechtzuerhalten?

Aktuelle Anwendungsfälle

14. Wie oft benutzen Sie das Tool pro Woche?
15. Können Sie Beispiele für die erfolgreiche Anwendung des Tools nennen?
16. Was sind Ihrer Einschätzung nach die wichtigsten Anwendungsfälle, für die Ihr Unternehmen das Tool einsetzt?
17. Könnten Sie kurz die Erwartungen beschreiben, die Sie an das Tool haben?
18. Haben Sie Unterschiede zwischen Ihren Erwartungen an das Tool und der Art und Weise, wie Ihr Unternehmen das Tool jetzt nutzt, festgestellt?

Ausblick

19. Planen Sie, das Tool in Zukunft für weitere Projekte zu nutzen?
20. Welche spannenden Entwicklungen oder Verbesserungen würden Sie sich für das Tool in der Zukunft wünschen?

Fazit

21. Gibt es etwas, das wir in diesem Interview Ihrer Meinung nach übersehen haben, aber wichtig ist?
22. Können Sie weitere Kontakte empfehlen, die in dieser Studie nützlich sein könnten?

Figure A.2.: Interview Guide for Appliers in German.

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Glossary

DACH is an abbreviation that stands for D — Deutschland (Germany), A — Austria, CH — Confœderatio Helvetica (Switzerland). Therefore, it refers to German-speaking Europe. 16

GDPR is an abbreviation that stands for General Data Protection Regulation. It is a data protection law implemented by the European Union in May 2018, designed to protect the privacy and personal data of individuals within the EU. In Germany it is instantiated as the "Datenschutzgrundverordnung" (DSGVO). 7, 47

Acronyms

AI Artificial Intelligence. 1

ELSA Ethical, Legal and Social Aspects. 5

GenAI Generative AI. 1, 3

Legal Tech Legal Technology. 2

LLM Large Language Model. 1, 3

NLP Natural Language Processing. 1, 3

SSI Semi-Structured Interview. 2, 9

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