



LEGAL TECH SELF-SERVICE PLATFORM

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ABSTRACT

This booklet details the research and development of a legal tech self-service platform prototype. Small businesses and startups face legal challenges which consume their limited resources. Three research questions and three objectives were established to motivate the research. Working with Berlin-based law firm SKW Schwarz, the project team conducted content analysis, surveys, and interviews to expose current pain points in commercial law practice. With research across size and industry, the team designed a platform prototype for in-house legal support. The concept includes modern technology practices: UI/UX design, workflow automation, and use of AI. The findings and deliverable aim to provide companies—particularly startups—the knowledge and tools to succeed despite their legal hurdles.

ACKNOWLEDGEMENT

The project team is grateful for this research and cooperation opportunity with the members of SKW Schwarz and for their continuous offers of mentorship. Furthermore, the team thanks the two interviewees for their valuable results, as well as all participants in the research survey. The project team finally thanks the project advisors and all faculty members who assisted us, including Dr. Gizem Arslan, Dr. Sarah Stanlick, Dr. Katherine Foo, and Dr. Daniel DiMassa.

LEGAL TECH:

An Investigation of Equitable and Effective Legal Practices for German Companies

Germany is at the forefront of cutting-edge technology. Its industry consists of many sectors with a growing breadth of knowledge—life sciences, information technologies, and engineering. Often, unique ideas are brought to life through startups, and Berlin has no shortage of them.

Unfortunately, these startups face a highly competitive market and a unique set of challenges. According to BBC, 9 out of 10 startups fail, 8% of the failures are due to legal challenges and 26% are due to financial challenges, which are often caused by other disturbances in businesses, such as an expensive lawsuit. Small businesses also face considerable costs as they establish and maintain the company through filing trademarks and patents, and become [9, 25] compliant with EU and national policies.

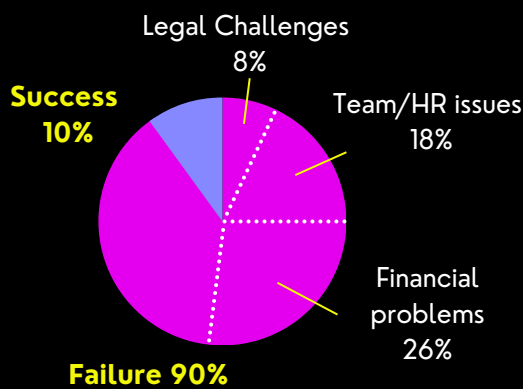


Figure 1. Factors and rates of startups [9, 25]

Some start-ups in Germany are now in more difficult financial positions. In the years leading up to 2021, German startups raised a steady amount of capital. In 2021, the raised funds spiked to €17.4 billion, then dropped in 2022 by 43%. This shows how volatile start-up funding can be—which is troubling, considering that startups are heavily reliant on funds raised from investors. Experts claim that this recent

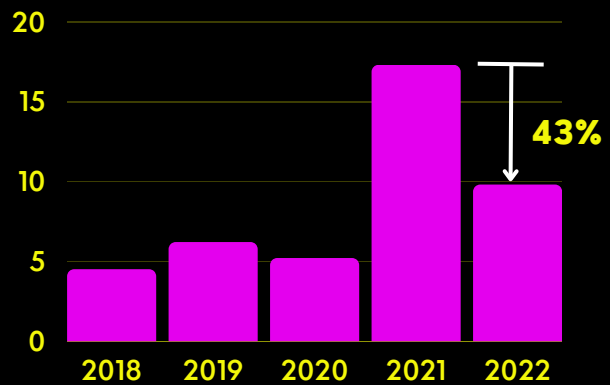


Figure 2. Funds Raised by German startups [31]

decrease in funding will have an impact on the companies operations, putting them in more difficult financial positions. [31]

These challenges are not unique to small businesses—changing legal policy in the EU has exposed medium and large businesses' willingness to adapt to change, and punished those who refuse to adapt. While small businesses may lack the legal resources to fight litigation, larger companies face more severe penalties and public backlash. It is necessary for all sizes of companies to be concerned with effective legal practices.

As the team collected literature sources, three objectives were proposed while completing this project, including:

1. Identify the different challenges and opportunities facing German start-ups and well-established companies regarding internal legal processes and examine the differences and similarities seen in their legal needs.

2. Examine both the causes and the broader implications of legal challenges in the market and in internal legal departments.

3. Determine which factors would motivate startups and well-established companies to use a developed self-service legal tech platform.



BACKGROUND

The legal consultation process in Germany equips clients with the knowledge of individual legal rights and access to documentation—factors that support overarching legal, financial, or commercial success.^[25] Legal tech platforms—which digitalize legal processes for a company’s in-house legal department, internal departments, and client base—offer a simplified, partly automated solution when thoughtfully designed. The two driving concerns of this project are the parameters of thoughtful design and how and why clients and stakeholders benefit from legal platforms. This literature review will examine the legal consultation process and legal tech, explore the framework for human-centered design, and assess the current self-service platforms in Germany.

In this section, we introduce the definition of legal tech, its categories, and some application examples. To understand the benefits of utilizing legal tech, the legal challenge faced by German start-up companies are addressed. Additionally, with an advanced software market and increasing trend of self-service platform usage globally, Germany has a very bright future with incorporating legal tech self-service platforms in use to save time and money for many start-up companies, allowing them to have a higher success rate. We also explore the frameworks of UI/UX design to better understand how to develop a successful prototype of a self-service platform.

LEGAL TECH

Legal tech is most broadly defined as encompassing the IT solutions utilized in law practice. It involves the modern use of digital information technology for **simplification** and **automation** of various facets of the legal system.^[10]

Less advanced

Legal Tech 1.0

Software that supports legal professionals

- Digital document management
- Specialist legal databases
- Secure web conference

Legal Tech 2.0

Automation that can substitute human work

- Automatic legal document creation
- Automated online legal service

Legal Tech 3.0

Highest form of automation in the legal tech sector

- Decision-making AI through self-learning

More advanced

LEGAL CHALLENGES

Risk & Compliance 01



Lack of Knowledge in Product Legal Requirements

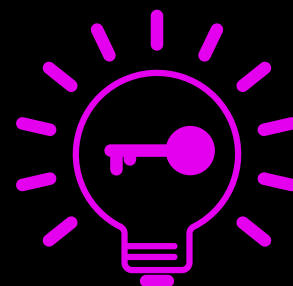
As stated in the project goals of the Abstract, the project team aims to design a legal tech self-service platform which would support companies with their legal challenges. Startup companies especially experience legal challenges, the first of which results from a general lack of awareness of legal requirements. Any good or service—ranging from products and software to food service and information distribution—is subject to compliance legislation. However, inexperienced companies often lack awareness of the many legal requirements for their products. A company's size and industry may leave legal services out of reach due to the expense of such services. The ignorance of legislation and failure to comply with regulations are two main contributors to the failure of many start-ups' ideas.^[33]

Conversely, spending more time on legislation and regulations stalls the development pipeline, causing companies to lose potential revenue. Since start-ups are heavily dependent on investments, financial disturbances might cause the termination of their business. Financially succeeding amidst limited resources of knowledge, personnel, and financial support proves challenging for start-ups.^[33]

In-house legal departments typically outsource work to external lawyers with specialized legal knowledge. According to a bench-marking report surveying respondents from the United Kingdom, the United States, and Germany, there is a correlation between a lack of resources and increased outsourcing of legal work. As concluded from the survey, for in-house legal departments spending less than €1 million euros externally, there is approximately 64% outsourcing due to the required expertise level. Therefore, it may be concluded that for startups and less well-established companies, in-house legal departments may be likely to lack the knowledge and monetary resources for fulfilling legal requirements internally.^[16] Although startups face risk and compliance challenges due to a lack of awareness of legal requirements, they additionally encounter problems regarding constraints on intellectual property resulting from the European multiple defendants rule.

02 Intellectual Property

Abuse of European Multiple Defendants Rule by Non-Practicing Entities (NPE)



The European multiple defendants rule poses additional legal challenges on technology startup companies in Germany. The multiple defendants rule allows a plaintiff to file against multiple defendants and is pursued as a single case in a single court if any claim raised against each defendant is out of the same civil action. A plaintiff might choose to file against multiple defendants to lower enforcement costs. For start-up and growth companies as plaintiffs, the multiple defendants rule is cost-efficient as it reduces transaction costs. However, the cost-efficiency also attracts non-practicing entities (NPE), also known as patent funds, who acquire patents and use the threat of litigation to obtain financial compensation. Even though defendants can share their costs due to the multiple defendants rule, the complexity of the court case increases simply because multiple parties are involved.^[27]

Small businesses face considerable costs as they establish trademarks, file patents, and become compliant with global, national, and regional policies. These costs can be so overbearing that companies would rather risk litigation than pay legal fees. Start-up companies, especially the technical ones, are vulnerable targets of NPEs due to their smaller sizes. The cross-border use of patents is accelerating and becoming a common practice due to increasing technological development such as computer-implemented solutions, artificial intelligence, biotechnology, cloud computing, and client-server computing. As a result, European courts are experiencing more cross-border cases. The use of the multiple defendants rule might also be abused by the NPEs, imposing legal constraints on start-up companies and limiting the companies' growth by reducing their ability to defend their rights and achieve their intended goals.^[26] In addition to challenges regarding risk and compliance as well as constraints on intellectual property, German startups frequently endure data compliance and protection challenges in accordance with GDPR regulation.^[27]

Team Management 03

Challenges in Separation of Tasks between In-House Departments

The Separation of Tasks Between In-House Departments

The separation and even distribution of tasks is a frequent challenge encountered by in-house legal departments. Management is required to identify and separate its tasks from those of personnel, tax, audit, and compliance. Based on KPMG International's Global Legal Department Benchmarking Survey, less than half of the legal departments of companies surveyed deemed themselves an independent department with well-defined tasks distinguishable from other departments. Most respondents of the survey viewed their legal departments as providers of proactive legal advice as well as serving as business partners through compliance responsibilities. Therefore, in order to save time and unnecessary communication between internal departments, the survey recommends that legal teams clearly establish tasks unique to their department.^[16]

In-house legal departments are involved in both the legal and compliance work. Without proper separation of tasks to their respective internal departments, eight percent of KPMG International's survey respondents affirmed to holding several responsibilities including law, compliance, and data protection, as well as law and intellectual property (IP) management, and audit. In-house legal departments supply quality legal knowledge and consultation to internal clients. One of the in-house legal department's most vital tasks includes contract management, often from negotiation to post-termination.^[16]

Responsibilities of In-House Legal Departments

04 Data Privacy & Protection

Challenges with Compliances of General Data Protection Regulation (GDPR)



Startup companies have also demonstrated challenges with data compliance in the face of GDPR legislation. As a piece of legislation that was published within the past decade, the sentiment of the General Data Protection Regulation (GDPR) among small businesses has developed recently. The general sentiments among European small businesses are as follows:

- Protection of data is an ethical and fair practice.
- Compliance with the GDPR is expensive.
- Small companies cannot afford to be fined.
- Large companies misuse data knowingly

A research initiative funded by the European Union polled 716 small business leaders in Spain, the United Kingdom, France, and Ireland to understand the response to the GDPR three years after its publication. The study found that only 44% of businesses were confident that their data processing was clear and plainly stated to data subjects, and that only 56% of businesses were confident that they were legally permitted to use collected personal data.

One specific requirement of the GDPR is to use end-to-end encrypted email and cloud storage. 33% of respondents indicated that their email was unencrypted and 46% indicated that their cloud storage was unencrypted. If the Information Commissioner's Office (ICO) were to audit and find one of these small businesses in violation of the GDPR, they would face severe penalties and potentially enter bankruptcy. Article 83 of the GDPR sets the penalty for an infraction up to 20,000,000 Euro or up to 4% of the annual revenue of the previous year. The most obvious problem is a lack of knowledge about the new technologies: many business leaders are unfamiliar with the technologies required by the GDPR to protect data from malicious actors. Therefore, GDPR compliance is a challenge frequently encountered by startups which might also cause more vulnerable companies such as startups monumental fines. For startups with minimal funding, this poses a hindrance to risk-taking and financial and commercial growth in the market.^[35]

TECHNOLOGY INDUSTRY

The IT industry is one of the biggest and most successful industries in Germany. It is also one of the most important economic branches in Germany, with an annual turnover of €178 billion in 2021. Moreover, the German Information and Communications Technology sector account for the highest number of start-ups than any other national industry. Around 6,000 new innovative companies are created in Germany every year and the share of start-ups in the country's economy is 4%.

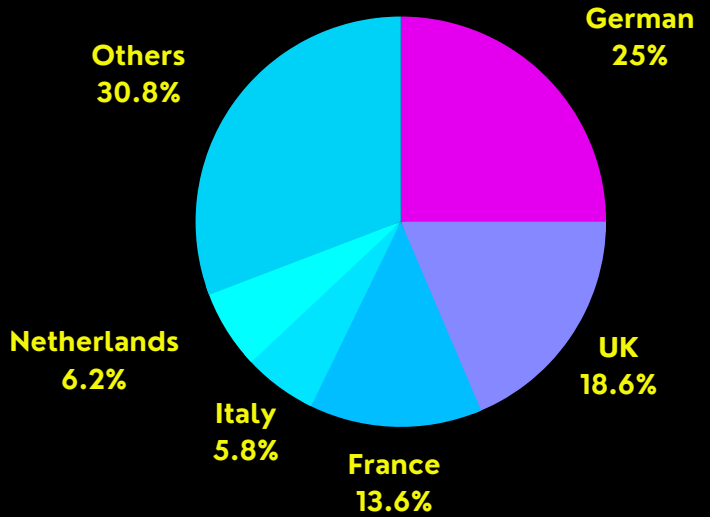
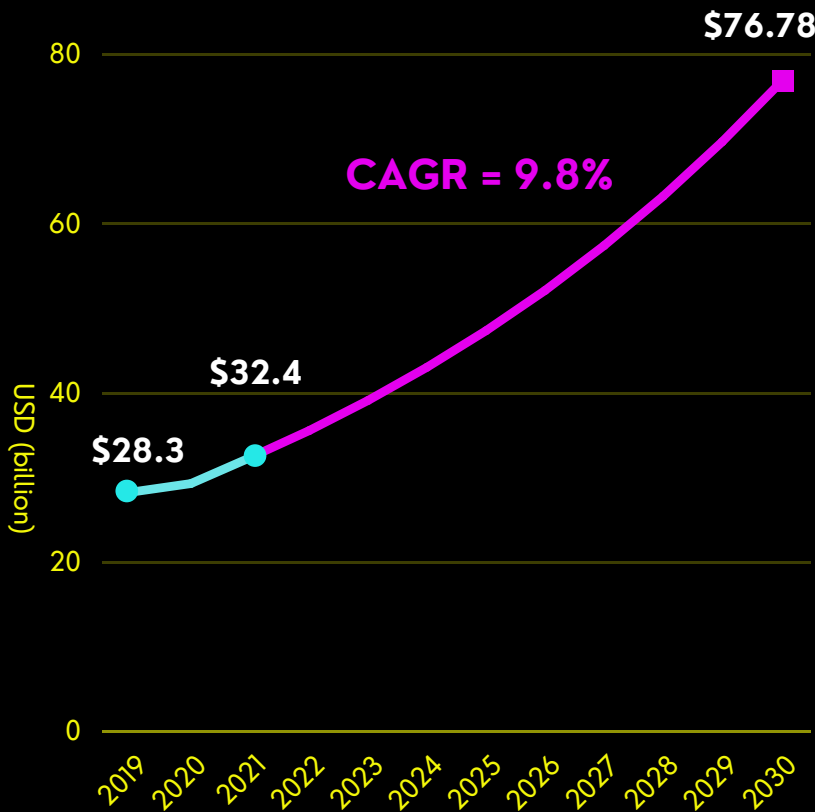


Figure 3. European Software Market by Country 2020 [5, 13, 36]

SELF-SERVICE



Self-service applications offer users an interface through which interaction with the service provider is minimal, thereby rendering these users more independent and able. These platforms reduce labor costs for businesses and improve productivity among employees. In this project, self-service will concern the development of a legal tech self-service platform for clients of the law firm.

Figure 4. Global Self-Service Technologies Market Trend

[8, 12, 26]

UI/UX Design

Facets of User Experience^[20]

Desireable

Valuable

Accessible

Findable

Usable

Useful

Credible

Design Principles^[21]

Visual Grammar

Three core elements—points, lines, and planes—which, when combined, create elements of a user interface.

When implemented correctly, the complexity of an interface's design can be decreased.

Language & Typography

Precise word choice :

-> support the intended goals and messaging of the design.

Thoughtful typographical design:
-> aid in interface organization and accessibility.

Narrative Design

The overall experience a user has when engaging with an interface.
How quickly to deliver information;
How all the components build off each other

Human Centered Design^{[1], [24]}

Empathize

Understand how and why users interact with an interface

Define

Outline the problem which the design aims to solve

Prototype

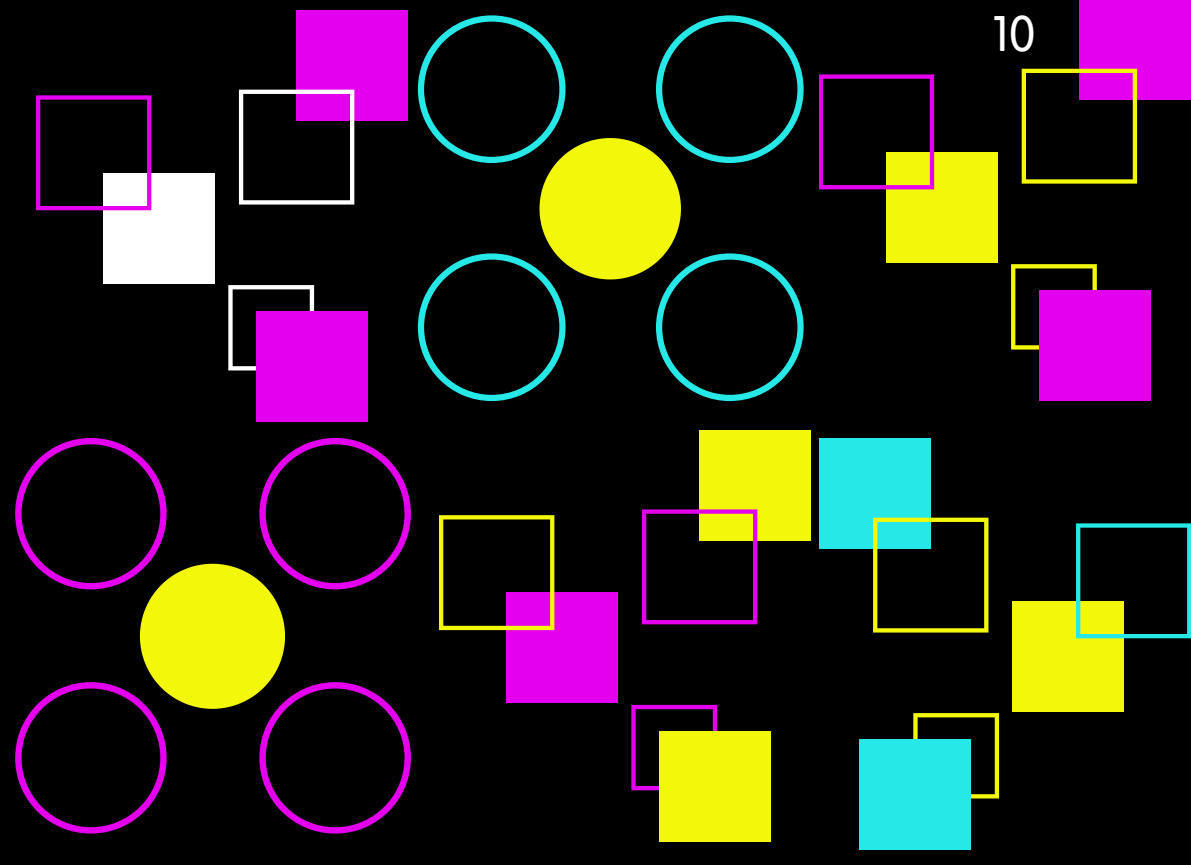
Generate idea and build towards the prototype phase.

Ideate

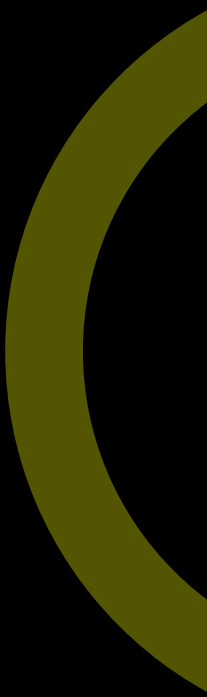
Create small prototypes of the final product.

Test

Ask users for feedback on the prototypes.



METHODOLOGY



RESEARCH QUESTIONS

The purpose of this study is to understand the implications of legal tech access for companies of different sizes and with different access to resources in Germany. To accomplish this, we have created the following research questions that guide this study:

01

What challenges and opportunities do German start-ups and well-established companies face regarding internal legal processes, and what are the differences and similarities seen in the legal needs between them?

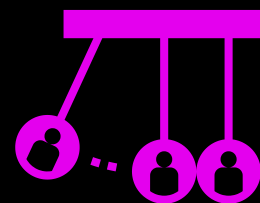


02

What are the broader implications regarding these challenges and legal needs in a competitive market and what causes them?

03

What factors would motivate startups and well-established companies to use a developed self-service legal tech platform?



OBJECTIVES

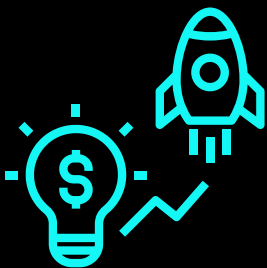
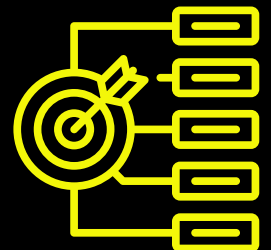
The broad goal is to evaluate the effectiveness of legal tech applications in streamlining the legal processes of start-ups and well-established German companies.

Moreover, this project will operate through a framework of justice and **equity**, aiming to equip start-ups with the necessary self-service tools and legal awareness for success amidst well-established organizations which might possess greater financial and legal success through the greater expertise of internal legal departments.

This has the potential to allow much smaller companies to thrive economically and financially, in a manner that is on par with well-established organizations. These well-established organizations will also be examined per the following objectives to witness any imbalance between the **legal needs** and the **broad success** of the two. To execute these goals through frameworks of justice and equity, the following objectives were developed:

01

Identify the different challenges and opportunities facing German start-ups and well-established companies regarding internal legal processes and examine the differences and similarities seen in their legal needs.

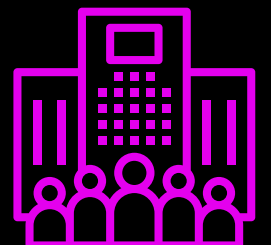


02

Examine both the causes and the broader implications of legal challenges in the market and in internal legal departments.

03

Determine which factors would motivate startups and well-established companies to use a developed self-service legal tech platform.



METHODS

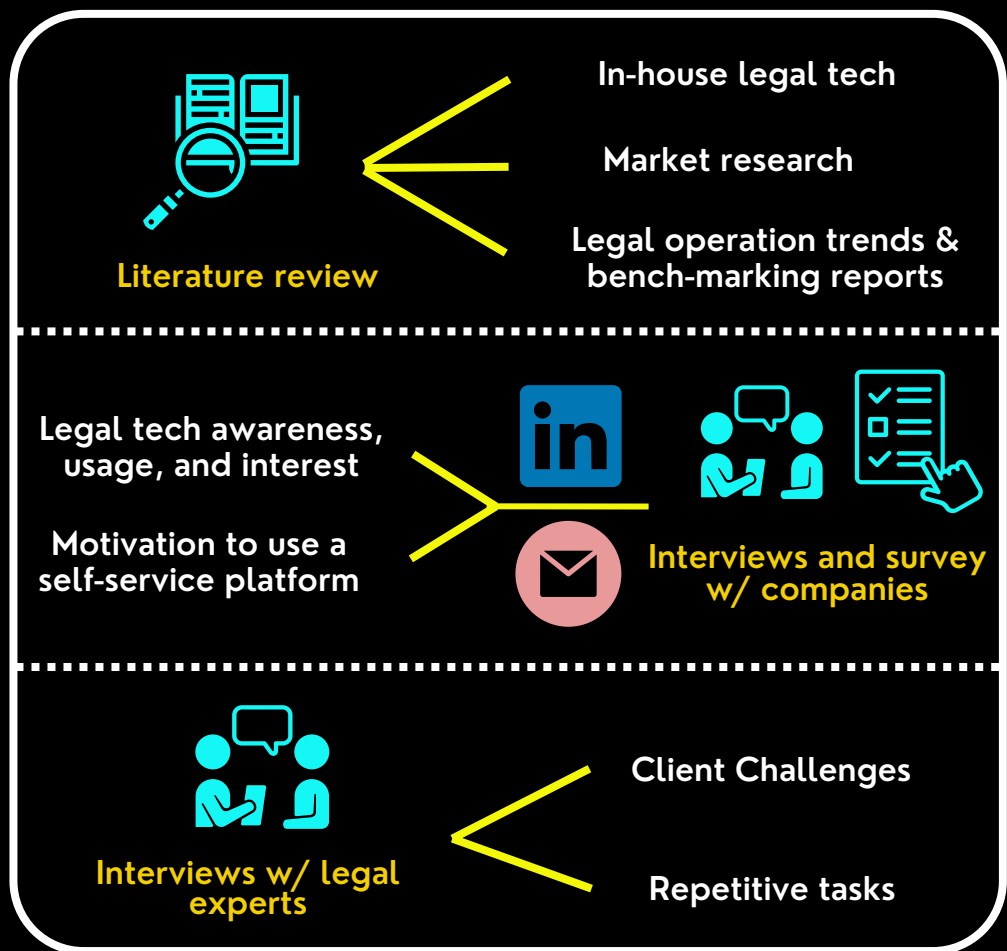
Our project consisted of two parts. The first phase was an extensive market research on the legal needs to understand what the requirements are for a digital legal self-service platform.

The second part was the prototype development of the legal tech self-service platform that presents the digital workflows taking into account the results of our market research with particular emphasis on the UI/UX design.

01

Research

Legal needs of the current German market



Docmosis

BRYTER

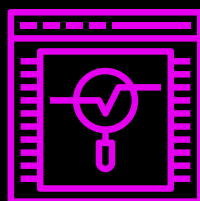
HighQ

AdviSME

CheckBox

LawVu

etc...



Content analysis on existing platforms

02

Platform Development

UI/UX design focus

Objective 1

To identify the differences between the internal legal challenges and needs of German start-ups and well-established companies, the project team conducted interviews with start-ups and well-established companies. These interviews targeted the three objectives previously mentioned. The project team selected interviews as the method for this objective because user experience was considered vital to developing the final product, in addition to gathering literary evidence. From the gathered responses, the team made inferences regarding the challenges and opportunities German start-ups and well-established companies face. Furthermore, all data was compared to the collected literature evidence for analysis.

Companies' General Knowledge of Legal Tech

The project team used a short survey to gather information about current knowledge and usage of legal tech services, which helped the team better analyze the current usage, benefits, and needs of legal tech by other companies. This short survey was administered using LinkedIn (specific employees of legal departments and other departments) and email.

Interviews with Companies of Different Sizes

The team conducted interviews virtually following an initial email proposition stating the team's intentions. Either note-taking procedures or a recording

device was used to collect the data during these interviews. However, the team notified the interviewee(s) about either recording method prior to the interview. Following the interviews, the team assimilated the data and arrived at various conclusions, which were delivered to SKW Schwarz for approval and served as progress updates. The project team considered SKW Schwarz to be an expert in their field of legal consultation, and companies to be experts in the field of user experience.

Interview about GDPR and IP Knowledge

The team conducted interviews with TechGDPR and SKW Schwarz experts to discover more details about data protection laws according to the GDPR, as well as consultation processes and difficulties facing start-ups and well-established companies regarding IP. The team conducted this interview and meeting after establishing GDPR compliance and IP responsibilities to be "use cases" resulting from the interview with the small startup company.

Legal Tech Availability Research

To achieve a broader understanding of the availability of legal tech in Germany, the project team conducted further research into the adoption of legal tech by German companies, including start-ups and well-established companies. This research allowed the team to couple the interview results with expansive data about the impacts of more available legal tech to form meaningful conclusions about the issue of access to legal tech in Germany as well as the potential opportunities companies can have with better legal access.

Objective 2

The team conducted literature review research to further understand the implications and causes of the surveyed legal challenges and needs of startups and well-established companies. The team selected the literature review method because the comparison of anecdotal evidence with theoretical support was important for validating the results.

Literature Review

The project team conducted further literature review research during the project duration. The purposes of this literature review research were to compare the anecdotal evidence with market research to validate the results. In turn, the team's information from the survey and interviews verified the literature review evidence. The team consulted the project sponsor for verified German sources. The results from the interviews and survey were compared with the literature sources as a means of determining the causes of startups' and well-established companies' legal challenges and furthermore, the broader implications of these legal challenges.

Objective 3

The team utilized a survey and interviews to determine users' motivations behind using a legal tech self-service platform. Furthermore, the team conducted

content analysis to compare the results of these interviews and the survey with literary UI/UX design and other market platform offerings. This was important because according to the background research about UI/UX design, user input was relevant and appreciated in designing a successful platform. Therefore, the team developed a legal tech survey which additionally served to quantify users' motivations. This allowed the team to appropriately design a platform prototype with these considerations.

Interviews with Companies

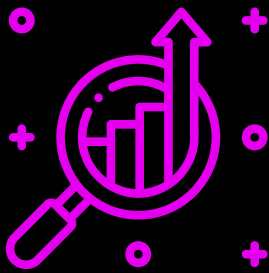
The project team interviewed legal department employees of German start-ups and well-established companies to determine the motivations behind using a legal tech self-service platform. The team conducted the two interviews virtually. Then the team analyzed the responses to these interview questions to determine whether the resulting motivations were factors considered by other offered platforms. This was also important in that it allowed the team to consider hypothetical, novel solutions which could be implemented to further improve the platform.

Survey

The project team added questions regarding motivations for using a legal tech self-service platform to the legal tech survey. The survey was still administered virtually using LinkedIn and email.

ANALYSIS METHOD

DATA ANALYSIS



The project team used the Qualtrics platform to gather responses from startups and well-established companies. Information gathered from the survey included the name of the company, some basic information about the size of the company, whether the company has a legal team, the individual's work department at the company, and the usage of six legal tech solution categories and their specific use cases.

The team utilized this data to test the hypothesis that startup companies lack access to many legal tech solutions and are willing to use them if given more resources.

The team then utilized this data to test the hypothesis that well-established companies are currently utilizing more legal tech solutions and that they spend a significant amount of time and resources on legal tasks that could be automated through a self-service platform.

The project team analyzed the user interfaces and user experiences of several platforms. These platforms were either classified as legal tech or included functionality that could be applied to a legal tech platform, such as document generation or status tracking. When analyzing the user interfaces, the team made note of certain design decisions, including the overall page layouts, color palettes, and location of features. In addition, the team made note of the features included in the platforms; these features were categorized according to the six categories of legal tech functionality found in the literature review. These observations were used to examine whether the user experience of the platform fulfills the seven facets of the user experience: useful, usable, desirable, findable, accessible, credible, and valuable.^[20] This analysis will later be incorporated into the designs of the team's legal tech self-service platform.

CONTENT ANALYSIS



POTENTIAL OBSTACLES

Several obstacles could prevent the acquisition of data. These obstacles fall into two categories: personal interests and company interests.

One influence that the team anticipated when surveying or interviewing any employed individual was the fear of automation and computers replacing jobs. An individual may have had conscious or subconscious concerns that the goal of the research was to allow companies to lay off some members of their legal team in favor of cheaper software solutions. This may have led to exaggerations of data and testimony or biased answers. The project team decided not to consider this reality when accumulating survey results, given that most of the respondents explicitly stated they verified their participation with a superior or were members of the in-house legal team itself. Furthermore, the team truthfully presented themselves strictly as university research students who were collecting this data for project use with no ulterior motives.

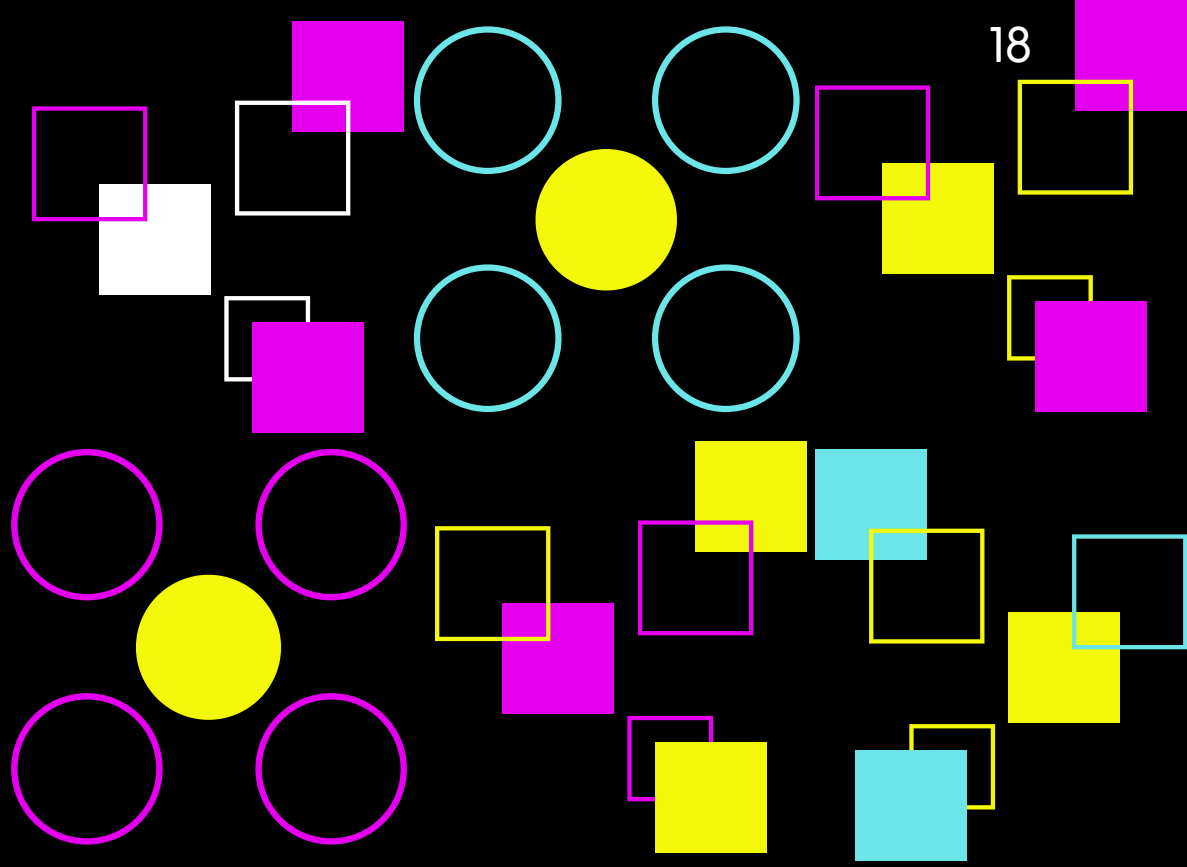
Another potential obstacle that could have prevented us from acquiring data was a refusal to discuss or disclose information to protect confidentiality or trade secrets. Some companies may have felt that they have a competitive advantage whose reason or existence may have been latent to other companies. Consequently, they may have refused to participate in surveys or interviews to protect their interests. The team witnessed this during their first startup interview. Not only would this have removed potential data and testimony, but it may have introduced a statistical bias that skewed the results toward less competitive respondents.

The team decided that all respondents who completed the survey using their company name considered these concerns. There were some respondents who did not disclose their company name.

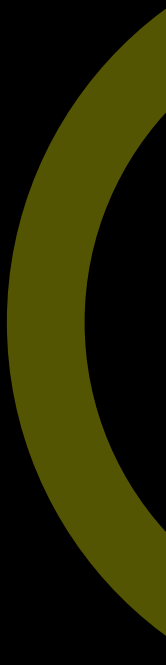
This was because the project team provided the option of using company size and/or industry instead of the company name. This allowed participants to be anonymous and non-representative of their company.

The team was concerned about the response rate of survey recipients. The team intended to contact members of not only in-house legal departments but of other departments such as the finance department. In this way, the team was able to examine the cross-department legal content of start-ups and well-established companies. However, the team primarily received survey participation from in-house legal departments.

The team contacted many recipients through email, Reddit, and LinkedIn (approximately 500 individual recipients from over 100 companies, six Reddit forums, and four LinkedIn groups) using a method of reverse-engineering through the filtration of results by key terms such as "legal." However, the project team also contacted members of other departments such as the financial, marketing, and business departments. This was because, as recorded in the literature research, the specific tasks of many in-house legal departments can be skewed and cross-departmental. However, among all 500 recipients, there was a low and statistically insignificant response rate. That being said, the team considered the 21 respondents to be significant for the development of the use cases for the project deliverable. Some responses were from individuals outside Germany (of the five survey respondents, two were from Germany). Although this seemed concerning, the group utilized this information in comparison with their literature review. Any comparisons between Germany's data compliance under the GDPR and other regulations globally was analyzed to validate this data.

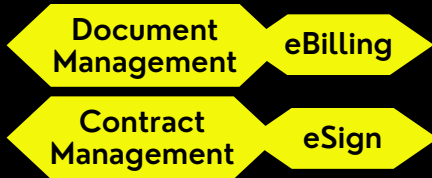


RESULTS



LITERATURE REVIEW

GLOBAL TOP SERVICES



GLOBAL BUDGET

3x by 2025

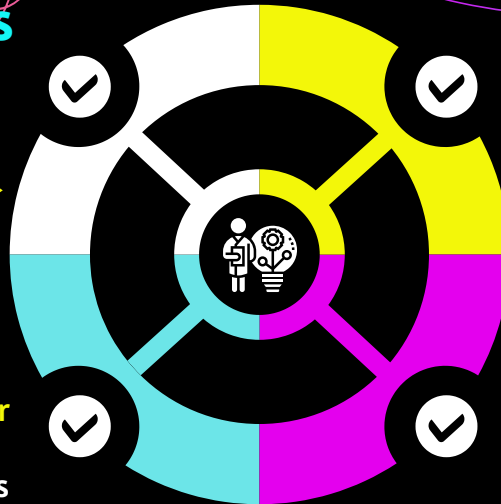
US/UK TOOL USAGE

90% legal teams use more than 3 legal tech software in 2022

56% notices acceleration usage in past three years

US/UK CHALLENGES

77% legal teams spending more than **1 hour** daily maneuvering between different systems



Legal tech usage has demonstrated an overall positive trend globally since 2021. From the 2021 State of the Industry Report performed by CLOC, globally, eSignature, eBilling, Contract Management, and document management are among the top four legal technology tools most widely used in legal departments. Additionally, from this research, corporate legal departments are projected to triple their legal technology budgets by 2025. In-house legal departments claim that due to legal tech's ability to automate and simplify workflows, they are worthy investments. Allen & Overy cited three "pull" factors that catalyze a shift among in-house legal departments to a legal-tech-oriented transformation including technological advances which enable nearly all manners of approach to legal service delivery possible, the introduction of a newer generation of lawyers into the workforce with different expectations about legal tools, and additional choices available to in-house legal departments resulting from a heightened range, breadth, and depth of services. ^[1]

US/UK Trends: 2022

The adoption of legal tech in the workforce demonstrated a positive trend starting in 2022 in both the USA and UK. From The 2022 In-house Legal Technology Report by LawVu of nearly 500 in-house lawyers and legal operators in the USA and UK, the primary goals of these legal professionals were to increase efficiency and save time. Although 90% of legal teams utilized three or more software vendors in 2022, the largest pain points were inefficiencies caused by these many platforms and integration between these platforms.

Additionally, it was estimated that 77% of in-house legal teams from the USA and UK were spending more than one-hour daily maneuvering between these many systems. it was concluded from the research by LawVu that a full-suite solution would be most efficient and important to designing a workplace tool fit for these conditions. ^[17]

From research conducted by Contract Works in their 2022 In-house Legal Report, legal tech was concluded to be empowering in-house teams overall, rather than just the legal departments in the UK and the USA. This rendered employees more efficient and productive in their respective roles, which yielded increased amounts of overall job satisfaction. Perhaps in part because of the pandemic and remote work, 57% of respondents noticed an acceleration in legal tech tool adoption by at least three years.^[17]

US/UK Trends: 2023

The USA and UK have demonstrated similar trends in their adoption of legal tech since 2022. According to The 2023 In-house Legal Technology Report by LawVu of 300 in-house lawyers and legal operations between the USA and the UK, the primary focuses of the legal teams of these two countries are further efficiency and productivity gains. Further concerns for in-house legal teams include targeting issues such as employee exhaustion and burnout. The UK and USA are utilizing fewer technology solutions than in 2022, with legal teams focusing extra time on manual administrative tasks. Similarly with the research performed by LawVu in 2022, many in-house legal professionals in the USA and UK, there is still a significant movement between many utilized platforms, with 61% of legal teams spending over one hour of work time doing so. Therefore, it was concluded from these two surveys, that a consolidated platform spanning the responsibilities of many internal departments would be a viable introduction to the workplace environment.^[18]

German Trends

Global trends in legal tech as well as the priorities of the in-house legal departments were similarly displayed in Germany. The data presented in the global section of this report was therefore analyzed in conjunction with Germany's. According to a survey from BusyLamp in 2019, Legal Operations Benchmarking Report, with 55% of respondents coming from Germany, legal departments in the banking, finance, and energy industries are most inclined to utilize an extensive variety of legal tech solutions. The three priorities of German legal departments were stated as increasing the quality of legal advice, reducing external legal expenditure, and automating and streamlining manual processes, the final of which was a trend among in-house legal employees of the UK and USA in both 2022 and 2023 surveys. Of these respondents, approximately 50% possessed legal operations as a portion of their assigned job, yet not as a dedicated role. This aligns with the prior claims that management should establish the necessary roles of the legal department, as well as utilize a single platform to suit several needs from The 2022 In-house Legal Technology Report by LawVu.^[2]

CONTENT ANALYSIS

To effectively design a legal tech self-service platform in a manner that is user-friendly and to also analyze the novelty of the proposed platform, the project team compared the implemented elements of a number of online platforms. The project team analyzed the functionality and overall design of fifteen platforms in total: Clifford Chance, BRYTER, AdviSME/Tompkins Wake, Pinsent Masons, Docmosis, ServiceNow, Thomson Reuters, Plexus, Checkbox Technology, Filevine, Ironclad, LawVu, BusyLamp, Onit, and Evisort.

Functionality Analysis

The six categories of legal tech functionality are contract lifecycle management, document review and data extraction, team and project management, risk and compliance, knowledge management, case/supplier/matter management.^[1] If a platform included at least one feature that fell under one of these categories, the platform would be classified as having that category's functionality.

The results of the categorization of the platforms are shown below in Table 1. The team found that contract lifecycle management and team and project management features were the most prevalent, however, knowledge management features were also popular. The remaining three categories—risk and compliance, case/supplier/matter management, and document review and

data extraction—were in less than half of the platforms analyzed. This hints at a potential opportunity in the legal tech solutions market, as existing solutions for these latter three categories is sparse.

Table 1. Legal Tech Solutions Overview of 15 platforms analyzed

Contract Lifecycle Management	12
Team and Project Management	12
Knowledge Management	11
Risk and Compliance	6
Matter Management	5
Document Review & Data Extraction	0

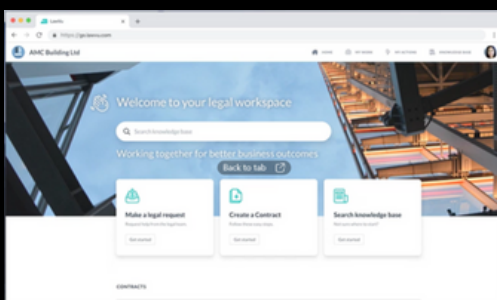


Figure 5. One of the analyzed platforms, AMC

Task	Status	Priority	Due by	Assigned to
Lease Legal Support Request	Open	Medium	Tomorrow	Lail Fernando
Advice on Employment Agreement	In Progress	Low	4 May 2022	Mai Coni
Procurement Legal Support Request	In Progress	High	21 Mar 2022	Mai Coni
Advice on Confidentiality Agreement	In Progress	High	19 Mar 2022	Jan Nguyen
Franchise Legal Support Request	In Progress	Medium	3 Apr 2022	Ahmed Salem
Advice on Influencer Agreement	In Progress	Medium	17 March 2022	Lail Fernando

Figure 6. Plexus Gateway status overview example platform

The platforms had additional features that did not necessarily fall under any of the six categories. Legal workflow automation, which was included in 10 platforms, allows legal departments to customize their full legal processes.

Seven platforms emphasized their capabilities in integrating with existing tools and six platforms included the ability to collaborate with other users in the platform. Five platforms touted features that leverage artificial intelligence; for instance, Evisort's legal tech platform includes the use of AI to "define and enforce standards" with a library of clauses.

Overall, it appears that the current legal tech market consists of contract lifecycle management, team and project management, and knowledge management solutions. The team found that the combination of these three features is desirable for a full-suite platform since the majority of the analyzed platforms (9 out of 15) incorporate them.

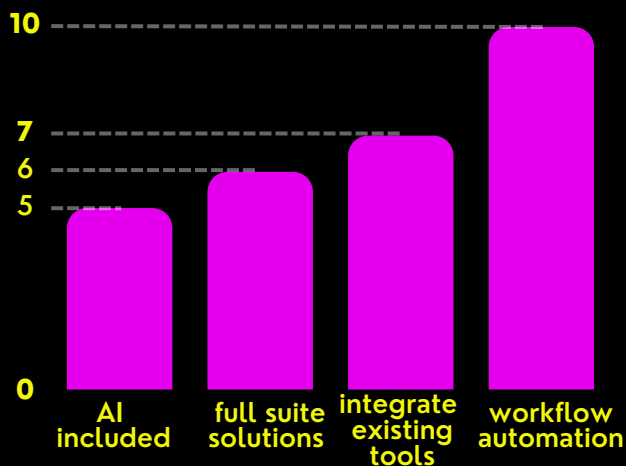


Figure 7. Feature Overview Graph of 15 analyzed platforms

Design Analysis

Workspace Layout

Dashboard Layout

Aesthetic Design

User Experience

The platform designs—more specifically the general layout, dashboard layout, general aesthetic, and overall user experience—of eleven out of the fifteen platforms were examined. The most common layout included one top menu bar and a permanent (as in, not a pop-out) menu bar, and the most common dashboard layouts either had status tracking or buttons for the features near the top of the page. Dashboards typically also included some form of data visualization and listed the user's recent activity or notifications. The popular aesthetic consisted of simple white or black sans-serif font, modest use of color, and clean, modern lines. The platforms were generally user-friendly. Easy navigation was accomplished with the use of the menu bars and the efficient delivery of information was achieved with the layout of the dashboard.

KEY FINDINGS

OBJECTIVE 1

Startup



No in-house legal team



Challenges

Greatest challenges: data compliance (GDPR regulation) and IP management and protection

- financial differences between startups and well-established companies
- personnel differences
- internal legal knowledge
- distribution of workload



Concerns



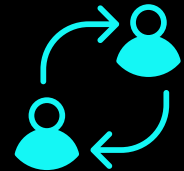
Knowledge management is the most used legal tech tools

Well-established



Has in-house legal team

Often face legal challenges regarding trust and turnover time between internal departments (legal teams and broader business)



Opportunity

Have plenty of resources and personnel and are more willing to outsource legal advice as necessary.

Team and internal management is the most used legal tech tools



Interview with Startup

First, the team interviewed a German startup to determine the legal challenges facing startups. From this interview, there were two primary issues at stake: data compliance with GDPR regulation, and IP management and protection. The project team utilized these two challenges as use cases in the design of the proposed self-service platform.

Through the literature review method, the team discovered that the startup's difficulties with GDPR compliance aligned with those general ones presented in the accumulated sources.^[35] Particularly, the interviewee expressed concerns about financial differences between startups and well-established companies and how these contributed to the severity of fines.

The second legal issue of this startup, IP protection, is also aligned with the data presented in the Background and literature review sections of this report. The survey interviewed experienced IP difficulties in the past, given that their identity was misrepresented and stolen due to a lack of contractual compliance. Fortifying their identity was a hurdle the startup encountered twice because of limited legal knowledge and no developed legal contract. The small startup did not possess an in-house legal department to guide them with the necessary legal protection steps such as contract documentation. Therefore, this rendered this startup vulnerable to attack with regard to their property. Moreover, the startup expressed their limited resources in comparison to larger, well-established organizations. These resources included personnel, internal organization, and financial ability. The startup currently operates with many volunteer and freelance workers. Furthermore, these workers typically outsource legal requirements to external law firms and legal professionals. Therefore, the team also concluded that a startup was ill-equipped to self-serve its legal needs without the influence of a third party due to financial status and personnel capabilities.

This interview with the startup allowed the team to learn more about the legal needs of German startups. The startup was interested in all functionalities of a legal tech self-service platform. Although this startup's primary legal needs involved GDPR compliance and IP protection, the interviewee expressed that all proposed solutions would be vital to the company's financial and commercial success in the market.

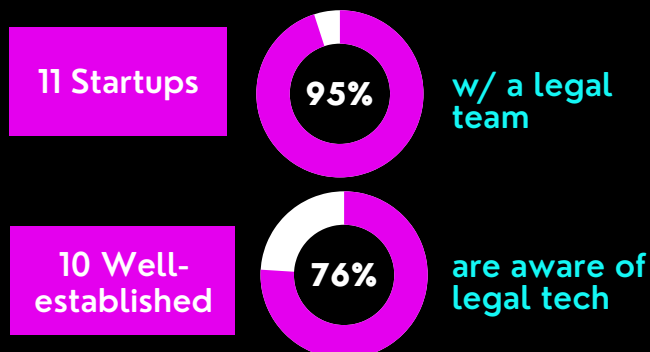
Interview with Well-Established Company

In comparison, the interview with an employee of a large, German travel industry company demonstrated that having an in-house legal team and furthermore, an in-house legal tech team, provided many advantages compared to startups. The interviewee mentioned that larger companies were willing to outsource legal work as necessary compared to startups, given the fact that startups are either unaware of legal resources or do not possess the financial capacity to do so. Larger companies such as the one this individual belonged to have the opportunity to make use of colocation data centers in Germany. These served as outsourced data center solutions for businesses that needed to expand their data capacity without building their own. The interviewee claimed that smaller startups did not have the luxury of choosing between data center locations, and therefore encountered "eat or die" situations regarding the terms they are given. To conclude, larger, well-established organizations typically have the financial and personnel resources to eliminate or limit challenges faced with GDPR data compliance.

Furthermore, from this interview, the team learned that well-established organizations, with their many personnel, often face legal challenges regarding the level of trust and turnover times between businesses and lawyers / legal teams. The interviewee noted that businesses often wished to complete their work immediately or as soon as possible. With a limited number of in-house lawyers, accomplishing this goal became difficult. The interviewee regarded that the introduction of self-service technologies into this business aided in decreasing the frequency of this communication problem.

Survey

The project team used the Qualtrics platform to gather responses from well-established and startup companies. Information gathered from the survey included the size and industry of the company, the individual's department at the company, and their general awareness and usage of legal tech solutions. The team then utilized this data to test the hypothesis that companies spend a significant amount of time and resources on legal tasks that could be automated through a self-service platform.



Additionally, the team inferred from the collected survey data that the startup portion responded with "would like to use" when prompted with various legal tech use cases with four out of six legal tech solutions. This indicated that many start-up companies are not currently using those tools but are willing to use them. However, three out of six legal tech solutions received zero votes indicating "would like to use" by well-established companies, with the remaining three legal tech solutions obtaining only one or two votes. Startups

also responded that they utilized more "knowledge management" legal tech tools compared to well-established companies, with 60% of startups and 20% of well-established companies indicating the use of or interest in these tools.

Comparatively, startups used significantly fewer "team management" tools compared to well-established companies, with only 10% of startups and 66.7% of well-established companies indicating in-use or interest in using these tools.

Due to the high number of lawyers available to the interviewee's large, well-established organization, their legal needs primarily focused on internal communication between the business and legal team as well as meeting the time standards imposed by this business.

Most Used Services

1. Corporate Policies & Management
2. Document Automation
3. Negotiation / Approval

Most Wanted Services

1. Document Automation
2. Contract Portfolio
3. Internal Accountability

OBJECTIVE 2

Interviews

The team then inferred the broader implications and causes of the results obtained from the interviews with the startup and the larger German company, the survey, and the literature review about legal challenges and legal needs. The team discovered that data compliance and IP protection and management were primary legal challenges facing startups. The smaller number of employees frequently noticed in startups, the lower amount of financial support, and the limited legal knowledge all render startups vulnerable to failure (monetary or commercial). These challenges are important to discover because startups and less well-established companies do not possess the financial and personnel capabilities to equally participate in the German market. They are subsequently more susceptible to heavy monetary fines in the wake of GDPR regulation disobedience. As the startup company continues along this fatal path of legal unawareness and financial burden, it may ultimately face bankruptcy. As the literature review and the interview presented, these fines halt the startup's financial success in the market, which then requires additional time for the startup to obtain legal and financial security.

Furthermore, in the wake of GDPR regulation disobedience, the startup may more broadly face difficulty with venture capital funding.

The interviewed startup does not have a distinguishable, in-house legal department, but rather, much of their workings are cross-departmental (which was additionally supported by the global market

research on the responsibilities of in-house legal employees).^[6] Since employees of this startup are juggling responsibilities perhaps outside of their job qualification, time is at stake, whether this concerns the employee's timely ability to understand and undertake the workings of the legal requirement, or to simply search for answers from an outside party or software.

In comparison, the interviewee from the much larger German organization claimed that even though their personnel number was far greater, the organization's in-house legal team managed to develop drafts and templates of legal documentation for other internal departments to follow. Therefore, the responsibilities placed upon in-house legal teams of larger organizations are better-defined. However, the interviewee primarily noted, as mentioned prior, that communication between the business and the legal team is still inefficient at the expense of time and turnover.

The interviewee of the larger German organization also mentioned how the transition of the company to legal tech software was simple. This was in part due to their company's target focus on IT, but also due to the greater number of in-house legal members. The interviewee thought that startups and smaller organizations might be unaware of legal tech solutions or do not possess the financial capacity to implement them.

Therefore, this broadly supports the claim that larger organizations are better equipped to prevail in the commercial market due to their willingness to implement legal tech solutions, financial ability to do so, and in-house legal teams to fortify their legal understanding.

Survey

The team concluded from the survey results, particularly the data presenting the “would like to use” cases, that well-established companies were less motivated to change their internal legal system and working style, while startups were willing to utilize new technologies and tools to guide them and simplify legal processes. This was significant because interviewed startups have expressed a trial-and-error pattern of undertaking novel solutions all as a means of succeeding in a market alongside these larger entities.

The team found from the knowledge management and team management survey data that these results were logical, considering that startups, by definition, possess fewer resources and knowledge regarding legal processes and successful management (of ideas, personnel, etc.). Furthermore, the information and resources unique to the startup were especially vulnerable to mismanagement due to limited legal awareness and awareness of IP management. A lack of legal protection may imply broader negative effects such as IP theft and lawsuits. The fact that startups had fewer personnel to manage supported the literature review about the definition of startups as well as the interviewed startup’s anecdotal evidence.

These survey percentages were significant in startups’ success. Legal tech self-service tools would allow startups to financially and commercially succeed in the market. Utilizing a knowledge management system, startups would be able to more efficiently manage their time and resources and moreover, in accordance with data protection rules enforced under the GDPR. The smaller percentage of startup respondents utilizing team management tools might allude to the flexible

responsibilities of startups’ in-house legal departments and other departments (the cross-departmental required tasks). With fewer employees to manage, this makes team management in startups less emphasized. However, considering the financial and commercial success of well-established companies, the team considers team management tools a viable addition to the workings of startups.

Therefore, to equate the “playing field” between startups and well-established companies, additional team management tools might be useful in addition to the knowledge management tools being largely implemented in startups. Furthermore, larger, well-established companies have been implementing legal tech tools for some time, as cited by the interview with the individual from a very large organization. This provides well-established organizations with an advantage over startups and organizations without the financial and personnel means of implementing helpful software solutions. To ensure justice and equity in the commercial market, legal tech self-service platforms may fortify startups’ legal understanding, thereby rendering them more self-sufficient, less financially vulnerable, and providing them supplemental internal time.

OBJECTIVE 3

Interviews

Although the team concluded that a legal tech self-service platform would possibly solve the legal challenges and support the legal needs of both startups and well-established companies, the motivating factors for using the platform were deemed vital to an effective platform's design. The interviewed startup was interested in utilizing a full-suite platform with as many capabilities as would be helpful to the startup. The development of such a full-suite platform would decrease the startup's need to pay for work and external assistance, considering that this platform will be offered at a substantially lower price or would offer increased benefits such as saved time. Subsequently, the startup would no longer need to wait for this external source to complete this work at the expense of time.

As the startup expressed, financial state governs many of their decisions to undertake a new software solution and outsource legal work to law firms. Therefore, the survey result of a financially feasible software solution logically reinforced this claim. From the information presented in the UI/UX background as well as the content analysis, a successful platform should be useful, usable, desirable, findable, accessible, credible, and valuable according to Peter Morville's "User Experience Honeycomb." Given the fact that the survey results

reflected a proposed platform to provide these characteristics, easy-to-use, accessible, and visually appealing, the team's research was supported theoretically by the conducted literature review.^[20]

The interviewee of the well-established German business mentioned that the transition to legal tech solutions has already occurred internally and was efficient for the in-house legal team. However, the interviewee also noted that the large business refrains from implementing legal tech solutions which would require additional training of other departments. The organization also disliked how they were utilizing two different solutions which resulted in more time spent on inter-navigation. From this interview, the team concluded that a full-suite legal tech solution would not only benefit startups but also larger, well-established organizations by saving time and resources.

Therefore, the team concluded from the survey, content analysis, literature review, and interview with the startup that a full-suite, user-friendly platform was most desired by startups and well-established businesses. Unfortunately, as presented prior, such tools may not be used by startups due to financial difficulties.

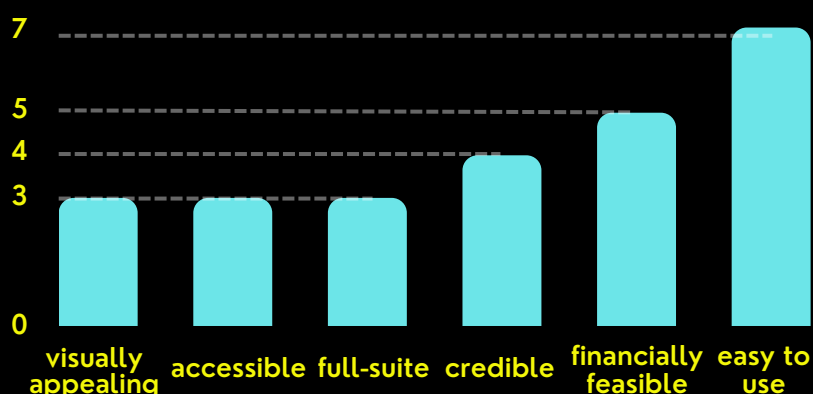
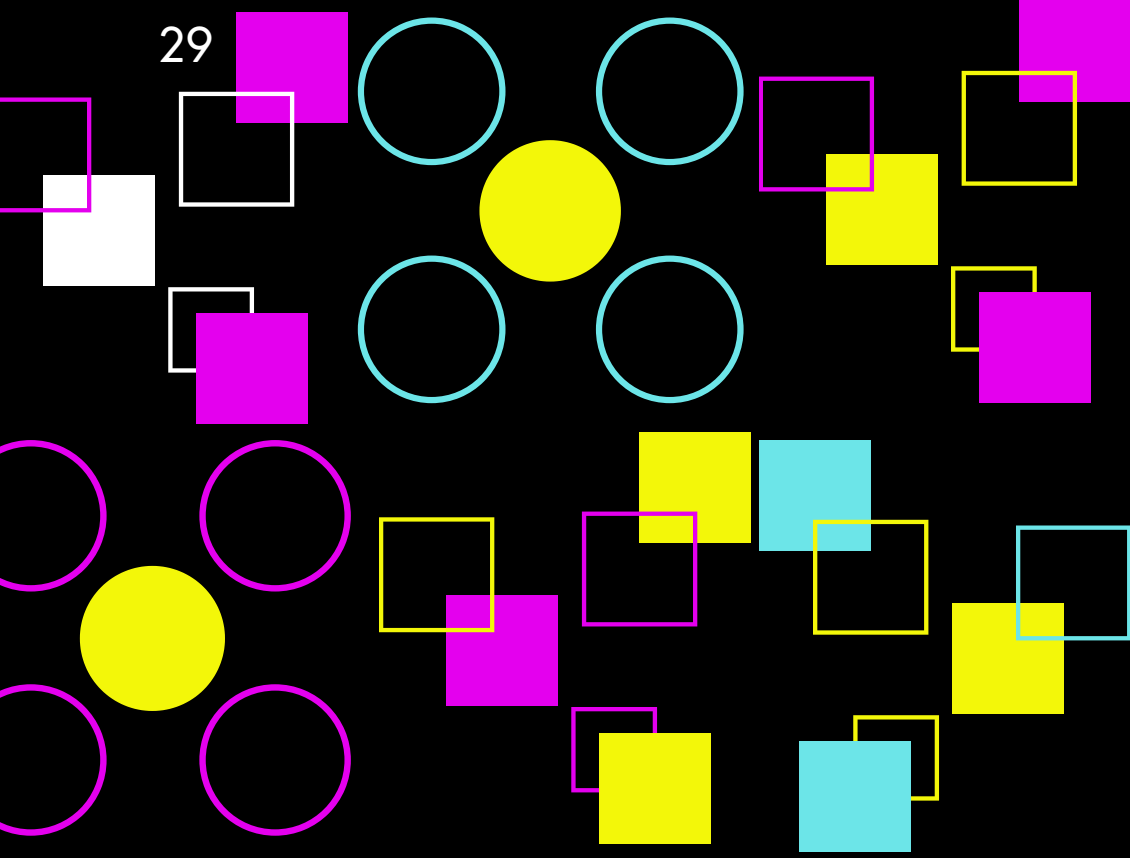


Figure 8. Motivation to Use a Platform



RECOMMENDATIONS



Following a meeting with SKW Schwarz, the project team learned that this platform prototype might not be utilized by the law firm. This is because the market research was most vital to the project scope, and the notion that this platform will likely be unique to the industry or company. Therefore, the developed platform operated strictly as a prototype for the innovation lab's benefit.

From the survey, interview, content analysis, and literature review research, the team advised the members of SKW Schwarz to implement a full-suite solution, given that the results indicated a strong motivation to use a platform of this sort. However, for the sake of time, the project team only implemented the most desired, most used, and most needed legal tech solutions of the surveyed and interviewed startups and well-established companies. Therefore, the team considered these particular solutions to be most vital in the success of these organizations. In assessing the novelty of the developed platform, the project team concluded that while this platform was not unique in its elements (as many of the fifteen analyzed platforms implemented many of the use cases), its proposition was unique in that it would serve as a full suite of all these elements. The team also noted that should the sponsor expand this platform, data breach concerns of both the EU (GDPR) as well as the US would be a novel solution. This would aid larger, well-established organizations (or notably thriving startups) with tackling any cross-border compliance issues.

Additionally, although the team primarily focused on two pain points of startups and well-established companies, GDPR compliance and IP protection and management, the team advises SKW to integrate the survey results into the platform for more legal tech applications in the design of an effective full-suite platform.

Per the request of the project sponsor, the project team has proposed some solutions for further development of the platform prototype. For example, the sponsor as well as the team deemed an AI chatbot to be an efficient means of providing the user with information regarding document creation, definitions of the variables in document creation, contacting the corresponding individual for a given step of the document creation process, and further instances.

The project sponsor additionally asked the team if, during their content analysis, they uncovered no-code solutions which SKW's employees could utilize in the future. In response, the project team deemed Bryter to be a valid option. Bryter offers the user a no-code platform through which they can develop digital solutions for various problems such as document automation. Otherwise, the team recommends expanding the current Figma platform.

For future interdisciplinary projects, the project team would advise additional cooperation with SKW Schwarz to occur in the form of instructional meetings (in this team's case, only one meeting occurred). This was because, according to SKW, the project's primary goals were to implement the detailed, inner workings of in-house legal procedures rather than to establish objective goals and use cases. However, this project team as well as their advisors deemed the broader objectives and social implications more relevant in the long term. The team would also advise future teams to begin survey conduction early, perhaps earlier than the project term's beginning. Due to necessary compliance with the IRB, this could not occur for this project team and posed a hindrance to the team's platform development and research timeframe.

One proposal for future investigation and development is a privacy policy generator using an AI feedback loop. The sequence is as follows: first, all essential policy information is collected, and a generative AI creates text based on this raw. Then a decision-making AI determines whether the data proposed from the AI-generated privacy policy aligns with existing GDPR regulations and existing privacy policies of the organization. Should

the AI-generated privacy policy fail the policy checker, the policy moves back to the policy generator step with the feedback from the checker. Once the AI-generated privacy policy passes the check, it seeks user approval or rejection. Then, the approved AI-generated policy is automatically published on the company website and emailed to the desired users or employees if necessary. The diagram shows this proposed feedback loop structure.

Privacy Policy Generator

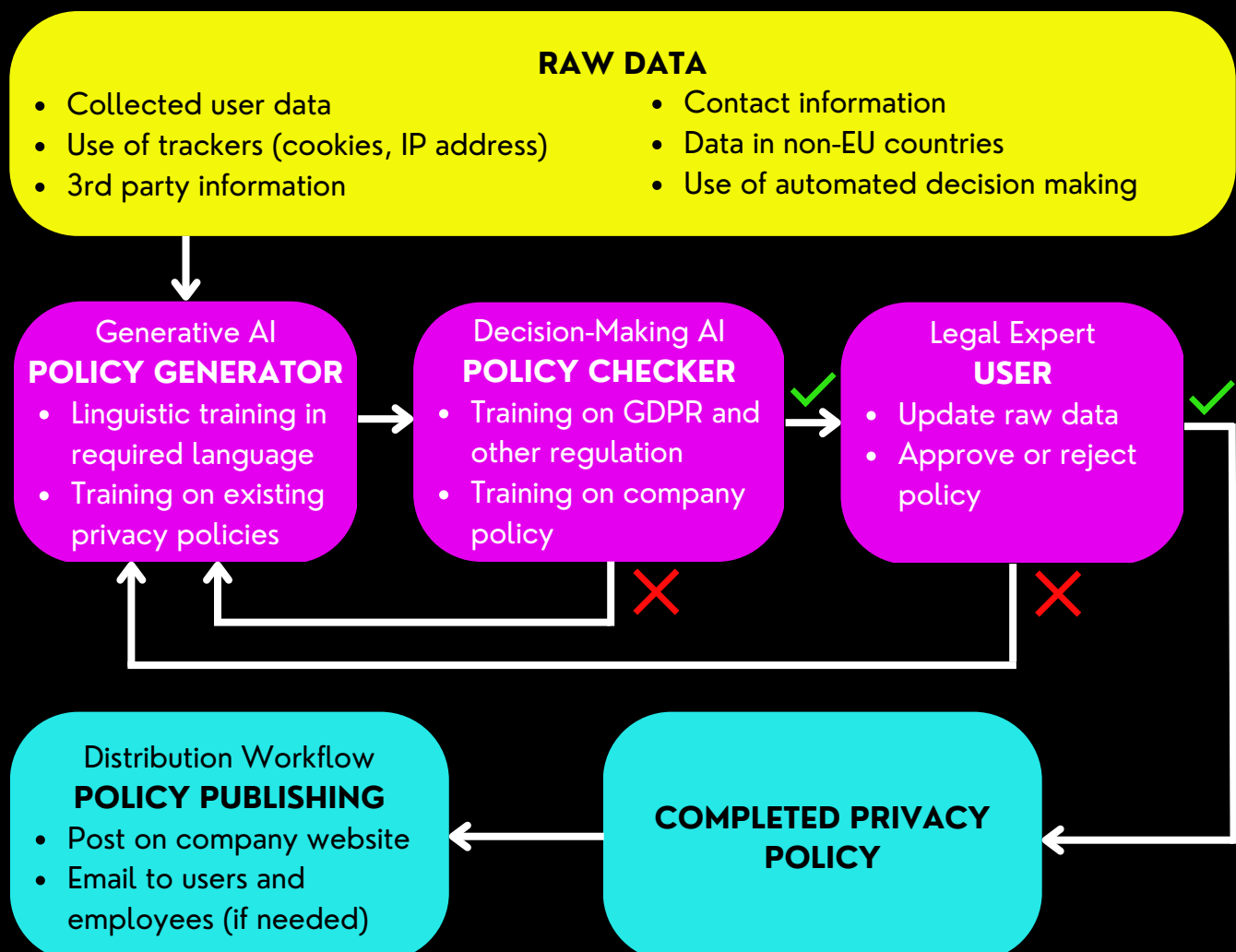


Figure 9. Flowchart of purposed AI privacy policy generator

CONCLUSION

Even the most creative and entrepreneurial startup concepts are subject to the legal challenges of establishing and sustaining a business. Small businesses and startups face considerable costs as they establish trademarks, file patents, and become compliant with global, national, and regional policies. These costs can be so overbearing that companies would rather risk litigation than pay legal fees. Well-established organizations with fortified in-house legal teams are less inclined to be challenged in these ways and therefore, may ultimately triumph against these smaller organizations financially and in the commercial market.

The interviews, startups, and literature review methods enabled the project team to determine the legal needs and challenges facing startups and well-established companies. Startups appeared to struggle with the areas of GDPR compliance and IP management and protection. In comparison, well-established organizations did not struggle with these regions, but more so, with communication of ideas and objectives between the in-house legal team and various other internal departments. This inefficient communication posed a hindrance to the internal legal departments, given the fact that time turnover was poor between both parties.

More so, the team learned from these methods that startups struggle financially and with the aforementioned legal challenges due to fewer employees, less well-defined responsibilities of an in-house legal department, less legal knowledge overall, and less financial flexibility to either outsource work or implement legal tech solutions.

Well-established organizations, therefore, possess these means of financially and commercially succeeding. The team's proposition of a self-service legal tech platform would theoretically level the playing field between these two entities by equipping startups with the legal knowledge to thrive in the face of legal challenges. In implementing this platform, the startups would subsequently save time internally and save money resulting from self-sufficiency. The startups would no longer need to frequently outsource legal help and work.

Finally, the project team learned about the motivations behind utilizing a legal tech self-service platform. In accordance with UI / UX design principles, the team discovered from the interviews and survey that users wanted a platform that was financially feasible, easy to use, credible, full-suite, accessible, and visually appealing. Furthermore, the project team inferred that the most wanted platform services were document automation, contract portfolio management, and internal accountability. As a result, the project team decided to implement the following legal tech self-service applications: document creation (NDA, data breach declaration) and an FAQs section. In conclusion, our findings and deliverables aimed to assist startups by equipping startups with legal knowledge to succeed alongside larger organizations.

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