

Exploring the Gap between the Academic and Practical Perspective of Legal Tech

Paul Poppe

22.01.24, Bachelor Thesis Final Presentation

Chair of Software Engineering for Business Information Systems (sebis)
Department of Computer Science
School of Computation, Information and Technology (CIT)
Technical University of Munich (TUM)
www.matthes.in.tum.de

Outline

- Recap:
 - Introduction to Legal Tech
 - NLawP Project
 - Motivation
 - Research Question and Methodology
- Results
 - Interview Overview
 - Patterns: Use Cases, Success Stories, Challenges
- Outlook and Limitations

Introduction to Legal Tech and Motivation



Legal Tech 1.0
Supporting the human
E-Mail, Document Management,
Online Meetings



Legal Tech 2.0
Replacing small tasks
Automated Reasoning, Automated
Document Analysis



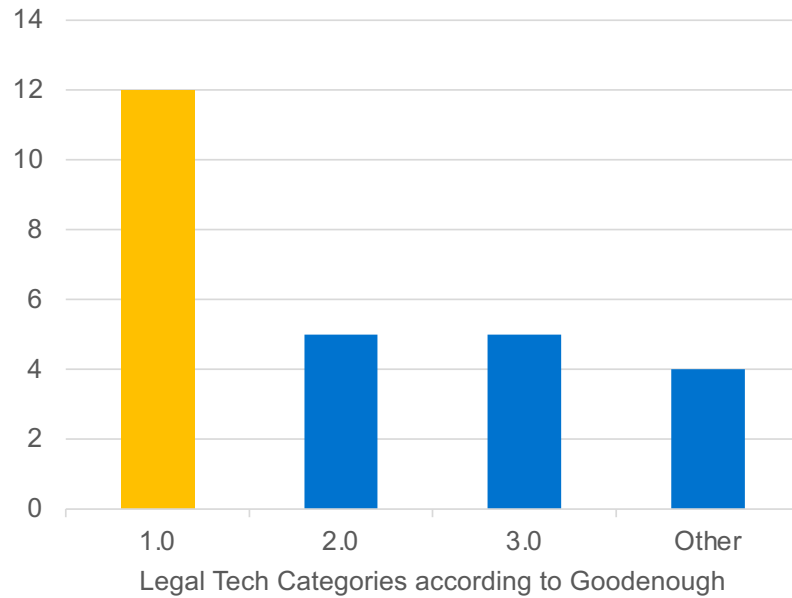
Legal Tech 3.0
Replacing the human
Automated / AI Lawyer, Smart
Contracts

Legal Tech Classification: Goodenough, 2015

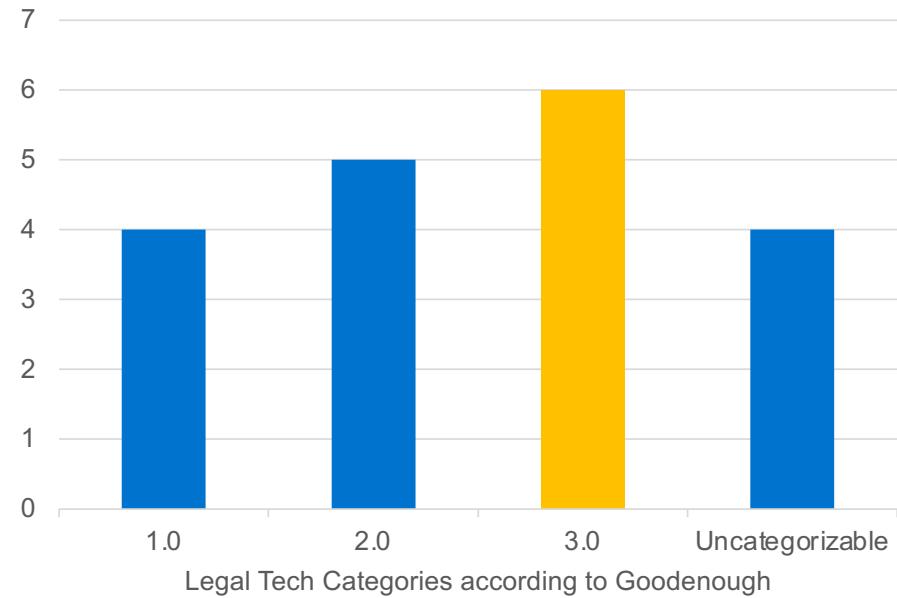
Motivation: Legal Tech Understanding



One year ago



Now



Findings on the left: Preis, 2023

240122 Paul Poppe Bachelor Thesis Final Presentation

Motivation

”

It is well-documented that upgrading legal technology can improve efficiencies and increase profitability, yet many law departments are reluctant to let go of current processes.

Legal Suite, 2022
(International Legal Consulting Firm)

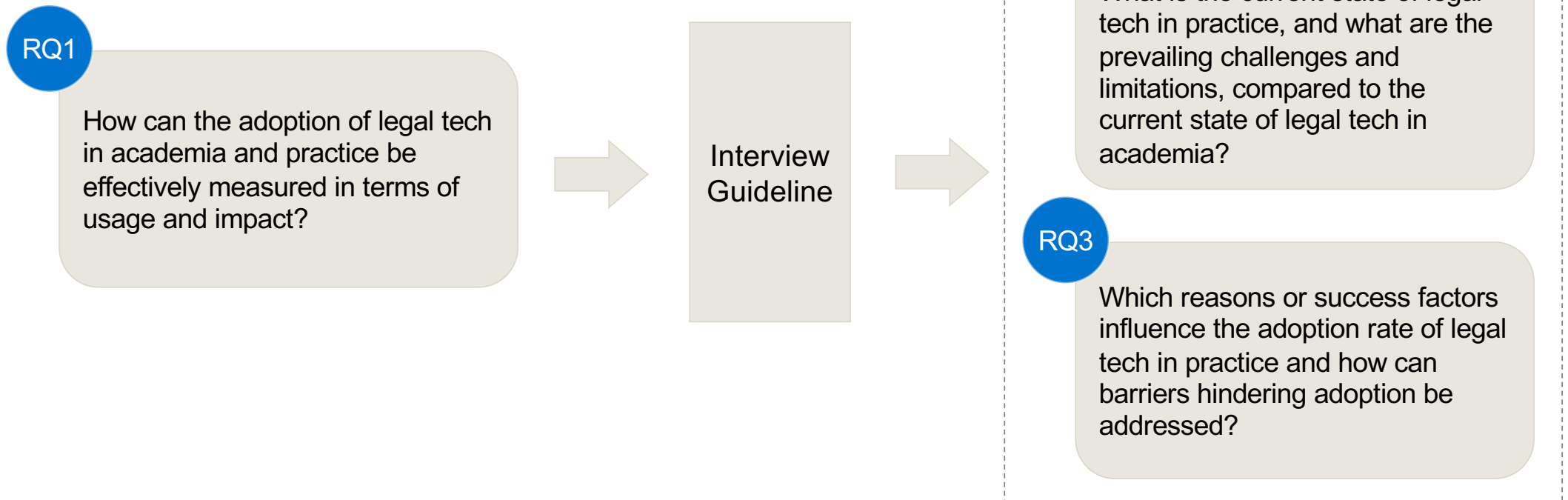
63% of in-house legal work is routine or can be standardized

Gartner, 2019

→ Lack of understanding and adoption of Legal Tech

Goal: Analysis of different perspectives on legal tech to find patterns in success stories and limitations guiding future legal tech implementation and boosting adoption.

Research Questions



Theoretical Concepts and Models Influenced our Interview Design

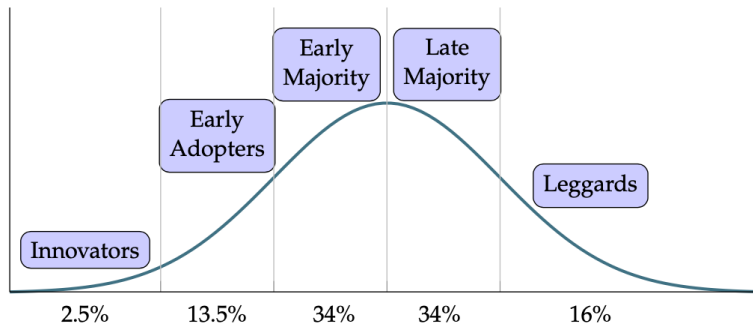


Figure 5.2.: Adoption Lifecycle, Own Figure, Based on [Rog03]

Diffusion of Innovation Theory (1962; Everett Rogers):
Factors influencing adoption from an individual's perspective:

- Compatibility
- Trialability
- Relative advantage
- Observability
- Complexity/Simplicity

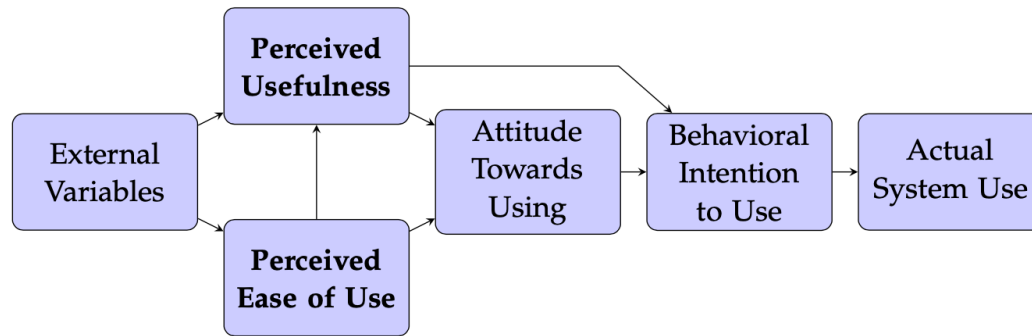


Figure 5.1.: Technology Acceptance Model, Own Figure, Based on [Dav85]

Preparing and Conducting Interviews explained

Recruitment Channels

- Personal Connections
- Second-Degree Connections
- Internet Approach

Selection Criteria

- Employed in the field of law
- From Germany

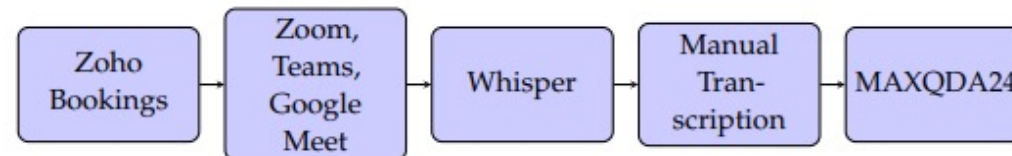


Figure 4.1.: Interview Process Visualised

Differences of the 17 interviewees in terms of experience and occupation

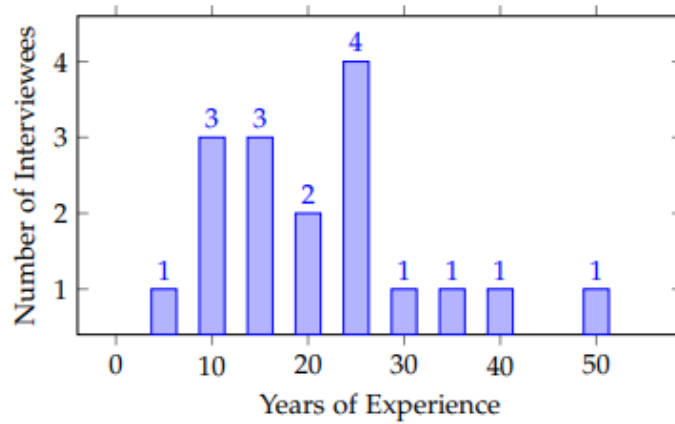


Figure 4.4.: Professional Experience of Participants

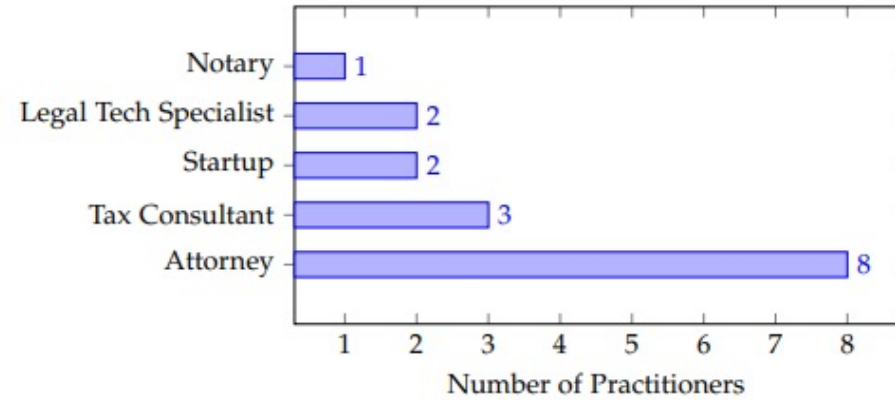


Figure 4.3.: Distribution of Practitioners: Occupation

Interview Results Overview



Understanding

Depicts the interviewees perspective of the concept of legal tech

Adoption Process

Explores strategys and patterns in the adoption process

Responsibility

Analyses key responsibilitys in organizations, fostering adoption

Application Usage

Analyses participants used legal tech tools and use case categorys

Challenges

Collects challenges faced by participants

Future Development

Explores participants future perspectives

Benefits / Improvements

Explores the benefits of legal tech applications stated by participants

Success Factors

Explores factors benefiting a successfull implementation and adoption

Academic Perspective

Presents the researchers perspective on legal tech adoption

Document- and Communication-related Use Cases are most used



- Tax Specific Programs, e.g. DATEV
- Document Creation
- Document Management, e.g. E-Akte by RA-Micro
- Communication Platform
- Online Meeting Applications, e.g. Teams
- Law Firm Management, e.g. RA-Micro
- Online Databases, e.g. Beck Online

Benefits of Legal Tech can be categorized into four main groups



Efficiency Improvements

Example: Reduction of redundant work, Time Savings, Concurrent Access, Increased Availability



Quality Improvements

Examples: Improved Data quality, Awareness of Edge Cases, Security



Environmental Improvements

Examples: Decreased Travel needs, Less paper / printing supplies



Financial Improvements

Examples: Decreased Travel needs, Less paper / printing supplies



Other Improvements

Examples: Access to Justice, Flexibility (Home office), Attractiveness as an Employer

Challenges and Limitations



Alternatives in the Market

"a Legal Process Outsourcing Provider" where we are "able to trigger manual or manual reviews at relatively low cost." (INT-14)

Scale and Limited Resources in Law Firms

Financial Limitations / High Costs:

"The industry is presumably confronted with a certain increase in price awareness on the part of clients due to the use of AI and legal tech." (INT-07)

Organizational
Challenges

User-related
Challenges

Market and
Industry
Challenges

Operational and
Technical
Challenges

Challenges and Limitations

Resistance and Skepticism

"I don't think there is really a drive in the legal profession to actively develop this now."
(INT-12)

Professional Appearance

--> Clients Trust

Human Judgement and Empathy

"Our consulting relates a lot to negotiations, i.e. where it is a matter of negotiating solutions with the other side" (INT-12)

Organizational
Challenges

User-related
Challenges

Market and
Industry
Challenges

Operational and
Technical
Challenges

Challenges and Limitations



Competition Absence in the Public Sector

→ In comparison with the competitive private sector

Scarcity of Alternatives in a Monopolistic Market

→ Niches are controlled by mostly one company

Challenges in Liability Management

"So basically, of course, you have to know [. . .] we lawyers and tax consultants are paid for our liability." (INT-03)

Time-Based Billing in Legal Practice

Organizational
Challenges

User-related
Challenges

Market and
Industry
Challenges

Operational and
Technical
Challenges

Challenges and Limitations



Data Privacy Concerns

"As a lawyer, you have specific diversity obligations towards your clients, some of which are punishable by law. So, you already have a relatively high risk." (INT-15)

Cloud vs. On-Premise Dilemma

Huge gaps between participants, from pro cloud to people, thinking, they are not allowed to use the cloud at all.

Organizational
Challenges

User-related
Challenges

Market and
Industry
Challenges

Operational and
Technical
Challenges

Success Factors



Liability

- → Use tools, which leave control with the human

Small Tools; Platform Choice

- Self-Developed, small tools on Microsoft Power Platform

Centralized vs. Decentralized IT

- Good reasons for both, depending on the requirements

Gradual Improvements

- Digital Transformation requires time

Communication and Exchange

- Engage in Legal Tech Communities

Clear Responsibility

- Having someone in the organization for managing legal tech

Clear responsibility is rare, professional responsibility even more

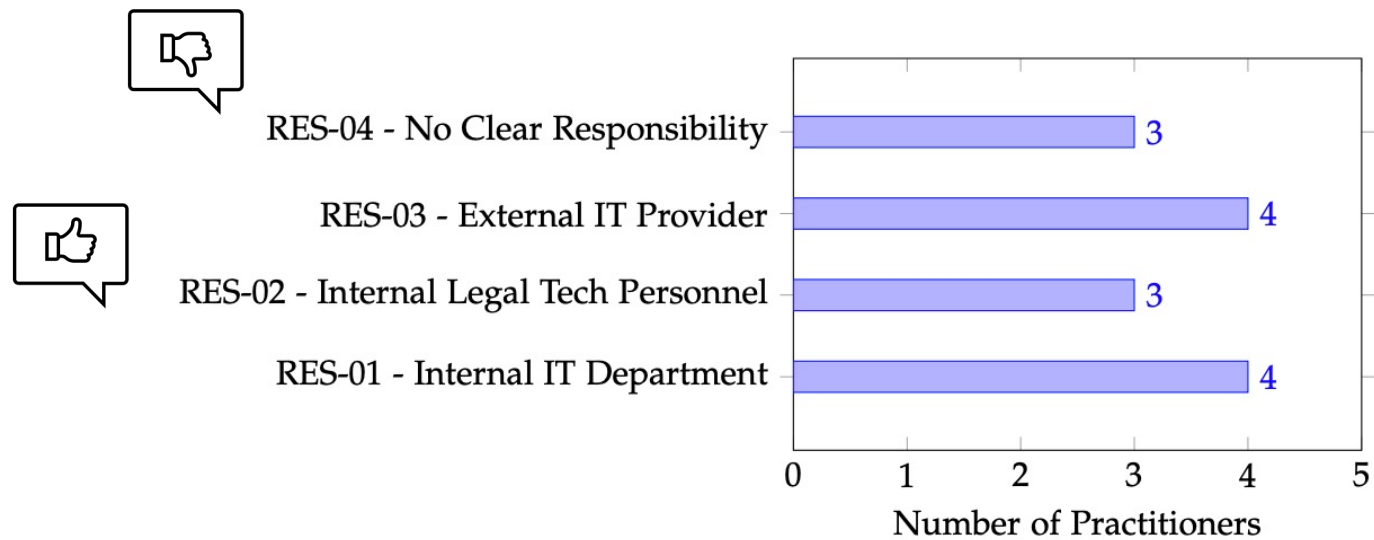


Figure 5.6.: Legal Tech Responsibility in Interviewees' Organizations

Academic perspective in contrast to the practitioner's perspective

Goal:	<ul style="list-style-type: none">• Knowledge Generation instead of market-ready products
Technology Gap:	<ul style="list-style-type: none">• NLP, LLM, Neural Networks
Additional Challenge:	<ul style="list-style-type: none">• Limited Data Access
Success Factor:	<ul style="list-style-type: none">• Active knowledge transfer between private R&D and academic research

Limited generalizability

Sampling Bias

- Only 2 of 17 female participants
- Many got recruited through personal connections
- Location focus on Munich / South Germany

Researcher Bias

- Interviews and Pattern Analysis only conducted by me

Possible future project ideas

Limited qualitative validity



Quantitative examination of the qualitative data of this project

Focus on Germany



Comparison of the german legal tech landscape with other regions (UK, US)

Limited application of e.g. TAM on the adoption of legal tech



Development of more advanced models for quantitative and qualitative examination of a technology group like legal tech



Paul Poppe

Technical University of Munich (TUM)
TUM School of CIT
Department of Computer Science (CS)
Chair of Software Engineering for Business
Information Systems (sebis)

Boltzmannstraße 3
85748 Garching bei München

+49.89.289.17132
matthes@in.tum.de
www.matthes.in.tum.de



Sources



- [1] Goodenough, O. (2015). Legal technology 3.0. Huffington Post v. 2. April 2015. http://www.huffingtonpost.com/oliver-r-goodenough/legal-technology-30_b_6603658.html.
- [2] sebis TU München : NLawP – Natural Language Processing and Legal Tech. (2022). <https://www.matthes.in.tum.de/pages/ztm206o67g3q/NLawP-Natural-Language-Processing-and-Legal-Tech>
- [3] Preis, M. (2023). A Structured Overview of Use Cases for Natural Language Processing in the Legal Domain [Master Thesis]. TUM.
- [4] “Gartner Says Cost-Effective Legal Departments Invest Almost Twice as Much in Training Compared With Higher-Cost Peers.” Gartner, 5 Sept. 2019, www.gartner.com/en/newsroom/press-releases/2019-09-05-gartner-says-cost-effective-legal-departments-invest-.
- [5] Us, L. S. (n.d.). Overcoming Barriers to Legal Technology Adoption | LEGAL SUITE. LEGAL SUITE US 2022. <https://www.legal-suite.com/articles/overcoming-barriers-to-legal-technology-adoption-1546.htm>
- [6] Davis, Fred D.. “A technology acceptance model for empirically testing new end-user information systems : theory and results.” (1985).