

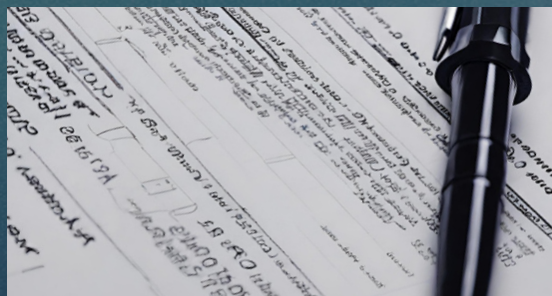
Mar 2024

AI in Law & the Legal Profession

Industry Insights Report

LSESU Artificial Intelligence

Supplement to the LSE Law Summit 2024





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Editors' Foreword

As students who are set to graduate amidst rapid AI development and great speculation, we believe it is important to develop a grounded view of the challenges and opportunities that AI may bring. This paper was written to complement the panel theme “Law and AI: How Artificial Intelligence Will Shape the Future of the Profession” at the LSE’s inaugural Law Summit. However, we hope to provide a comprehensive view of AI-powered legal technology for attendees and non-attendees alike.

Whilst many technologies are touted as revolutionary at some point, we believe that the development of increasingly sophisticated AI tools will be truly transformative as they keep breaking boundaries between human and machine competencies at a dizzying pace. Valued at \$454.12 billion in 2022, the global AI market is expected to contribute an estimated \$15.7 trillion to the global economy by 2030.¹ However, we recognise that AI is not a standalone market; rather, each new development unlocks use cases which have a cumulative effect in re-shaping workflows and monetisation models across a myriad of industries.

Jobs within the legal sector are amongst the most ripe for transformation, with Goldman Sachs estimating that as high as 44% of tasks currently performed by legal professionals can be automated.² We have used an interdisciplinary approach to better understand what developments in AI-powered legal tech may mean for lawyers, law firms, legal tech developers and clients in practical terms. We acknowledge that we cannot predict the future. However, we believe that taking stock of the current market and factors driving the development of AI-powered legal tech can help us to better respond to upcoming changes as they arise. We hope that this paper can serve as a valuable resource for anyone seeking to navigate new developments in the legal or legal tech landscape.

It has been a privilege for us to lead this research project. We have relished the opportunity to engage in research outside of our respective academic disciplines and to showcase our shared passion for the nexus of law and technology. We extend our gratitude to our dedicated team of student researchers who made our extensive outreach and interdisciplinary research scope possible.

Emma Cooke & Elyse Barg
(Project Co-ordinators and Lead Authors)

¹ PwC, *PwC's Global Artificial Intelligence Study: Sizing the prize*, 2017, <https://www.pwc.com/gx/en/issues/analytics/assets/pwc-ai-analysis-sizing-the-prize-report.pdf>.
² Jan Hatzius et al., *The Potentially Large Effects of Artificial Intelligence on Economic Growth* (Briggs/Kodnani), 2023, pp. 1, <https://www.gspublishing.com/content/research/en/reports/2023/03/27/d64e052b-0f6e-45d7-967b-d7be35fabd16.html#authors>.



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As part of this project, we have conducted extensive outreach directed towards lawyers, legal tech developers and academics across different work environments and jurisdictions. The legal professionals we interviewed and surveyed hail from diverse segments of legal practice, including commercial law firms, central banks, research institutions, notaries, in-house corporate settings and regulatory bodies like national Ministries of Law. We are grateful to have been able to hear directly from professionals practicing in different parts of the UK, the European Union, Asia and Latin America.

Most of our interviewees and survey respondents shared their perspectives with us on the condition that they would only be quoted anonymously. We would like to thank them for their candour and invaluable insights, which illuminated the varying levels of enthusiasm for different legal tech use cases and helped us to maintain an international outlook in our research. We are also immensely grateful towards our Law Summit panellists, interviewees and survey respondents who kindly shared their perspectives with us on the record. Their fascinating career histories and expertise deeply enriched the LSE Law Summit experience for attendees and the quality of our research for the wider online audience.

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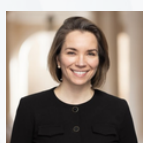


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Quantitative Methodology

This research paper has employed a comprehensive approach to data collection and analysis. We have compiled financial performance data from 11 dominant legal tech industry players operating in the public market, for which we have sourced relevant valuation metrics / multiples, past performance data, revenue disclosures, and annual reports alongside other indicators of financial health. We proceeded to curate a list of 100 prominent private companies (as indicated by a range of prospecting / research platforms, market reports and industry publications) for whom we have gathered information regarding geographical presence, fundraising histories, and any recent financial statements or other disclosed financials. An overview of the legal tech landscape which has been subject to our analysis has been assembled as follows:

Public Companies:



Private Companies:





Introduction

This paper was produced as a collaboration between the LSESU Artificial Intelligence Society and LSESU Law Society.

Scope & Application

Discussions about the disruptive nature of artificial intelligence (AI) are currently dominating headlines, creating both great excitement and great anxiety. As students preparing to enter an industry already set to be transformed by legal technology, we thought that it would be timely to investigate how the AI boom may affect the course of legal tech development and, by extension, the legal industry. After laying down some core concepts and analytical frameworks, this paper is divided into three main sections. The first section seeks to summarise the current legal tech landscape, encompassing key incentives driving developments in legal tech, main players in the industry, how legal tech is used by lawyers in different contexts, and scrutinising claims about current market size. In the next section, we present predictions about factors that will shape the trajectory of legal tech development moving forward and how this may impact lawyers and the legal profession as AI-powered technologies mature. The final section then goes on to discuss legislation and other regulatory factors which may impact the nature and extent of AI-powered legal tech adoption in different jurisdictions. We know that predictions about new technologies often age poorly. However, regardless of the extent to which our predictions may come true, we believe that the factors identified in this paper will remain relevant to how legal tech eventually develops and highlights important debates that future lawyers will need to be aware of.

What is Legal Tech

‘Legal tech’ refers to technology which is used by lawyers, clients, law firms or governments in executing or managing their workflows. Prominent examples include Avvoka, an automated document builder which can be used to speed up drafting processes, or DocuSign, which allows clients to sign documents virtually rather than in-person. This is not to be confused with technology like ‘smart contracts’, which may impact how certain transactions are completed but are not developed specifically to streamline legal operations.





Defining AI-Powered Legal Tech

Not all automated processes are AI-powered, and in practice it can be very difficult to delineate the exact point at which a complex piece of software crosses into being classed as artificial intelligence. Large language models like ChatGPT would easily be regarded as examples of AI. However, most of the AI-powered processes that have already been integrated into mature technologies (such as search engines or translation software) are not directly witnessed by end users and may not demonstrate the ‘creativity’ that a layperson may associate with AI. Rather than being a standalone technology, AI-powered processes are incorporated into systems that draw upon a range of technologies to enable new features or improve the quality of existing features. Thus, this paper situates AI within the context of different forms of legal tech rather than treating AI as an isolated development. In keeping with recent legislation, we will adopt a broad definition of AI processes as programmes designed to function with a “certain level of autonomy” which use machine learning and/or logic and knowledge-based approaches to infer how human or machine inputs can be used to achieve a set of human-defined objectives.³

Approaches to Considering Legal Tech

There are many ways in which we can classify forms of legal technology. Here, we will briefly introduce the approaches that we have used in our analysis.

1. Function-based Approach:

A relatively straightforward method we can use to categorise legal technology is by looking at which part of lawyers’ workflow a given piece of tech augments. The main categories which they may fall into are summarised below:

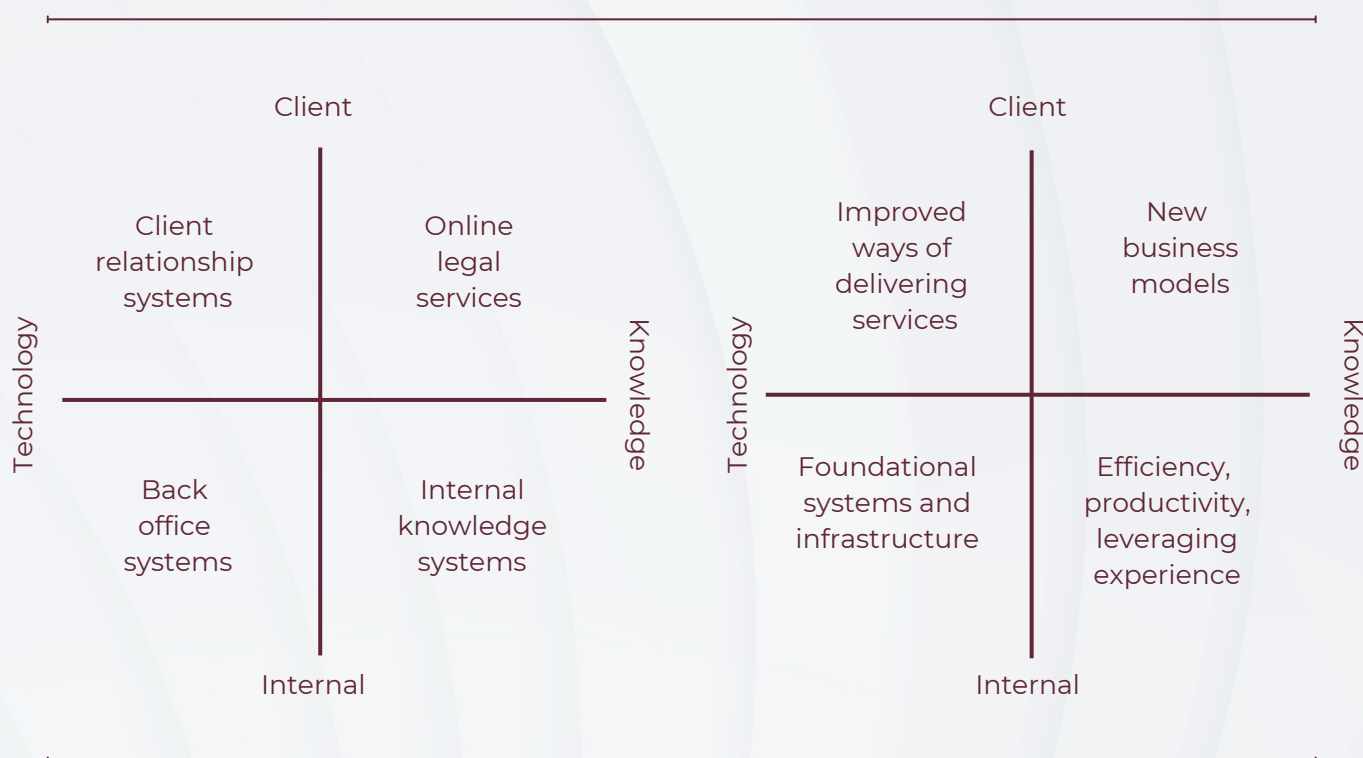


³ Council of the European Union, ‘Proposal for a Regulation of the European Parliament and of the Council laying down harmonised rules on artificial intelligence (Artificial Intelligence Act) and amending certain Union legislative acts’ COD 2021/0106, Recital 6.



2. Impact-based Approach:

Richard Susskind's technology grid allows us to plot the functions of a piece of legal tech on a scale of internal law firm to external client usage, as well as the extent to which it provides purely technologic vs. knowledge-based support. From here, it is then possible to determine the nature of the impact a given piece of legal tech may have in those regards. For more detail, please refer to the diagrams below:



3. Stakeholder-based Approach:

Finally, another useful means of analysing legal tech is to evaluate the implications it may have for different stakeholders. These may include:

- Lawyers
- Clients
- Judges
- Courts
- Legal Aid Providers
- Academics
- Regulatory & Compliance Bodies
- Litigation Funders
- General Public



The Current Legal Tech Landscape

Market Overview / Outlook

The global legal tech market was valued at \$28 billion USD in 2022.⁴ Historically, the market has demonstrated robust performance across key metrics (including investment, revenue, and market value growth) whilst expanding favourably in response to rising demand for automation. Processes currently being targeted include contract review and management, legal research, eDiscovery, case prediction, and compliance.

From the late 1980s, case management software marked the beginning of the legal sector's automation journey before experiencing a transformative leap with the proliferation of the internet in the late 2000s. Projections about the integration of AI into the delivery of legal services have also been relatively long-lived, with research on AI's potential impact being published as far back as 1992.⁵ As the underlying technology has matured, machine learning techniques have been increasingly exploited in the legal field, mirroring broader AI shifts from symbolic techniques towards data-centric and natural language processing methods. 2010 marked the first wave of innovation, welcoming the early development of document management systems and a pivot towards empirical, corpus-based techniques.⁶ A second, more significant wave followed mid-decade, with the embrace of the first chatbots in the field giving rise to new concepts such as the 'robot lawyer'.⁷ The most notable of these chatbots is perhaps 'DoNotPay,' which made significant strides in overturning parking fines. COVID pressures only seem to have accelerated the pace of AI innovation and subsequent adoption within the legal profession, as reflected in a range of economic performance metrics.



⁴ Thomas Alsop, Legal tech - statistics & facts, 2024, Statista, <https://www.statista.com/topics/9197/legal-tech/#editorsPicks>

⁵ David Skalak, and Edwina Rissland, "Arguments and cases: An inevitable intertwining." Artificial Intelligence and Law 1 (1992), <https://doi.org/10.1007/BF00118477>.

⁶ Serena Villata, Michal Araszewicz, Kevin Ashley, et al, "Thirty years of artificial intelligence and law: the third decade." Artificial Intelligence and Law 30 (2022): 573, <https://doi.org/10.1007/s10506-022-09327-6>

⁷ "The history of law firm automation," The Law Society, accessed March 11, 2024, <https://www.lawsociety.org.uk/topics/ai-and-lawtech/the-history-of-law-firm-automation>.

End User Analysis:

A 48% rise in legal tech investment over the past year signals the sector's push towards operational efficiency and enhanced service delivery.⁸ At present, the global market can be largely split into tools targeting law firms and tools targeting corporate legal departments, the former of which currently consumes the highest market share (an estimated 53% of revenue).⁹ With 3/4 of the largest solicitors firms now utilising AI– a figure that has nearly doubled in just three years– there is a growing recognition of AI's potential to streamline processes, improve analytical accuracy, and optimise time management for legal professionals.¹⁰ However, as these technologies are largely still in their infancy, complex applications of AI are largely confined to small scale trials. Ashurst's Chief Digital Officer Tara Waters noted that potential risks concerning accountability and transparency present significant barriers to the deployment of generative AI models in a large-scale capacity.

Although AI-related investments had been gaining momentum in the decade prior to the COVID crisis, the recent boom in the development of AI-driven strategies has necessitated greater financial commitment than ever before. While corporate legal budgets allocated to technology in 2020 lay only at an estimated 3.9%, this figure rose by 7.1% before the end of the 2021 financial year and is forecast to account for near 12.0% of total spending by 2025.¹¹ The exploration and adoption of AI are not confined to large law firms alone. Over 60% of large law firms and a 1/3 of small firms are currently evaluating or implementing new generative AI systems.¹² This widespread engagement with AI across the legal industry points to a future where legal practices are increasingly augmented by AI technologies, with the aim of creating a more dynamic, responsive, and client-centred legal services landscape. As law firms continue to integrate AI-powered processes into their operations, the anticipated outcome is more accessible, efficient, and tailored service offerings that align closely with client needs and expectations.

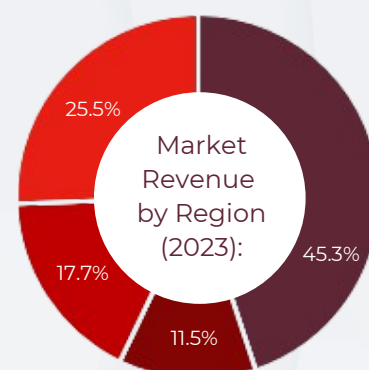


Fig. 1 Legal Tech Revenue
Source: Statista

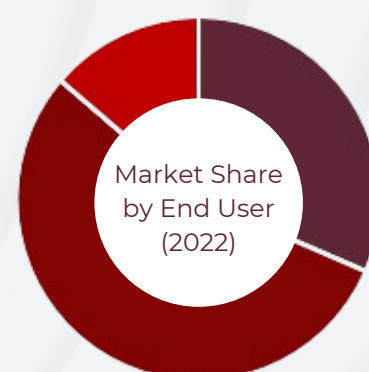
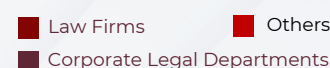


Fig. 2 Global Legal AI Market Share
Source: Straights Research



⁸ "13 Legal tech statistics that summarize 2022 nicely," Harriet Hall, accessed March 11, 2024, <https://www.apperio.com/blog/13-legal-tech-statistics-summarize-2022-nicely#:~:text=Legal%20tech%20improves%20service%20delivery,Tech%20Survey%20by%20Bloomberg%20Law>

⁹ Grand View Research, Legal AI Market Size, Share & Trends Analysis Report By Component (Solution, Services), By Technology, By Application (E-discovery, Legal Research, Analytics, Legal Chatbots), By End-user, By Region, And Segment Forecasts, 2023-2030, 2023, <https://www.grandviewresearch.com/industry-analysis/legal-ai-market-report>.

¹⁰ Solicitors Regulation Authority, Risk Outlook report: The use of artificial intelligence in the legal market, November 2023, <https://www.sra.org.uk/sra/research-publications/artificial-intelligence-legal-market/>.

¹¹ Grand View Research, Legal AI Market Size 2023-2030.

¹² LexisNexis, Generative AI and the future of the legal profession, 2023, <https://www.lexisnexis.co.uk/insights/generative-ai-and-the-future-of-the-legal-profession/index.html>.



Incentives for Legal AI Development

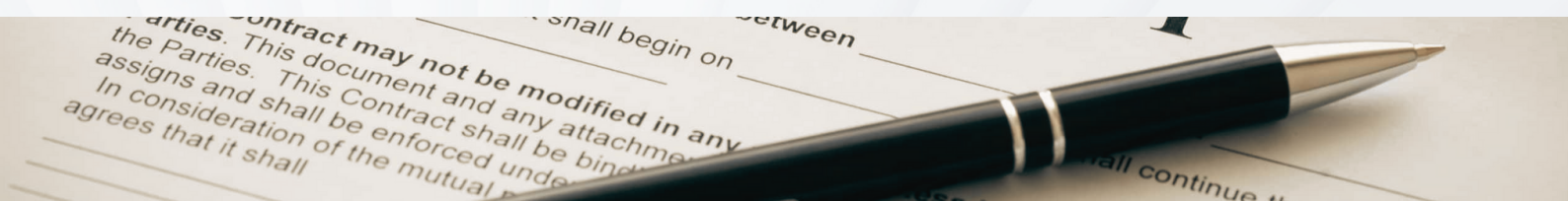
In this section, we seek to summarise how recent events may have impacted the development of AI-powered legal tech and some of the key incentives that are driving growth in this sector.

Russia-Ukraine War Impact Analysis:

Continued conflict in Eastern Europe has precipitated a marked increase in geopolitical instability. The subsequent strain on international commercial activities, coupled with the challenges posed for the formulation / execution of trade agreements, is expected to drive greater demand for advanced legal artificial intelligence that can help firms and corporate legal departments to accommodate rapid shifts in regulatory frameworks and trade policies. As sanctions and export control regulations undergo continuous evolution, AI tools could prove instrumental in monitoring these changes, identifying relevant entities and maintaining regulatory compliance while mitigating related risks.¹³

COVID-19 Pandemic Impact Analysis:

The COVID-19 era accelerated digital transformation across an extensive range of industries, and law firms and corporate legal functions alike were not exempted from this trend. Despite the legal sector's historical resistance to implementing AI-powered technologies compared to other sectors like retail and finance, the pandemic exerted significant pressure for automation and increased operational efficiency through technology.¹⁴ The economic strain experienced by enterprises during this period firstly necessitated a focus on cost-control measures. AI technologies such as natural language processing (NLP) and machine learning were leveraged on a considerably wider scale to provide efficient and cost-effective solutions in the face of stagnating global economic growth and consumer activity across the early quarters of 2020. Transition to remote working necessitated by lockdowns and social distancing measures also posed new logistical challenges from both a firm and client perspective, arising from strictly remote communications and limited accessibility to legal services. Under these conditions, the application of AI-enhanced tools was multifaceted.



¹³ Gregory C. Allen, Emily Benson, and William Alan Reinsch, Improved Export Controls Enforcement Technology Needed for U.S. National Security, 2022, pp. 12-15, https://csis-website-prod.s3.amazonaws.com/s3fs-public/publication/221130_Allen_Export_Controls.pdf?VersionId=xmB4Pqusa5lsBnQzNBhlRqebwJKcQvmr.

¹⁴ Victoria Lee, "How Covid-19 Reshaped Both Our Lives and Tech Legal Trends," Bloomberg Law, April 23, 2021, <https://news.bloomberglaw.com/us-law-week/how-covid-19-reshaped-both-our-lives-and-tech-legal-trends>.



Collaborative functionalities became indispensable to legal professionals, as did remote access to case files, e-discovery engines, and case management platforms in order to maintain productivity outside of traditional office settings. These technologies were also seen to accommodate the rise in virtual court proceedings and consequently needed to manage increased volumes of digitalised evidence.¹⁵ Adaptation to the evolving legal landscape was equally essential, with AI software being deployed in novel use cases such as ensuring relevant responses to changing regulatory requirements and managing force majeure clauses in contracts specific to the pandemic situation.¹⁶

Expedition towards technological embrace did not result merely from economic incentives. This period was accompanied by a broader shift in attitude towards artificial intelligence. According to the Solicitors Regulation Authority, over 60% of large law firms were at least exploring the potential behind generative AI models in 2023.¹⁷ This open-mindedness, coupled with broader trends and progress in AI capabilities, rendered the pandemic a catalyst for the wider integration of AI-powered tools. Besides providing a reliable cost-reduction strategy in the face of financial stress, there was increasing recognition of AI-powered legal tech as a driver of efficiency, flexibility, and innovation in legal practice. It must be noted that the quickening pace of digital transformation (and associated shifts in public / firm perception of AI) can be considered somewhat paradoxical. Not only has the critical and evolving nature of data privacy/security been highlighted, particularly as remote working continued to amplify compliance-related risks around information confidentiality, but the prospects regarding AI-related threats have also been seen to rise in tandem with the increasingly tech - orientated years succeeding the pandemic.

¹⁵ Giulia Gentile, "Trial by artificial intelligence? How technology is reshaping our legal system," LSE Comment: Law and Order (blog), September 8, 2023, <https://blogs.lse.ac.uk/politicsandpolicy/trial-by-artificial-intelligence-how-technology-is-reshaping-our-legal-system/>.

¹⁶ "How can AI help you with Force Majeure," Epiq Angle, accessed March 12, 2024, <https://www.epiqglobal.com/en-us/resource-center/articles/pandemics-and-force-majeure-how-can-ai-help-you>.

¹⁷ SRA, Risk Outlook Report.



Financial Incentives:

The financial incentives for AI integration within law firms are both broad and substantial. Legal tech can provide greater efficiency, and by extension, cost-effectiveness. Surging demand for these outcomes continues to drive software developments targeted towards automating tasks such as document management, contract review, legal research, eDiscovery, and case management.¹⁸ Several of our interviewees confirmed that by implementing such softwares, lawyers have been able to complete tasks at a much faster rate. These systems can support and optimise almost every step of legal workflows for exhausted corporate legal teams and firms reluctant to raise headcounts. According to General Counsel of Juro Michael Haynes, the ability to partially automate contract drafting through AI-backed platforms like Juro has allowed their users to reduce law-related labour expenses.

Analytics tools may also be crucial to increasing performance and productivity in a knowledge-based, outcome-driven environment, supporting not only administration efforts but identifying potential inefficiencies within resource management for cost control purposes. Capitalising upon legal tech opportunities will also become increasingly pertinent as a solution to growth in corporate risk and associated costs. Streamlining operations through the incorporation of AI-powered legal tech allows lawyers to allocate more time towards strategic legal advising and complex case work, thereby elevating the client service experience. This operational efficiency not only improves the firm's bottom line but also enhances its competitive edge in a market that increasingly values speed, accuracy, and cost-effectiveness.

Improving Experiences for Lawyers and Clients:

With a staggering 92% of lawyers admitting to work-induced stress or burnout (25% of whom claim to experience burnout on a daily basis), there is clearly a demand for solutions that empower lawyers to work more effectively and efficiently. Business models capable of integrating technology with improved service support are not only set to garner strong investor interest but inevitably prove an attractive and highly sought after opportunity for those in the industry.¹⁹ Maintaining client satisfaction will notably require an emphasis on improved communication provisions, which have become a greater and more dynamic challenge as the corporate workforce transitions towards favouring hybrid and remote working environments. Tech-enabled response will prove essential to accommodate this increasingly dynamic user base, ensuring that client expectations for efficiency and accessibility in legal services are met.

¹⁸ Legal Practice Intelligence, "Legal Tech Sector to Jump to \$45.73 Billion by 2030," Technology Intelligence (blog), July 3, 2023, <https://www.legalpracticeintelligence.com/blogs/technology-intelligence/legal-tech-sector-to-jump-to-45-73-billion-by-2030>

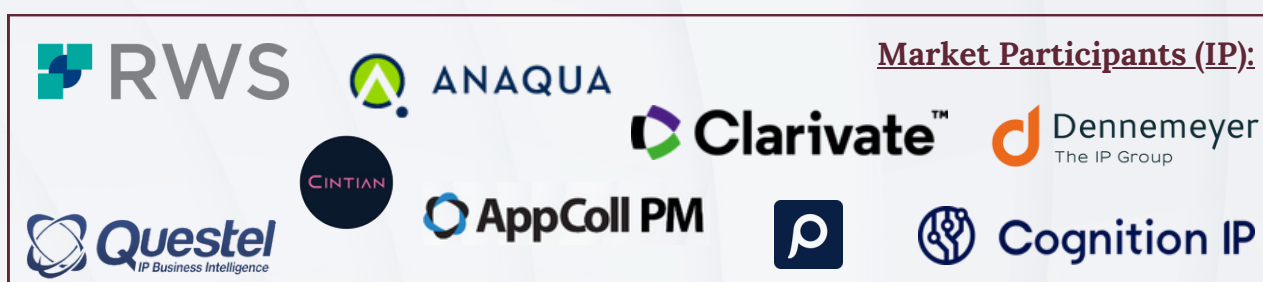
¹⁹ Sharon Miki, "Work-Related Stress: Avoiding Solicitor Burnout," Clio (blog), January 23, 2024, <https://www.clio.com/uk/blog/work-related-stress-solicitor-burnout/#:-text=According%20to%20a%20survey%20by,to%20their%20mental%20well%20being,>



Case Study - Intellectual Property Trends:

There has been a global push to strengthen IP laws over the past years as an increasingly global perspective and recognition of brands has equally necessitated a more global approach to compliance and risk. Integrated global technology platforms are an avenue to effectively manage the rapid pace of tightening IP legislation and to identify or prevent potential breaches.

AI solutions capable of assisting in the navigation of safeguarding patents, trademarks, and copyrights are therefore set to become increasingly indispensable as we remain amidst a boom in generative AI.²⁰ These accelerating trends are reflected in a growth of systems engineered to address these challenges both as standalone applications or (more recently) integrated as part of broader software applications. One such example is Microsoft's Copilot Copyright Commitment, introduced in September 2023, to address concerns raised by customers regarding potential intellectual property infringement claims when using its AI-powered Copilot services.



Trends in AI Capabilities:

Key players in the legal industry have previously placed greater focus on automation, as opposed to core transformation.²¹ Yet in the face of new and exciting developments across cloud services, machine learning and big data analytics, large law firms are beginning to embark on more comprehensive missions towards digitalisation.

Advancements in AI will prove pivotal for software in the legal field. Algorithms capable of analysing increasingly large data quantities with enhanced accuracy and precision will likely reduce the risk of error in processes centred on the review of contracts or other legal documentation. Leveraging the growing capabilities of machine learning will potentially provide even greater benefit. Systems trained on more vast and diverse datasets may extract valuable insights, thereby empowering professionals to make well-informed, data-driven decisions.

²⁰ "Harnessing the Power of AI: Safeguarding Intellectual Property in the Digital Age," Max Steinhausen, accessed March 12, 2024, <https://www.ipservice.com.au/knowledge/harnessing-the-power-of-ai-safeguarding-intellectual-property-in-the-digital-age>

²¹ Nick Easen, "The legal sector faces up to its digital future," The Sunday Times, December 6, 2021, <https://www.thetimes.co.uk/static/digital-data-tech/legal-sector-law-firms-automation-ai/>



Crucially, incorporating AI-powered legal tech could help to identify patterns, trends and anomalies within legal documents and case histories to make predictions, and assist in risk-mitigation, other compliance-related endeavours or litigation procedures. Despite not being without its own risks and challenges, the current surge in generative AI is set to redefine the nature and scope of the legal tech landscape as innovations surge, AI applications become increasingly dynamic and opportunities for AI development continue to be exploited at an unprecedented pace.

Competitive Landscape:

The legal tech market is underscored by a blend of collaboration and competition between law firms, AI software engineers and data providers. This dynamic is driven by the race among stakeholders to create high-quality, accessible and cost-effective tools. As legal issues become more complex and global in nature, the need for multidisciplinary expertise and effective communication / collaboration across different jurisdictions has never been more critical. Collaborations have emerged as a key strategy to navigate this landscape, which have proven crucial in maintaining commitments to innovation and improving access to information. By combining resources and expertise, firms can scale their operations more effectively, optimise data capabilities, and enrich their legal AI products with comprehensive document libraries, offering a richer training dataset for AI development and enhancing the overall quality and efficiency of legal services.

Some establishments are simply turning to products offered by tech developers, whilst others are working alongside such companies to outsource AI systems designed to suit firm-specific needs. A recent partnership of significance has been that between global law firm Allen & Overy and Harvey AI. In December 2023, they announced the launch of contract drafting tool, “ContractMatrix”, which leverages Microsoft Azure to facilitate scalability for client and wider market deployment.²² Similarly, PwC also formed a strategic alliance with OpenAI and Harvey to train and deploy foundation models for tax / legal services and human resources in October 2023.



²² Nick Easen, “The legal sector faces up to its digital future,” The Sunday Times, December 6, 2021, <https://www.thetimes.co.uk/static/digital-data-tech-legal-sector-law-firms-automation-ai/>.



Key Industry Players

Start-Up Landscape:

In an increasingly competitive legal tech market, start-ups are trying to deploy new strategies to stand out. Some focus on accessibility, democratising legal expertise through online platforms which can accommodate a plethora of needs through virtual consultations and document templates. Others prioritise affordability, concentrating on the development of AI-powered tools for contract analysis and legal research to minimise time spent on repetitive tasks. Other start-ups target niche areas such as intellectual property or immigration law. Regardless of the degree of specialisation, innovation remains a key theme, whether utilising cloud-based applications for case management and collaboration or tailored cybersecurity solutions to ensure data privacy and compliance.

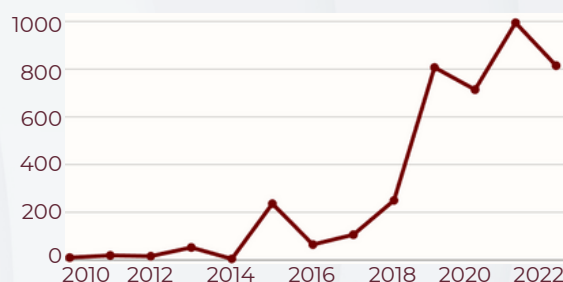
Fig 3. Number of Legal Tech Start-Ups

Source: LSESU AI



Fig. 4 Legal Tech Fundraising History (\$M)

Source: LSESU AI



Despite the macro challenges posed by the recession during 2022 and the rising rate environment experienced in the months thereafter, the sector is witnessing a revival fuelled by increased investment at a government, corporate and VC firm level. This has been occurring alongside law firms' increasing focus on strategic innovation.

Venture capital initiatives have expanded across the past decade in parallel with the surge of rapidly-scaling companies and growing number of ambitious start-ups supported by this funding (although a muted period must be recognised in 2011-2016). For a myriad of reasons, legal tech investment volume and performance can be perceived as disappointing compared to other sectors; between 2009 and 2019 the sector raised an aggregate \$8.9 billion, approximately \$400 million less than that which Uber raised in a single January 2018 round.²³

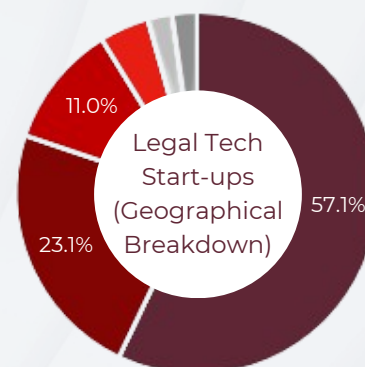


Fig. 5 Legal Tech Start-ups by Country of Origin

Source: LSESU AI



²³ "LegalTech VC Investment Trends: Finally, An Industry Inflection Point?" Lev E. Breydo, accessed March 12, 2024, <https://businesslawtoday.org/2019/09/legaltech-vc-investment-trends-finally-industry-inflection-point/>.



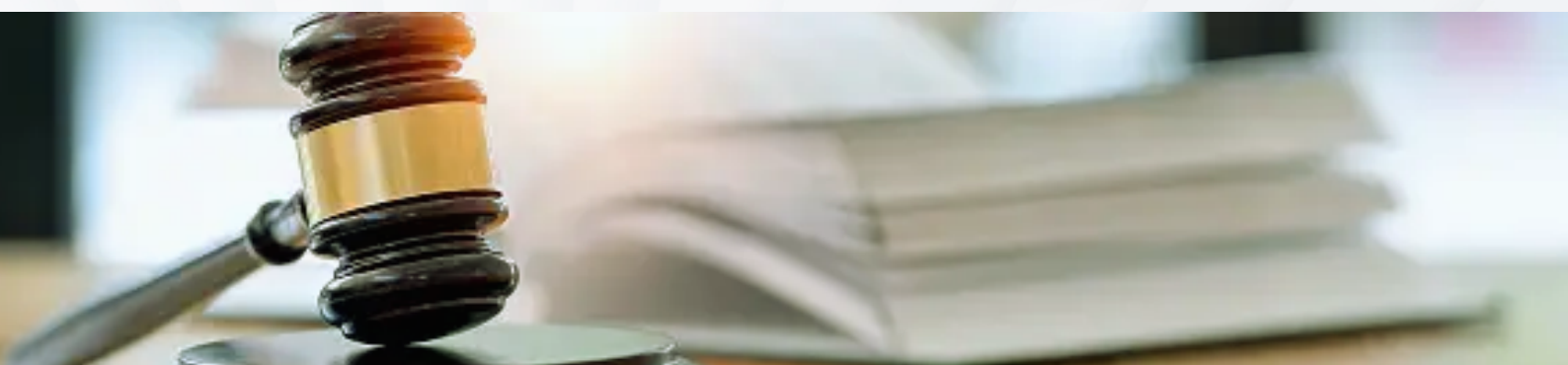
However, the anticipated onset of fiscal expansion and broader economic recovery in the latter quarters of 2024 will likely be accompanied by resurgence in investment activities around AI, further incentivised by soaring valuations post-COVID and growing investor confidence as we finally emerge from a period characterised by sustained high interest rates and increased volatility. Tech-enabled legal services, in particular, have already begun to demonstrate the kind of consistent growth, robust profit margins, and resilience to economic downturns that are highly coveted by investors.

This upsurge in funding enthusiasm is not confined to start-ups. Established technology firms and multinational corporations are intensifying their engagement in AI through increasing investments in research and development, strategic acquisitions, and forging partnerships.²⁴

The UK government has invested in AI products aimed at legal, accountancy, and insurance services, with £20 million allocated to exploring how new technologies could transform these industries. Similarly, the US government has earmarked \$140 million for American AI R&D to be disbursed through the National Science Foundation, and has further announced assessments of existing generative AI tools and policy guidance for government departments and agencies.²⁵

Public Market Analysis:

It is worth noting that the legal tech sector consists primarily of privately held entities operating within niche segments of the legal industry, and the number of public companies is considerably limited in comparison to other technology market intersections like biotech. This landscape may, however, evolve over time as the AI-legal nexus continues to mature and investor interest continues to grow. Recent surge in M&A activity potentially signals a trajectory towards market consolidation and the emergence of more dominant players in an industry that is slowly becoming more concentrated.



²⁴ Geoffrey D. Ivnik, Esq., "Biggest Law Firms Making Major Investments in Generative AI," LexisNexis: Legal Insights (blog), February 9, 2024, <https://www.lexisnexis.com/community/insights/legal/b/thought-leadership/posts/biggest-law-firms-making-major-investments-in-generative-ai#:~:text=Nearly%20all%20large%20law%20firms,largest%20firms%20and%20their%20peers>

²⁵ <https://www.whitehouse.gov/briefing-room/statements-releases/2023/05/04/fact-sheet-biden-harris-administration-announces-new-actions-to-promote-responsible-ai-innovation-that-protects-americans-rights-and-safety/>



Analysis of key public companies and their associated valuation metrics calculated the average beta to lie in the range just below 0.9. This indicates the sector's ability to somewhat hedge market volatility- a figure that can be plausibly attributed to both limited competition in this niche, and the lower expectations of service demand fluctuation relative to other consumer-driven segments. Consistent demand for legal services will likely continue to support stock resilience during both cyclical market movements and periods of economic downturn.

Lower exposure to market risk in comparison to those serving other AI-verticals is a particularly pertinent consideration for investors as we navigate departure from the current high-rate environment. Whilst the implications of anticipated quantitative easing for the global economy remains inconclusive (with continued contemplation over the prospects of a "soft landing" outcome or recession in response to rate cuts), this will remain attractive characteristic to potential investors.

Our debt to equity ratio calculations also offer critical insights into company leverage and financial risk. The average debt/equity ratio in this sector is 0.79, with a closely aligned median of 0.7879, indicating moderate leverage. This balance underscores a reliance on equity financing over debt, posing a lower risk of default and a healthier financial standing in face of interest rate fluctuations or economic downturns. For investors, this translates to potentially lower risk investments, as companies with lower leverage are better positioned to capitalise on growth opportunities, return capital to shareholders, or withstand financial adversities.

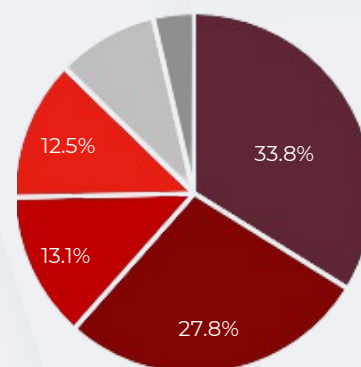


Fig. 6 Public Legal Tech Firm Revenues (2023)
Source: LSESU AI

Thomson Reuters	Docusign
Wolters Kluwer	Other
Clarivate	RWS Holdings

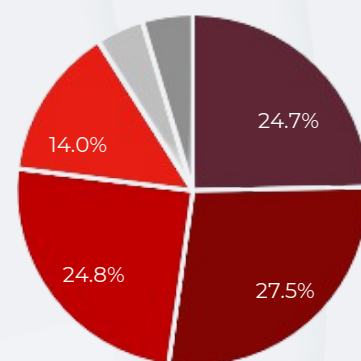


Fig. 7 Public Legal Tech Firms by Market Capitalisation
Source: LSESU AI

RELX PLC.	Wolters Kluwer
Thomson Reuters	Docusign
Nuix	Other





Other valuation multiples, including Enterprise Value to Revenue and Enterprise Value to EBITDA, further enrich our understanding of the sector's financial landscape. The averages 4.1 for EV/Revenue and 20.62 for EV/EBITDA, alongside medians of 4.01 and 20.89 respectively, reveal a market valuation that aligns closely across the sector. These figures however raise speculation regarding potential overvaluation, a growing concern surrounding many AI stocks as growth has surged in the past year.

Price/Earnings (P/E) ratios across the sector exhibit a notable spread, indicative of the diverse valuation approaches and growth expectations among investors. The average P/E ratio stands at approximately 26.00, while the median significantly diverges to a mere 3.95. This wide disparity suggests a market characterised by extremes; at one end of the spectrum, certain firms boast high yielding ratios (potentially reflecting investor optimism or speculative overvaluation). At the other, there lies those which exhibit much lower ratios, possibly hinting at underappreciation by the market or, conversely, a more sustainable valuation basis that may preempt future increases in stock value.

The sector exhibits a high Z-ratio, underlining the financial stability and low bankruptcy risk among these companies. This statistic, when combined with the P/E ratio analysis, moderate leverage and balanced valuation multiples suggests a complex landscape ripe with both potential risks and opportunities. As the legal and AI domains continue to intersect and evolve, understanding these financials will be crucial for stakeholders aiming to navigate between the risk of overvaluation, and potentially undervalued, opportunities to invest within the sector.



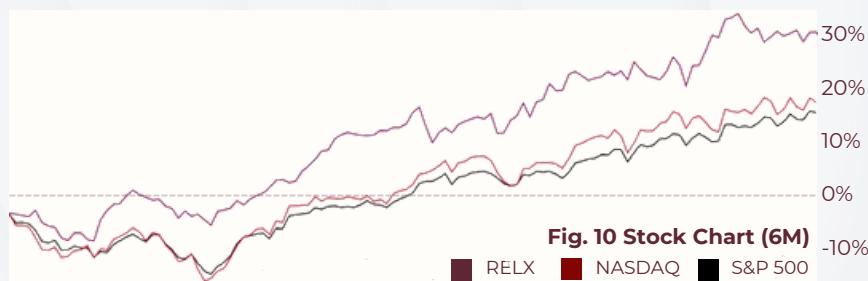


Case Study - RELX PLC:

RELX is a global provider of information-based analytics and decision tools for professional and business customers with coverage across 4 market sectors (Risk, Scientific, Technical & Medical, Legal and Exhibitions).

Legal Branch: LexisNexis Legal & Professional:

LexisNexis hosts over 138bn legal and news documents and records, including more than 307m court dockets / documents, over 168m patent documents, over 4.75m State Trial Orders, and over 1.5m jury verdict and settlement documents. More than 2.2m new legal documents are added daily (on average) from over 50,000 sources, and over 35m legal documents are processed each day. With conversational search, drafting, summarisation, and document upload tools, Lexis+ AI drives productivity, improved work quality, and economic benefits for legal professionals.²⁶



- **Market Cap: 64.17Bn** (GBP)
- **Revenue (2023): 9.16Bn** (GBP)
- **EV / Revenue: 9.79**
- **EV / EBITDA: 27.09**
- **52Wk High: 3423** (GBP)
- **52Wk Low: 3369** (GBP)
- **P / E: 36.44**
- **D / E: 1.88**
- **Beta: 0.69**
- **EPS (TTM): 0.94**
- **ROE 49.20%**
- **ROIC: 20.61%**

1M:	3.02%
6M:	25.09%
1Y:	41.93%

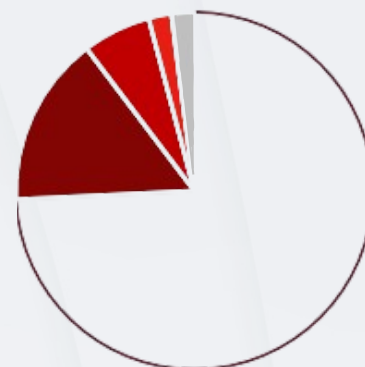


Fig. 8 RELX PLC Legal Revenue by Segment, Source: RELX PLC

- **Law Firms / Corporate Legal:**
Research & analytics for professionals
- **Government & Academic:**
Research & analytics for Government / law schools
- **News & Business:**
News content, company information, industry data & public records provision
- **Print**

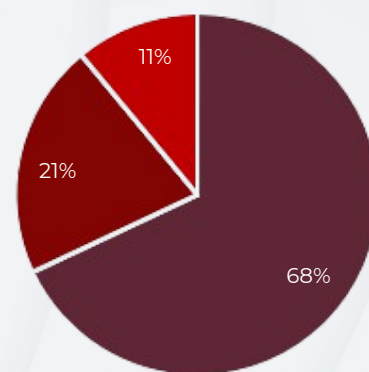


Fig. 9 RELX PLC Geographical Markets, Source: RELX PLC

- North America
- RoW
- Europe

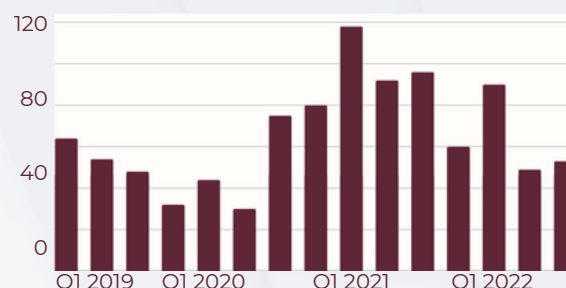


Strategic Acquisitions:

Legal tech exits, which have overwhelmingly been seen to favour M&A transactions as opposed to LBOs, already gained traction pre-COVID—an estimated 200 liquidity events took place in 2018 alone, a figure which has since boomed in both volume and value terms.²⁷

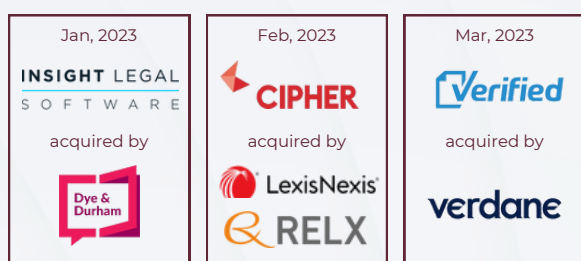
Fig. 11 Number of Legal Tech M&A Deals:

Source: Statista



Recent Legal Tech M&A Transactions:

Q1 2023: (Jan - Mar)



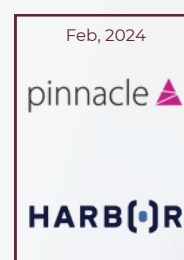
Q4 2023: (Oct - Dec)



Q2 2023: (Apr - Jun)



Q1 2024: (Jan - Mar)



Q3 2023: (Jul - Sep)





Shaping the Future - AI and Legal Tech Transformation

Market Trajectory

Fig. 12 Legal Tech Global Market Revenue (\$Bn), Source: Statista

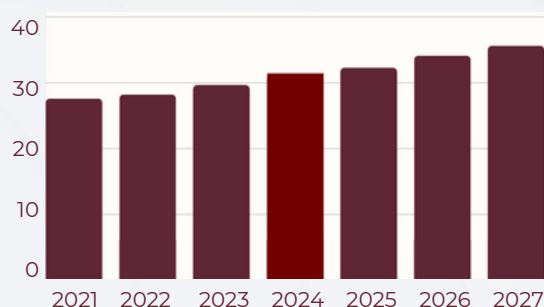


Fig. 13 Legal Tech Revenue by Region (\$Bn), Source: Statista

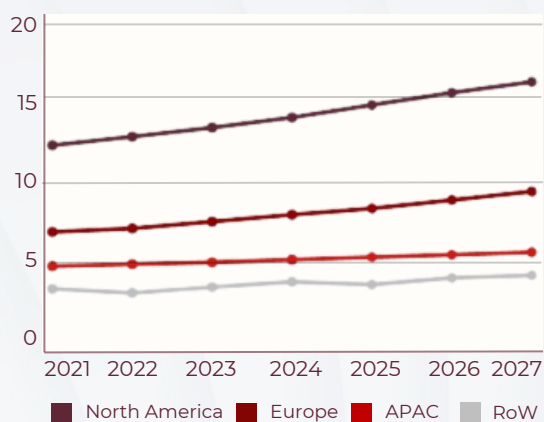
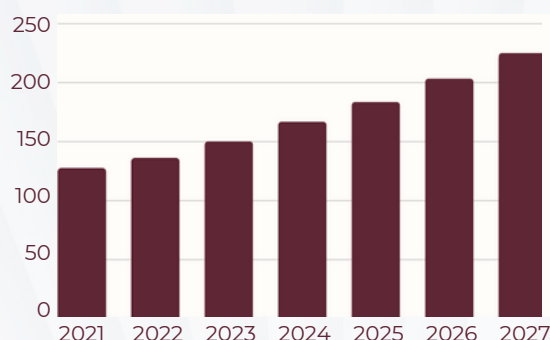


Fig. 14 Legal Tech Global Economic Impact (\$Bn), Source: Statista



AI technologies, when applied across various sectors, are predicted to contribute a 10.3% overall increase in UK GDP by 2030.²⁸ As highlighted in the previous section, there are a myriad of factors that incentivise AI adoption and growth within the legal tech sphere. Strong growth within the legal tech market is expected to continue into the next decade, with some analysts forecasting compound annual growth rates (CAGR) as high as 29.27% between 2023 and 2031.²⁹ We expect a surge of demand for effective AI tools from the main existing legal tech customers in large law firms and corporate in-house teams as the benefits of using AI-powered legal tech products are increasingly seen to confer a competitive advantage. As AI technologies become more mature and the cost of integrating them into legal tech products begins to fall, we also anticipate that effective demand will skyrocket amongst other potential customers including smaller law firms, private practitioners and clients looking to save costs by using legal self-service platforms. In this section, we hope to highlight key factors that will shape the course of AI-powered legal tech adoption moving forward, as well as how this may impact the market for legal services and job scopes of legal professionals in future.

²⁸ Euan Cameron, Jon Andrews, and Jonathan Gillham, The economic impact of artificial intelligence on the UK economy, 2017, <https://www.pwc.co.uk/economic-services/assets/ai-uk-report-v2.pdf>, p. 4.

²⁹ Straits Research, AI Software Market in Legal Industry, Trends, analysis Report to 2031, 2023, <https://straitsresearch.com/report/ai-software-market-in-legal-industry#:~:text=The%20global%20AI%20software%20market,is%20quickly%20emerging%20as%20AI>



Influential Factors in Development

We have identified a handful of pivotal factors that we believe will become increasingly influential in the trajectory of legal tech development, which we will briefly discuss in turn.

Data Ownership, Privacy and Access

The quality of any AI tool is highly contingent upon the quality and quantity of data that it was trained with. AI technologies fundamentally rely upon the ability to recognise specific patterns which, if refined through training based on vast high-quality datasets, can create useful outputs that simulate the products of human intelligence. However, problems quickly arise when data sets are tainted– an issue commonly referred to in the computer science world as “garbage in, garbage out”.³⁰ Furthermore, if an AI tool is trained with insufficient data to adequately develop its intended pattern recognition processes, it is bound to fail. As such, the development of AI-powered legal tech will be fundamentally shaped by who owns how much quality data, who can access that data, and the conditions of that access.

Creating High-Quality Datasets and the Privacy/Accuracy Tradeoff

Leading global law firms seem well-positioned to create large pools of ‘high quality’ training datasets for AI-powered legal tech because they can draw upon a vast array of internal resources. However, the process of creating these datasets will be fraught with potential conflicts that must be navigated cautiously. Balancing the tension between maintaining client confidentiality and creating usable datasets will likely present one of the greatest challenges in this regard. Our interview with Kainos’ Data and AI Ethics Lead Suzanne Brink confirmed that there can be a significant tradeoff between upholding data privacy and ensuring accuracy when developing AI systems. Sensitive client information like demographic data, deal history and strategic priorities could be valuable in training AI-powered legal tech tools. For example, it could allow a large language model integrated into contract building software to make more tailored and effective suggestions. The potential utility of processing sensitive client information will only grow as firms increasingly look towards using data analytics to deliver more holistic business optimisation and risk management services. At the same time, eliminating potentially sensitive information from training sets would not be viable because if there are insufficient factors included for the AI to recognise meaningful patterns, it cannot generate useful outputs.

³⁰ Brooks Hanson, et al., “Garbage in, garbage out: mitigating risks and maximizing benefits of AI in research,” *nature* (blog), October 31, 2023, <https://www.nature.com/articles/d41586-023-03316-8>.



Regulatory and Market Factors Affecting Access to Quality Data

On top of being cautious about client information, law firms have a vested interest in ensuring that their own sensitive information and trade secrets remain private. As such, legal tech providers associated with particular law firms are likely to use considerably less data to train tools intended for external use, and law firms may be reluctant to provide certain types of information to data pools accessible to external parties. AI tools can also be trained using data from publicly available sources. For example, the DEEPL legal translation service aims to maintain high output quality by training their translation tools with “official public EU documents”.³¹ However, such documents may not reflect the linguistic style of relevant interpersonal communications within/between parties or the deliverables being prepared, so a higher degree of caution must be applied when relying on these translations in different contexts. This is important to note as the less reliable an AI tool is, the more human oversight will be required in its use, thereby impacting the true extent to which it will change existing workflows.

When considering the types of information included in datasets, compliance with data protection legislation like the GDPR is also crucial. Asymmetry between data privacy regulations in different jurisdictions will not just dictate the boundaries of permissible data use, but may also inadvertently undermine the quality of international datasets. As explained by Brink, “when you want to use differential privacy techniques, you end up introducing random error.” Disparities between the volume of machine-readable information available in different languages and regions may exacerbate this effect. Garret Edwards, Director of Legal Research at Fundación Libertad, notes that legal tech startups have struggled to gain a foothold in Argentina as the Argentinian Justice system has only been digitised since the Covid pandemic. From an AI perspective, it could be argued that a mere few years’ worth of historical data is woefully insufficient to train reliable models. Furthermore, many AI-powered processes will need to be supported by datasets that are responsive to changes in the law and dynamic commercial trends, further increasing the difficulty and cost associated with maintaining the quality of information included in datasets.



³¹ <https://www.deepl.com/en/deepl-for-legal-teams>, accessed April 1 2024.



Key Implications for the Legal Tech Landscape

Stakeholders who possess large quantities of legal documentation are financially incentivised to retain exclusive rights or sell access to their data. Law firms will likely form strategic alliances around data pooling, causing further concentration in the legal tech market. The developers of AI products best positioned for long-term survival will be those who establish methods to ensure continual access to high volumes of quality data. We also expect widening disparities in legal tech adoption and AI development across geographical regions.

The Transition Towards Platforms and Client Self-Service:

At present, there are lots of different legal technology companies which each focus on automating or streamlining specific legal tasks. However, as the industry matures, it seems likely that the market will move towards platforms that can serve as a one-stop shop for different users. For example, a platform designed for commercial law firms may allow clients to log in, submit requests, track progress on deliverables and make payments all in one place. In the meantime, lawyers can log in to that same platform to respond to queries, post status updates and upload their deliverables (perhaps assisted by AI-generated suggestions). Large leading law firms are likely to create bespoke platforms for their own use. However, when it comes to the creation of more public platforms that smaller firms can pay to use, who will own these platforms and the market share they may obtain is extremely speculative.

Depending on the extent to which large firms view their bespoke platforms as containing unique proprietary knowledge, it may make sense for them to sell access to their platforms to other firms or create amended platforms for other firms to use. Alternatively, the largest legal tech firms may invest in developing their own platforms. Another interesting factor to consider is how these multi-purpose platforms will actually be constructed. To what extent will different functionalities be figured out by internal research and development, mergers with other legal tech firms or by paying different legal tech providers to integrate their softwares into a given platform?





Analysis thus far has largely been focused on law firms and corporate in-house legal departments as the primary customers of legal technology. However, as legal tech platforms become more advanced, the prospect of client self-service will become more of a reality. Smaller businesses with less need for bespoke legal advice may save costs by getting their generalist employees to handle matters via legal tech platforms instead of engaging a legal professional. There have also been suggestions that AI-powered legal platforms may increase general access to justice by providing a middle ground for individual members of the public who cannot otherwise afford to pay for a lawyer. These trends can already be observed in China, where substantial government investment, public demand and advanced culture of digitisation has seen lawtech platforms gain increasing prominence within the legal sector since as early as 2019.³²

The high cost of developing legal tech platforms in Western markets makes the prospect of for-profit companies creating platforms for lower-income users quite remote outside of a pro bono context. Furthermore, hallucination risk is far too high for automated outputs to be as reliable as proper legal advice. In the short to medium term, it is likely that more legal tech platforms will be created to connect potential clients with human lawyers in a more efficient and cost-effective manner, but fully automated legal advice is unlikely to become the norm anytime soon.

Bias and Fairness - Algorithmic and Human Elements:

The recent generative AI boom has catapulted the problem of algorithmic bias to the forefront of public consciousness. Unsurprisingly, this has contributed towards widespread misgivings about the incorporation of AI-powered processes in legal tech. Almost every source that we spoke to mentioned the possibility of reinforcing societal biases as a major concern. We hope to highlight the unique risks that may arise from AI reinforcing biases in legal contexts, before then discussing methods to mitigate unintended bias and use cases where AI-powered processes can actually help to reduce the impact of unwanted factors in human settings.



³² Sylvie Delacroix, "How could AI impact the justice system?", *Thomas Reuters: Legal Insights Europe* (blog), November 30, 2018, <https://legalsolutions.thomsonreuters.co.uk/blog/2018/11/30/how-could-ai-impact-the-justice-system/>.

³³ Sebastian Ko, "5 factors driving the Chinese lawtech boom," *World Economic Forum: China* (blog), April 1, 2019, <https://www.weforum.org/agenda/2019/04/5-factors-driving-the-chinese-lawtech-boom/>.



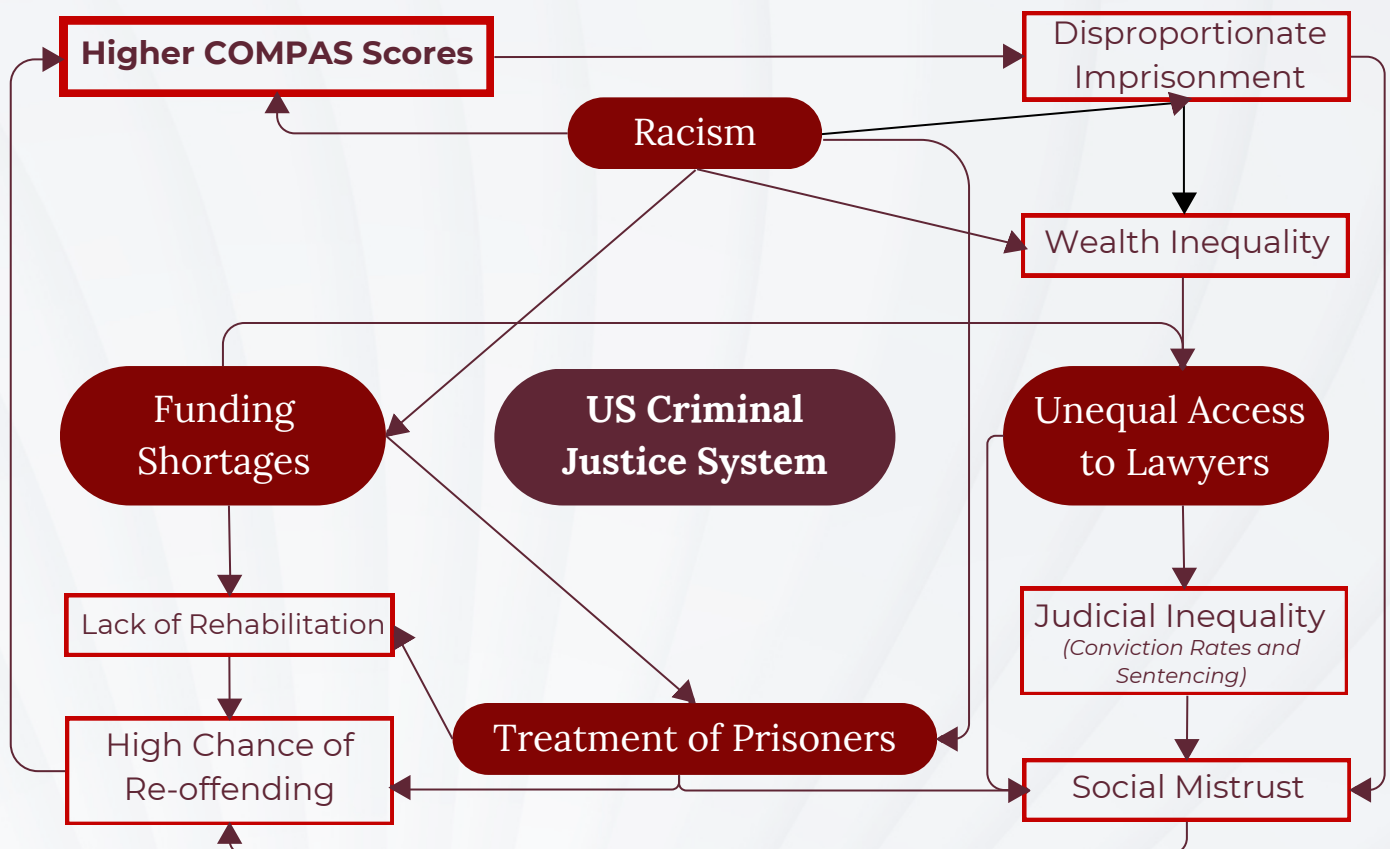
Case Study - COMPAS Risk Assessment Scores:

Implementing AI technologies in criminal justice settings present the highest ethical stakes as unintended reinforcement of bias directly impacts the liberty of people from marginalised groups.³⁴ The fallout from the American COMPAS system, where black defendants were mislabeled as future criminals at almost twice the rate of white defendants,³⁵ serves as a tragic example.

The COMPAS Risk Assessment Score was developed to reduce instances of pretrial detention where doing so would not pose a risk to public safety.³⁶ Defendants' personal data was collected through a survey which the AI-powered COMPAS system used to generate risk assessment scores for the defendant's flight risk and likelihood of recidivism. However, the developers unfortunately did not account for the legacy of systemic racism that seeped into their datasets.

The following systemic risk map has been constructed using Danielsson's network analysis methodology.³⁷

Fig. 15 Systemic Risk Map of COMPAS and the US Criminal Justice System, Source: LSESU AI



³⁴ Ashley Nellis, "The Color of Justice: Racial and Ethnic Disparity in State Prisons," *The Sentencing Project*, 2021, <https://www.sentencingproject.org/reports/the-color-of-justice-racial-and-ethnic-disparity-in-state-prisons-the-sentencing-project/>.

³⁵ Julia Angwin, et al., "Machine Bias: There's software used across the country to predict future criminal. And it's biased against blacks," *ProPublica*, May 23, 2016, <https://www.propublica.org/article/machine-bias-risk-assessments-in-criminal-sentencing>.

³⁶ Tim Brennan & William Dieterich, "Correctional Offender Management Profiles for Alternative Sanctions (COMPAS)," *Criminal Justice and Behavior* 36, 1 (2009), https://www.researchgate.net/publication/321528262_Correctional_Offender_Management_Profiles_for_Alternative_Sanctions_COMPAS.

³⁷ Jon Danielsson, "LSE100: Systems and Risk," January 4, 2022, video, https://www.youtube.com/watch?v=5gJLlc3jsbg&ab_channel=LSE100.



Both algorithmic and human factors contributed towards the COMPAS system amplifying the historical trend of disproportionately and excessively punishing people of colour.

1 The Algorithmic Factor:

Although the COMPAS survey did not directly ask about defendants' race, some of its 137 questions (like crime rates in the defendant's neighbourhood and incarceration histories of their friends and family) were highly correlated to race and therefore potentially prejudicial. As such, the COMPAS scores replicated the historical bias that led to disproportionately high incarceration rates amongst ethnic minorities.³⁸

2 The Human Factor:

Although COMPAS Risk Assessment Scores were only intended to be used to decide whether a defendant should be kept in pre-trial detention and the level of bail, some judges were clearly unaware of this fact. As such, guided by the mistaken belief that COMPAS scores were somehow indicative of a defendant's level of criminality, there were several documented incidents where judges inappropriately cited COMPAS risk scores as a factor in sentencing decisions.³⁹ Disturbingly, there were no laws or official guidelines dictating how judges were to interpret COMPAS scores or the circumstances in which COMPAS scores should be admissible evidence. Besides amplifying racial inequities, the consequent disparity in how judges utilised these scores is deeply problematic from a rule of law perspective.

This example demonstrates that in order to ensure AI-powered tools do not amplify existing prejudices, great care needs to be taken in designing both the digital architecture of AI tools and clear standards of procedure for end users. If this can be successfully achieved, there is a lot of potential for AI-generated outputs to augment judges' decisions in ways that reduce the impact of extraneous factors in court decisions. Human judges are unfortunately fallible and their decisions may be influenced by elements that should not be taken into account. One study found a strong correlation between a hearing's proximity to judges' mealtimes and favourable case outcomes– the percentage probability of judges making favourable decisions declined from 65% in the morning to near 0% right before lunch, with rates returning to near 65% immediately after lunch and similarly declining towards the end of the day.⁴⁰ Accurate AI-generated outputs could help properly trained and informed judges to retain objectivity in such scenarios.

³⁸ Propublica, "Sample COMPAS Risk Assessment 'CORE'," (unpublished, date consulted 2022), pdf.

³⁹ Angwin, *et al.*, "Machine Bias".

⁴⁰ Shai Danziger, Jonathan Levav, & Liora Avnaim-Pesso, "Extraneous factors in judicial decisions," *PNAS* 108. 17 (2011).



The risks associated with unintended bias in AI-powered processes are very different within a commercial law setting. In the short run, the potential impact of bias is far more likely to come from general corporate use cases like AI hiring tools than from legal tech applications specifically. However, the extent to which unintended biases are likely to impact legal tech outputs and the consequences these may have vary widely between the type of legal tech in question.

Fig. 16 Unintended Bias in Legal Tech and Risks in Commercial Use Cases, Source: LSESU AI

Type of Legal Tech Use Case	Risk of Unintended Bias Being Reflected in AI	Rationales and Potential Impact of Unintended Bias Being Reflected in AI
Management Technology	Low	AI-powered processes implemented in the context of mere management technologies will likely be confined to ancillary functions like search bars, and have little bearing on the content of any deliverables.
Execution Technology	Low-to-Moderate	The potential impact that unintended social bias in AI algorithms may have would depend on the exact task being executed. However, like with management technologies, the impact that AI tools will have on the substance of deliverables is relatively low in this context, significantly reducing any associated risks.
Generative AI and AI-Powered Automation	Moderate-to-High	A single algorithmic error that lowers market valuations of female-founded companies by just 1% could translate into billions of dollars' worth of losses as M&A transactions continue operating on the partial basis of this data. However, assuming that all outputs are checked and edited by qualified legal professionals, the impact on deliverables generated can be somewhat mitigated.
Data Analytics	Very High	Data analytics solutions concern the use of historical information to inform decision-making. Like with generative AI tools, small reflections of real-world biases in AI can have outsized effects. This will be particularly challenging to mitigate as legal professionals are not well-equipped to understand these data outputs.



Algorithmic Opacity and Explainability:

Algorithmic opacity occurs when the rationale behind an AI's decision-making process is incomprehensible to humans. This stems from both the technical intricacies of AI systems and other elements like trade secrecy. The complexity and vast number of parameters that underpin AI models makes them incredibly difficult for non-technologists to understand. However, even if one were to be perfectly educated, the fundamental nature of AI systems means that there will always be a blindspot in AI processes referred to as the black box problem. As previously mentioned, AI technologies are essentially pattern recognition programmes which can then apply these patterns to infer how data inputs can be used to achieve a specific outcome. This makes AI tools incredibly powerful in recognising correlation, but not causation. As such, whilst we can observe what data is entered into an AI system and what the output is, it is impossible to ascertain how exactly any given input is processed or why that process was applied.⁴¹

This lack of transparency has profound implications for legal adjudication, where AI-influenced decisions can determine case outcomes, penalties, or eligibility for rehabilitation programs. The inability to understand or challenge these decisions undermines procedural fairness and impedes individuals' capacity for informed self-advocacy (which is crucial for allowing individuals to influence the rules that govern their lives and to make decisions that align with their aspirations). Without clear explanations, it becomes virtually impossible to justify evaluations based on incomprehensible measures.

As the legal sector navigates the complexities introduced by AI, the imperative to mitigate algorithmic opacity and promote explainability cannot be overstated. Doing so is essential not just for compliance and maintaining public trust, but also for safeguarding the fundamental rights of individuals to understand and influence decisions that affect their lives. The journey toward transparency and accountability in legal AI is a critical one, requiring concerted efforts to ensure that technological advancements reinforce, rather than undermine, the principles of justice and equity.



⁴¹ Lou Blouin, "AI's Mysterious 'black box' problem, explained," *University of Michigan-Dearborn: News*, March 6, 2023, <https://umdearborn.edu/news/ais-mysterious-black-box-problem-explained>.

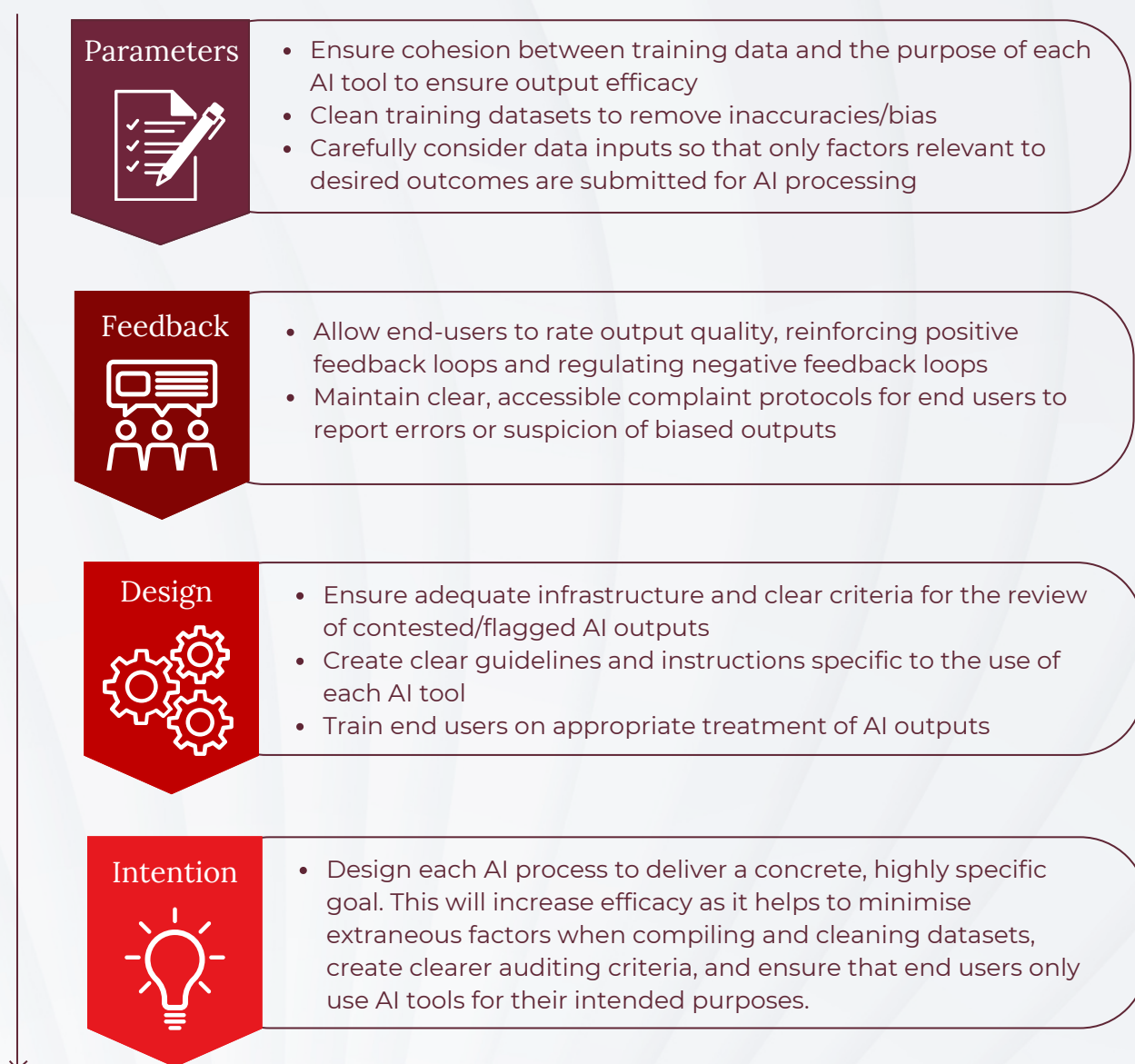


Although we will never be able to determine the exact logic of AI protocols, Meadows notes that all systems have key ‘leverage points’ where targeted interventions can bring us closer to ideal outcomes. We have applied this framework to our own analysis to identify measures that can be implemented at different leverage points to ensure maximum accountability for the deployment of AI technology in legal settings.

The following has been constructed using Meadows’ model of analysis.

Fig. 17 Leverage Points for Fairness and Accountability in Legal AI, Source: LSESU AI

Shallow Leverage



Deep Leverage



Effect on the Market for Legal Services

Evolving Business Models - From Law Firms to ‘Law Companies’:

While AI-powered legal tech is expected to reduce law firms’ costs, there will be significant pressure for these savings to be passed on to clients. Furthermore, although the time-saving effect of legal tech will likely be welcomed by lawyers, it also reduces the amount of billable hours (and therefore, the fee chargeable) per case. Given the cumulative time and cost-saving effects of legal tech developments, it is unlikely that demand for legal services will keep pace. With revenues generated from pure legal advisory expected to fall in the long run, the value of law firms may increasingly depend on their ability to provide clients with broader strategic insight. Many larger firms have also made moves to directly harness profit from the legal tech industry through acquisition (like Simmons & Simmons’ purchase of Wavelength) or the creation of in-house legal tech incubators (like Allen & Overy’s Fuse hub or Linklaters’ Nakhoda).

Armour and Sako expect that developing and retaining the right talent pool will be the biggest hurdle that large law firms face in trying to expand past the traditional legal advisory business model.⁴³ They note that the roles of ‘lawyers as consumers’ and ‘lawyers as producers’ of legal technology are very different, and that firms will need to figure out which key competencies are required in each role so that they can design their recruitment, training and career pathways accordingly. Furthermore, the more central technology becomes to legal practice, the more important it will be for firms to maintain a multidisciplinary pool of employees to oversee its implementation. However, the traditional partnership model where only lawyers are partners may not adequately incentivise talented technologists to work for law firms.

Predictions on how exactly this will affect firms’ internal structure vary. Jason Boehmig, former lawyer and CEO of contract management tech firm Ironclad, expects that law firms may move towards a venture capital-type structure where firms consist of partners investing heavily in just one or two talented associates.⁴⁴ On the other hand, Armour and Sako suggest that law firms may benefit from shifting towards a more traditional corporate structure where employees from different disciplines are given clearer opportunities for career progression.⁴⁵ Overall, it is difficult to forecast how law firms can best position themselves without knowing the full extent of what AI-powered legal tech will be able to achieve. However, given the rapid pace of development and quantity of unknown factors, it is clear that traditionally risk-averse firms will need to strike a balance between prudence and flexibility to remain profitable.

⁴³ John Armour and Mari Sako, *AI-Enabled Business Models in Legal Services: From Traditional Law Firms to Next-Generation Law Companies?*, 2019, p. 32, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3418810.

⁴⁴ Jason Boehmig, “AI’s Rise May Motivate Law Firms to Quit Their Traditional Ways,” Bloomberg Law (blog), November 27, 2023, <https://news.bloomberglaw.com/us-law-week/ais-rise-may-motivate-law-firms-to-quit-their-traditional-ways>

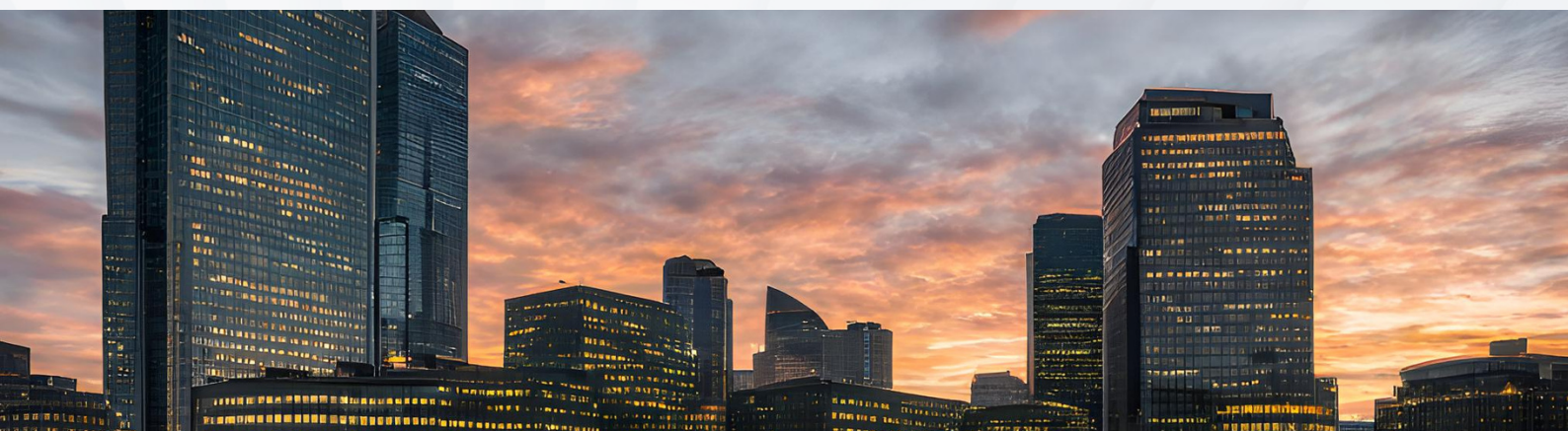
⁴⁵ Armour and Sako, *Next-Generation Law Companies?*, p. 27.



Extinction of the Lawyer: Fact or Fiction?

Since large parts of lawyers' jobs currently involve pattern recognition and standard form templates, law has been forecasted as one of the most vulnerable careers to technological unemployment in the face of AI.⁴⁶ Understandably, this has led aspiring lawyers to fear that their dream jobs may become obsolete. Whilst the number of jobs for full-time human lawyers is expected to drop, there seems to be a general consensus that AI will change, rather than replace, the legal profession. Furthermore, the implementation of AI-powered legal tech may lead to an array of new interdisciplinary roles for lawyers and technologists alike. This section seeks to explore why this is the case and go into further detail on how exactly AI-powered legal tech may impact the role of lawyers moving forward.⁴⁷

Armour, Parnham and Sako note that to get a realistic picture of how AI-powered legal tech will affect careers in law, it is best to examine its impact on specific tasks that lawyers complete in their day-to-day jobs.⁴⁸ Many menial tasks that currently take junior lawyers hours to do (such as sifting through discovery or due diligence documents) are obvious targets for automation. The lawyers we spoke to had reservations over whether AI-powered legal tech is mature enough to consistently execute these tasks well. However, there was a high degree of confidence that administrative tasks will eventually be automated and that this would be a welcome development. Besides the fact that automation can help to save time and therefore money, it was often noted that executing these tasks can be rather tedious and that our interviewees would be happy for a larger proportion of their workday to be spent on tasks that they find more interesting. However, automation of monotonous tasks does not replace the need for analytical and strategic input from human lawyers, which can only be developed through on-the-job training. Nevertheless, with staggering predictions that 44% of tasks within legal can be automated, it seems inevitable that automation could drastically reduce the demand for human lawyers moving forward.⁴⁹



⁴⁶ Hatzius et al., *Large Effects of AI on Economic Growth*, pp. 1.

⁴⁷ John Armour, Richard Parnham, and Mari Sako, "Augmented Lawyering" (Law Working Paper, European Corporate Governance Institute, 2020), pp. 4, <https://dx.doi.org/10.2139/ssrn.3688896>.

⁴⁸ Armour, Parnham and Sako, "Augmented Lawyering".

⁴⁹ Hatzius et al., *Large Effects of AI on Economic Growth*, pp. 1.



When it comes to tasks that are not expected to be fully automated, AI-powered legal tech is and will be used to help lawyers work more efficiently. Surprisingly, there seems to be an under-appreciation of the fact that many tools widely used by lawyers (such as Westlaw, a search engine for legal research) have already integrated back-end AI processes, with only two of our survey respondents noting this fact and the vast majority stating that they do not use any AI-powered tools to their knowledge. This is perhaps because these platforms are not generally referred to as “AI” and do not necessarily match the generative outputs most commonly associated with AI today.

Whilst not yet mainstream, AI-powered tools are beginning to play a more prominent role in the execution of more complex legal tasks. For example, large language model Luminance analyses clients’ previous deals to build systems that generate a colour-coded first pass of incoming draft contracts, immediately drawing lawyers’ attention to clauses which may be problematic for their organisation.⁵⁰ It can then recommend compromises for these non-standard clauses or draft new provisions that lawyers can choose from to send back to their counterparties. The human lawyers involved in this process are still under a duty to vet the draft contract and will need to exercise discretion over which suggestions (if any) they believe should be incorporated. Thus, productivity-enhancing legal tech like Luminance does not directly replace the need for lawyers. However, as fewer people will be required to manage the same amount of cases, demand for junior lawyers is expected to fall accordingly. Ashurst’s Chief Digital Officer Tara Waters notes that the concrete impact of technology on the training and learning of junior lawyers, and by extension, the extent of reduction in demand for them, can only be fully understood in five years.

50 <https://www.luminance.com/>, accessed March 14, 2024.

More optimistically, the implementation of AI-powered legal tech will create a variety of hybrid roles requiring different degrees of legal, technological and commercial knowledge. In the short term, lawyers are uniquely positioned to be at the forefront of legal tech innovation as they are intimately familiar with which parts of legal processes may benefit from augmentation and have a clearer idea of how legal tech products should be packaged in a way that conservative firms and clients can accept. This invaluable knowledge means that legal tech developers will require lawyers to help with designing, testing and maintaining the quality of their products. In the longer run, entirely new types of legal careers like those envisioned by Richard Susskind may develop alongside increasing legal tech adoption:

Fig. 18 A New Spectrum of Interdisciplinary Legal Careers, Source: Susskind⁵¹



⁵¹ Richard Susskind, *Tomorrow's Lawyer* (Oxford: Oxford University Press, 2013), 136-137.



Regulatory Frameworks & Regional Insights

Key questions that will determine the way in which AI is used in legal technology include who would be liable for any mistakes, whether any regulatory standards will need to be met in the development of AI-powered processes, and whether there will be rules dictating when different types of data can be used to facilitate machine learning/automated decision-making in different contexts. The answers to these questions will come from a mixture of AI-related legislation and separate guidelines set by other organisations like professional conduct bodies. At time of writing, AI regulation is very much in its infancy and the practicalities of how recently passed legislation should be interpreted have not yet been finalised. Nevertheless, this section seeks to summarise regulatory factors that may affect the development and deployment of AI legal tech products in four key jurisdictions: the European Union, China, the United States and the United Kingdom. It will then discuss some broader geopolitical factors relevant to all four of these jurisdictions.

The European Union

General Regulatory Approach:

The European Union has long been a leader in technology regulation and, at time of writing, certainly has the most detailed and clearly defined regulatory framework governing legal AI applications in the Western world. As will be discussed, this concrete approach comes with both benefits and considerable drawbacks. European legislation famously orients itself around rights-based approaches, but in practice there is a longstanding trend of fundamental rights protections being significantly undermined by how the Court of Justice of the European Union (CJEU) interprets these laws.⁵² Furthermore, tensions and asymmetries may arise as European-level legislation is implemented and the European Commission's soon-to-be established AI Office seeks to enforce rules across all 27 Member States.





The EU's longstanding General Data Protection Regulation (GDPR) will be instrumental in shaping the development of legal tech use cases within the Union. Additionally, AI-powered legal tech adoption in the region will also be influenced by the package of policies that the EU is in the midst of creating to support the development and implementation of 'trustworthy AI', most notably including the recently passed EU AI Act. We will provide a brief overview of the GDPR and EU AI Act's relevance to AI-powered legal tech and how they may affect use cases in the region.

GDPR:

As highlighted in previous sections, data privacy plays an integral role in the development, function and potential use cases of AI-powered legal tech. Thus, the GDPR is expected to be a key consideration in the development and use of AI in legal tech products within Europe and, courtesy of the Brussels effect, abroad. There are clear tensions between the data protection principles outlined in Article 5 GDPR and the process of building AI models. A 2020 study by the European Parliamentary Research Service's Panel for the Future of Science and Technology found that the wording of GDPR provisions can be interpreted to accommodate AI regulation without needing to be re-drafted.⁵³ Based on their findings, we have put together a brief snapshot of how the GDPR data protection principles may be construed with relation to the development and deployment of AI-powered legal tech products.

⁵³ Giovanni Sactor & Francesca Lagioia, "The impact of the General Data Protection Regulation (GDPR) on artificial intelligence" (study, European Parliamentary Research Service, 2020), pp. I-V, [https://www.europarl.europa.eu/RegData/etudes/STUD/2020/641530/EPRS_STU\(2020\)641530_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2020/641530/EPRS_STU(2020)641530_EN.pdf).



**Fig. 18 GDPR Data Protection Principles and AI-Powered Legal Tech**Source: LSESU AI (Based on the 2020 European Parliamentary Research Service Report)⁵⁴

Data Protection Principle (Article 5 GDPR)	Implications for AI-Powered Legal Tech Development
Fairness and Transparency	The term “transparency” is interpreted in relation to explicability. In the AI context, this is framed around the ability to access information in training datasets so that potential sources of bias or other extraneous factors influencing AI outputs can be audited.
Purpose Limitation	The useful re-use of personal data for new purposes shall be considered as ‘repurposing’ and is distinct from the original data collection. Whether the repurposing is legitimate will depend on whether the new purpose is ‘compatible’ with the purpose of the original data collection.
Data Minimisation	Minimisation should be linked to a proportionality requirement, and looser rules could apply where personal data is being processed for purely statistical purposes.
Accuracy	A distinction should be drawn between personal data in training sets for statistical purposes and data inputted into profiling algorithms. Anonymisation or the use of pseudonyms is recommended to reduce risk.
Storage Limitation	Tension between AI-based processing of large sets of data can be limited based on to the extent to which the data is being used for statistical purposes. Appropriate measures should be decided and implemented at a national level.

The EU AI Act:

The EU has drafted what has been praised by European Commission President Ursula von der Leyen as a historic Act that positions the EU as a frontrunner of AI regulation.⁵⁵ The Act was passed by the European Union Parliament on March 13 2024 and will apply to different use cases after a 6 to 36-month grace period (dependent on risk) so that AI developers have enough time to ensure compliance and the new AI Office can become operational. The Act aims to regulate AI systems to a ‘safe’ standard by laying down clear responsibilities that developers and users of AI must follow in different use cases. On a high level, the Act creates 4 tiers of risk for AI systems, with different rules applying to use cases depending on which tier of risk they are classified under.

⁵⁴ Regulation (EU) 2016/679 (General Data Protection Regulation) 2018, OJ L 119, art 5, accessed April 5, 2024, <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016R0679>.
⁵⁵ Clara Hainsdorf, et al., “Dawn of the EU’s AI Act: political agreement reached on world’s first comprehensive horizontal AI regulation,” *White & Case: Our Thinking* (blog), December 14, 2023, <https://www.whitecase.com/insight-alert/dawn-eus-ai-act-political-agreement-reached-worlds-first-comprehensive-horizontal-ai>.

Fig. 19 Risk Categories and Legal AI Tools under the EU AI Act

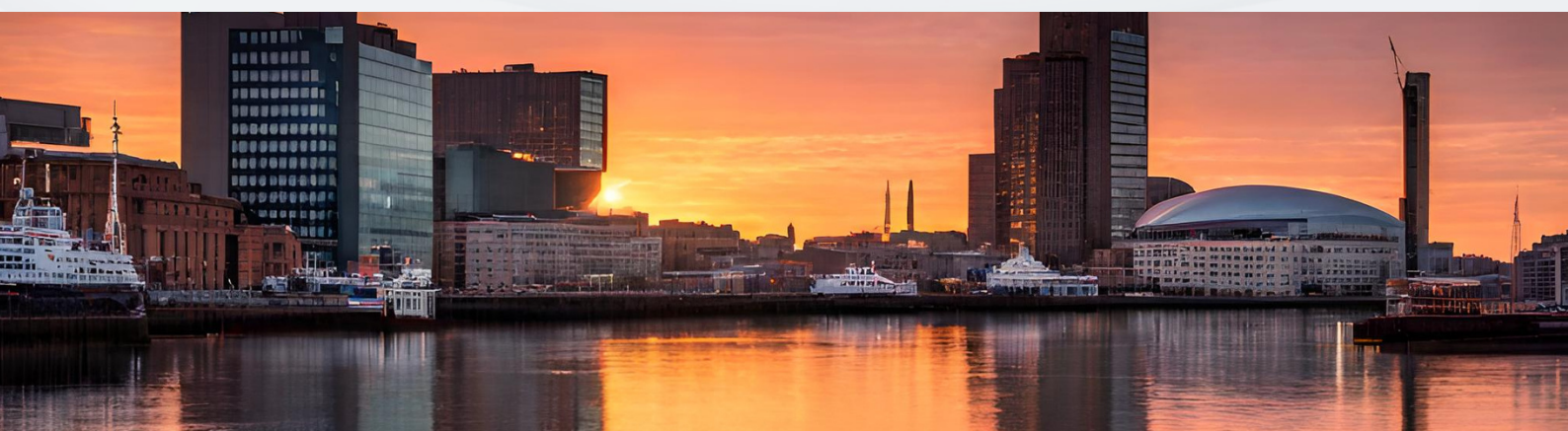
Source: European Commission Digital Strategy Outline⁵⁶



Estimated risk allocation for legal tech use cases

- Unacceptable risk: “clear threat to the safety, livelihoods and rights of people”; may include some legal AI applications⁵⁷
- Bulk of legal AI applications “high risk”

Article 6 of the Act makes it clear that systems related to the administration of justice, democratic processes and law enforcement will be categorised as high risk. The fact that deploying AI in caselaw search engines was given as an example of a high risk use case suggests that most AI-powered legal technologies will fall under this rather broad category.⁵⁸ As such, legal tech providers in the EU will be obliged to meet an array of risk assessment and testing requirements before they can be put on the market, and report any ‘serious incidents’ that arise due to its use. It is highly possible that some use cases of AI in legal tech may be prohibited for containing “unacceptable risk” per Article 5. In outlining its digital strategy, the European Commission noted that “all AI systems considered a clear threat to the safety, livelihoods and rights of people will be banned”. However, the exact point at which use cases would be deemed as crossing this threshold is unknown, making it hard to predict the proportion of legal AI use cases that may be vulnerable to prohibition.



⁵⁶ “AI Act”, European Commission, accessed April 3, 2024, <https://digital-strategy.ec.europa.eu/en/policies/regulatory-framework-ai>.

⁵⁷ Ibid.

⁵⁸ Pinsent Masons, “A guide to high-risk AI systems under the EU AI Act”, *Out-Law* (blog), February 13, 2024, <https://www.pinsentmasons.com/out-law/guides/guide-to-high-risk-ai-systems-under-the-eu-ai-act>.



These obligations will apply to all AI systems intended for use in EU markets regardless of whether they are an EU-registered company.⁵⁹ The vast majority of regulatory burden is expected to fall on ‘providers’ of AI systems (the AI system’s developers) as opposed to ‘users’, defined as parties who deploy AI systems in a professional capacity.⁶⁰ The maximum penalty for non-compliance within Article 5 of the Act (unacceptable risk/prohibited AI systems) is 35 million Euros, or 7% of the company’s worldwide annual turnover (whichever sum is larger). The penalties for breaches of other certain provisions are 15 million euros, or 3% of worldwide annual turnover.⁶¹ A new body called the AI Office will be created within the European Commission to work with Member States and AI industry experts to implement the EU AI Act and play a key role in its enforcement.⁶²

Perhaps one of the largest benefits of the EU AI Act is that it forces AI developers to consider the potential fundamental rights implications of their systems and commit to implementing measures to minimise risks before they materialise. In light of the myriad of potential pitfalls that we have mentioned throughout this report, the designation of legal AI use cases as ‘high-risk’ seems to be an accurate assessment that is aligned with public opinion. As such, regardless of the extent to which this process actually makes legal use cases of AI safer, successfully getting through this assessment phase could boost consumer confidence in the legal AI solutions that get approved. Given that lawyers’ and clients’ mistrust of AI tools is one of the largest barriers to their adoption in legal use cases, undergoing this type of assessment process could have a net positive effect for legal tech firms despite the additional time and cost needed to develop AI-powered legal tech tools. The legal certainty provided by the EU AI Act could also boost investment in the area.

However, the EU AI Act’s regulatory approach is not as comprehensive as it otherwise may seem. One of the most obvious criticisms is that technological development occurs far more rapidly than the EU’s notoriously slow legislative procedures. This issue was foreshadowed by the complications around General Purpose AI models (GPAI) during the EU AI Act’s drafting process; the 2021 Commission proposal did not include a definition of GPAI, and further research on such models sparked controversy requiring several additional debates in the EU Parliament. The EU AI Act’s definition of AI systems was still under revision until as recently as early 2024, where it was amended to align with the OECD’s definition which encompassed all GPAI models.⁶³ As the Act outlines an extensive range of specific technologies, and categorises them, it is expected to be a reasonably streamlined process to update the Act and provide further provisions. Even so, the EU Parliament is likely to face challenges in keeping pace with rapidly advancing developments in AI technology.

⁵⁹ Artificial Intelligence Act 2024, recital 60j.

⁶⁰ Ibid, Art 5.

⁶¹ Ibid, Art 71 & 72.

⁶² Ibid, Art 52e.

⁶³ Tekla Emborg, “The EU’s Pacing Problem”, *Verfassungsblog* (blog), December 19, 2023, <https://verfassungsblog.de/the-eus-pacing-problem/>.



There are also some clear loopholes in the EU AI Act's risk-based approach that may prevent European safeguards on legal AI use-cases from achieving their desired effect. Although AI solutions earmarked to assist legal workflows will automatically be designated as having high or unacceptable levels of risk, there is little to prevent similar outputs generated by systems in lower risk categories from being used in legal contexts. This will perhaps be less of an issue in law firm settings where lawyers are ultimately responsible for the quality of their work and there is a strong need to retain clients' trust. However, other potential users like corporate legal departments may have less incentive to carefully comb through these outputs or ensure they are being used correctly. A larger issue arises when it comes to jurisdiction shopping by international organisations. If the cost and time-saving effects of using certain AI tools are great enough, law firms and international companies could simply delegate these potentially AI-augmented tasks to employees in less regulated jurisdictions. For example, if lawyers in a firm's US office can make use of AI-powered due diligence tools that are better than those approved for use in the EU, a lawyer in their German office could simply request that the due diligence for a European M&A deal is conducted by a US-based team. In any of these scenarios, European citizens and companies practically find themselves subject to AI-powered processes that may fall outside of the EU AI Act's purview.

It is worth noting that the true extent of the EU AI Act's impact on the incorporation of AI-powered tools in legal tech will depend on the extent to which the Brussels Effect takes place. One of our interviewees, Kenneth Damien (technology lawyer and Co-Founder of LSE's Future Impact Summit), is sceptical that the EU AI Act will achieve its secondary ambition to sculpt a global regulatory narrative in the same fashion as how the GDPR became the global standard-bearer for data protection. A patchwork of internal challenges including rising protectionist tendencies and fragmentation risks the EU's ability to successfully wield the AI Act's principles within the bloc, let alone the global stage. In recent years, Member States including Poland and Hungary have made decisions that eschewed the liberal democratic principles touted by the EU. At the same, there may be Member States who want to implement higher standards of fundamental rights protections than provided for in the EU AI Act. Article 53 of the European Charter⁶⁴ states that the EU's standards of fundamental rights protections operate as a floor and not a ceiling to the standards of protection that Member States can set. However, cases like *Melloni*⁶⁵ show that this promise may be overridden for the sake of harmonisation. The challenge of ensuring a cohesive and effective implementation of AI regulations across Member States may be detrimental to the EU's ability to innovate and compete on the global stage.

⁶⁴ Charter of Fundamental Rights of the European Union 2012, OJ C 326/291, art 52, accessed April 4, 2024, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:12012P/TXT>.

⁶⁵ Stefano Melloni v Ministerio Fiscal, C-399/11, ECLI:EU:C:2013:107, *European Court Reports*.



Damien's scepticism about the global impact of the EU AI Act also stems from a recognised innovation lag within the EU in comparison to the technological strides of the US and China. When comparing the levels of investment across leading global players, it is evident that both the US and China far outpace the EU in terms of financial commitment to AI innovation. For instance, the European Commission has set an ambitious target to funnel €20 billion annually into AI research and innovation, a figure that represents a substantial increase from previous levels but still falls short when juxtaposed with the investments made by its global counterparts.⁶⁶ In recent years, the United States has seen its private and public sectors aggressively increase their investment in AI, with figures reaching well over \$23 billion in 2020 alone, according to the Stanford AI Index Report.⁶⁷ China has made AI a national priority, with plans to become the world leader in AI by 2030, backed by an estimated investment that could surpass \$70 billion by the end of the decade, as reported by the State Council of the People's Republic of China.⁶⁸ This level of investment has catalysed China's rapid advancements in AI, positioning it as a formidable force in areas such as facial recognition technology, autonomous vehicles, and AI-driven healthcare solutions. Similarly, the number of AI-related patents filed by entities in the EU is lower than those in the US and China, and its AI startup scene trails in terms of the scale and valuation of these enterprises. In an effort to overcome its challenges and foster its own AI ecosystem, the EU has seen initiatives such as the proposed establishment of "AI Factories," aimed at catalysing European leadership in AI innovation.⁶⁹ The EU is nonetheless facing an uphill battle to cement its position as a global contender in the AI arena.

Finally, Damien is unsure about the AI Act's influence beyond Europe's borders due to the lack of a flashpoint incident to galvanise broader regulatory alignment. The Cambridge Analytica scandal⁷⁰ revealed how much personal data could be harvested and manipulated without user consent, fundamentally altering public perception and regulatory scrutiny of data privacy practices. This incident underscored the vulnerability of digital personal information and sparked a global debate on the ethics of data use, buttressing the GDPR's 'Brussels effect' as policymakers across the globe scrambled to introduce more stringent data protection laws. The AI industry will likely eventually encounter its own watershed moment that may prompt a more unified approach to AI regulation, although it is currently unclear where such a force may hit from. For now, however, such a catalyst is yet to take place.

⁶⁶ "European approach to artificial intelligence", European Commission, accessed March 16, 2024, <https://digital-strategy.ec.europa.eu/en/policies/european-approach-artificial-intelligence>.

⁶⁷ AI Index Steering Committee, *Artificial Intelligence Index Report 2023* (Stanford University Institute for Human-Centered AI, 2023), https://aiindex.stanford.edu/wp-content/uploads/2023/04/HAI_AI-Index-Report_2023.pdf.

⁶⁸ The People's Republic of China, The State Council, *China issues guideline on artificial intelligence development* (last updated: July 20, 2017), accessed March 16, 2024, [https://english.www.gov.cn/policies/latest_releases/2017/07/20/content_281475742458322.htm#:~:text=The%20State%20Council%20has%20issued,trillion%20yuan%20\(%24147.80%20billion\)](https://english.www.gov.cn/policies/latest_releases/2017/07/20/content_281475742458322.htm#:~:text=The%20State%20Council%20has%20issued,trillion%20yuan%20(%24147.80%20billion)).

⁶⁹ "Commission launches AI innovation package to support Artificial Intelligence startups and SMEs", European Commission, accessed April 8, 2024, https://ec.europa.eu/commission/presscorner/detail/en/ip_24_383.

⁷⁰ Carol Cadwalladr & Emma Graham-Harrison, "Revealed: 50 million Facebook profiles harvested for Cambridge Analytica in major data breach", *The Guardian*, March 17, 2018, <https://www.theguardian.com/news/2018/mar/17/cambridge-analytica-facebook-influence-us-election>.

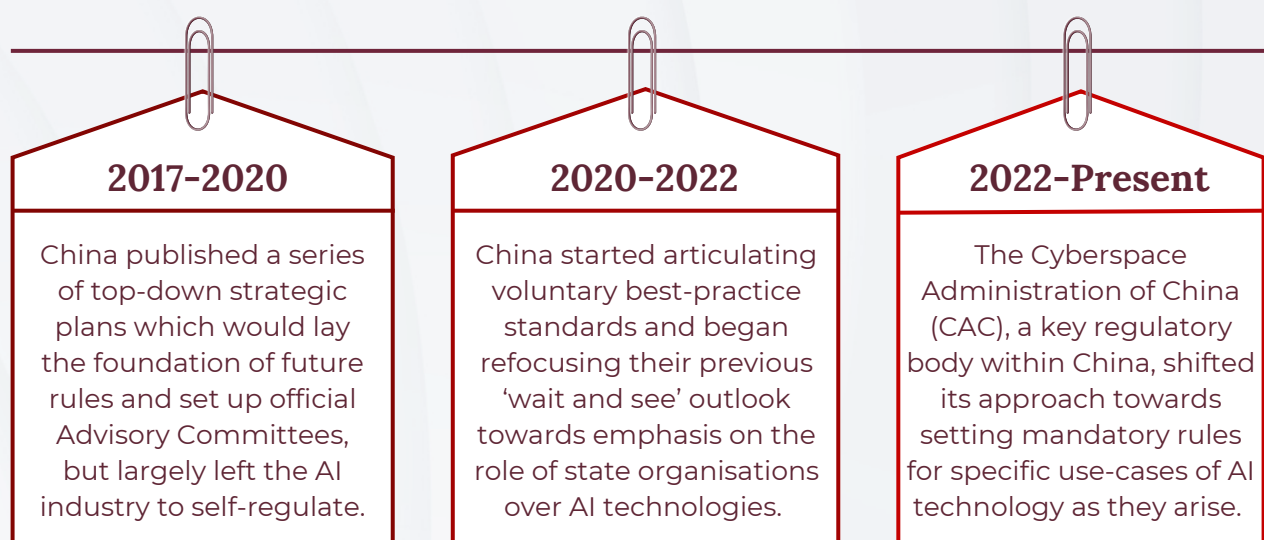


The People's Republic of China

General Regulatory Approach:

China's model of AI governance has been developed in the context of its bid to become a 'cyber-power' (网络强国, anglicised as wǎngluò qiángguó). Given that the EU AI Act does not fully come into effect until 2026, China's myriad of AI regulations form the most significant and comprehensive legal framework governing AI developments that is currently in effect. As the second global leader in the AI space, China is crafting a budding AI governance regime marked by state-backed initiatives, vast data resources, and significant investments in training Large Language Models. its approach to AI regulation has undergone significant transformation over the past few years.

Fig. 20 China's Regulatory Framework Over Time, Source: Bird & Bird⁷¹



Unique Aspects of China's Regulatory Approach

China's current legal architecture governing AI is grounded upon a strong focus on governmental control and alignment with national goals via government monitoring and intervention.⁷² This starkly contrasts Western models that might instead emphasise consumer harms and/or individual liberties. China's model of AI governance is scenario-based, focusing on highly-specific algorithmic services like personalised push and search filtering, and it applies mainly to online platforms widely used by Chinese internet users. This scenario-based governance model contrasts sharply with approaches in other parts of the world, such as the EU's approach to banning certain AI use cases (e.g. social scoring systems) outright and the UK's principles-based approach.

⁷¹ "AI Governance in China: Strategies, Initiatives, and Key Considerations," James Gong, Harry Qu, & Hunter Dorwart, accessed April 5, 2024, <https://www.twobirds.com/en/insights/2024/china/ai-governance-in-china-strategies-initiatives-and-key-considerations#:~:text=Enacted%20in%202022%2C%20the%20Shanghai,and%20promote%20industrial%20parks%20where.>

⁷² Kenneth Damien, interview by Ingrid Sommer, March 9, 2024.



Will the ‘Beijing Effect’ Become the new ‘Brussels Effect’?

Damien posited a compelling question during one of his interviews with us: could we see a shift from the widely recognised Brussels effect to the emergence of a “Beijing effect” as a tool which sculpts global discourse around technology norms?⁷³ He noted that, to some degree, Beijing has already demonstrated a measure of success in this arena, notably through the global penetration of TikTok. Whether Beijing will intensify its efforts in leveraging technology to consolidate its international sway has yet to be seen, but appears likely. The Chinese government's investments in AI, along with its ambitions outlined in plans like "Made in China 2025", aim to make China a leader in AI technology. This leadership could extend to setting standards and practices that, due to China's economic and technological clout, might become de facto norms in regions closely tied to China through the Belt and Road Initiative or digital infrastructure projects.⁷⁴ Interestingly, the 2023 Artificial Intelligence Index Report by Stanford University reveals that despite their disparities in regulatory approach and fierce geopolitical rivalry, collaborations in AI research between China and the US saw a fourfold increase from 2010 to 2021⁷⁵—albeit the pace of these collaborations has markedly decreased recently and is expected to continue to fall.

Public Perception and Chinese AI Regulation

Public perception of AI could significantly influence governmental strategies and policies on AI, even in a non-democratic context like China's. As China strives to secure its place as a leader in AI development, the Government will almost certainly calibrate their regulatory approach in line with evolving business trends and consumer concerns. As it currently stands, tech-savvy Chinese citizens appear rather optimistic about AI use cases, supercharging China's heavy focus on innovation. Although China adopts a top-down approach to AI regulation, public perception and international dynamics could still play a significant, albeit largely secondary, role in shaping the country's AI governance strategies.



⁷³ Matthew S. Eri, & Thomas Streinz, "The Beijing Effect: China's 'Digital Silk Road' as Transnational Data Governance," *NYU Journal of International Law & Politics* 54, 1 (2021).

⁷⁴ Institute for Security & Development Policy, "Made in China 2025: Background" (2018), <https://isdpeu/content/uploads/2018/06/Made-in-China-Background.pdf>; "China's Massive Belt and Road Initiative," James McBride, Noah Berman, & Andrew Chatzky, last modified February 2, 2023, <https://www.cfr.org/background/chinas-massive-belt-and-road-initiative>. Stanford AI Committee, *AI Index Report 2023*, pp. 29.

⁷⁵ "Opinions about AI vary depending on countries' level of economic development," Chris Jackson, accessed March 16, 2024, <https://www.ipsos.com/en/global-opinions-about-ai-january-2022>.



The United States of America

General Regulatory Approach:

Discourse surrounding American AI regulation often characterises it as a light-touch alternative to the EU's stringent regime.⁷⁶ The US's policy objectives thus far appear to prioritise maintaining its technological advantage and accelerating domestic AI innovation by leveraging its tech giants and cutting-edge research institutions. Framing the US's approach as an attempt to fend off as much regulation as possible could be considered by some as a reductionist narrative. In response to a Politico article on the global scramble to regulate AI, Wharton academic and world-renowned expert on emerging technologies Kevin Werbach noted his frustration with this claim and highlighted that there have been more enforcement actions and investigations by U.S. agencies over AI and algorithmic decision-making systems than anywhere else in the world.⁷⁷

Whilst the US undoubtedly has a fragmented, somewhat piecemeal approach to AI regulation, this cannot be equated to adopting a completely laissez faire approach to enforcement. At present, the vast majority of concrete policy initiatives that have been introduced in the US are only binding at the state level. While efforts are being made to consolidate this system through federal measures, the approach that will be taken at a national level is likely to be heavily contingent on the results of the US's 2024 Presidential Election. In this context, regulatory bodies and professional standards organisations have provided sector-specific guidance to fill the void left by a lack of federal legislation.

Delving into the US's Fragmented Regulatory Landscape

As previously mentioned, the American approach is targeted at fostering agile adaptation to new technologies and market needs, avoiding overly prescriptive regulations that could stifle the development of AI technologies. However, the polarisation of political beliefs between different regions of the US have bled into state-level legislation, creating significant discrepancies between different states' regulatory approaches. For example, the California Consumer Privacy Act and California Privacy Rights Act demonstrate a high level of regard for data privacy, whereas Texas has far less stringent privacy protections and instead prioritises technological innovation.

⁷⁶ Corinne Cath, et al., "Artificial Intelligence and the 'Good Society': the US, EU and UK approach," *Science & Engineering Ethics* 24 (2018): 523.

⁷⁷ Kevin Werbach, "It's frustrating how the debate over AI regulation is always framed as Europe advocating 'strict requirements' and the US pushing 'a lighter-touch regime based mostly on voluntary commitments from industry and existing domestic laws'," LinkedIn, March 31, 2024, https://www.linkedin.com/posts/kevinwerbach_inside-the-shadowy-global-battle-to-tame-activity-7178736427810086914-_GMC?utm_source=share&utm_medium=member_desktop.



Widespread fears over the potential civil rights and economic consequences of AI technologies have resulted in some public-facing political action, such as Biden's Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence,⁷⁸ which led to the creation of the AI Risk Management Framework. The Federal Trade Commission's Joint Statement on Enforcement Efforts Against Discrimination and Bias in Automated Systems⁷⁹ also reinforced this point, potentially helping to build the high level of consumer confidence needed to facilitate widespread adoption of AI-powered legal tech. However, the US generally seems to consider sector-specific regulation as the most effective way to govern different AI use-cases. This is particularly notable in the financial services sector, where agencies like the Securities and Exchange Commission (SEC) and the Federal Reserve provide guidance on the use of AI in algorithmic trading, fraud detection, and customer service use cases.

In the absence of clear general AI regulations, the American Bar Association's Model Rules for Professional Conduct adopt a pragmatic risk-management approach by imposing a duty of technological competence on attorneys utilising legal tech products regardless of whether they contain AI-powered processes.⁸⁰ This bolsters the culture of self-regulation amongst lawyers, law firms and legal tech developers while they await greater certainty regarding the potential boundaries of AI use cases in the legal industry.



⁷⁸ United States of America, The White House, *Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence*, (Washington DC; 2023), accessed April 5, 2024, <https://www.whitehouse.gov/briefing-room/presidential-actions/2023/10/30/executive-order-on-the-safe-secure-and-trustworthy-development-and-use-of-artificial-intelligence/>.
⁷⁹ United States of America, Federal Trade Commission, *Joint Statement on Enforcement Efforts against Discrimination and Bias in Automated Systems..* (Washington DC, 2023), accessed April 5, 2024, https://www.ftc.gov/system/files/ftc_gov/pdf/EEOC-CRT-FTC-CFPB-AI-Joint-Statement%28final%29.pdf.
⁸⁰ American Bar Association, *Model Rules of Professional Conduct*, 1983, accessed April 5, 2024, Rule 1.1, Para 8, https://www.americanbar.org/groups/professional_responsibility/publications/model_rules_of_professional_conduct/rule_1.1_competence/comment_on_rule_1.1/.



The United Kingdom

General Regulatory Approach:

In February 2024, the UK government unveiled their “pro-innovation” regulatory framework for AI, based upon these five core principles:⁸¹

- Safety, security and robustness
- Appropriate transparency and explainability
- Fairness
- Accountability and governance
- Contestability and redress

These have not yet been codified into law and it is expected that legislation will be required to fine-tune any gaps that arise. The Government has tasked selected regulators with implementing these principles in their respective domains by applying existing law and producing supplementary guidelines, and the chosen regulatory bodies must publish their annual AI strategic plans by April 30th 2024.

Until then, the Law Society of England and Wales’ Lawtech and Ethics report and Generative AI: The Essentials papers are more instructive on how AI-powered tools should be designed and used in legal settings.

Summarising the Law Society’s Guidance

The Law Society is a professional association which represents solicitors in England and Wales. Their 2021 Lawtech and Ethics report highlighted five core tenets to consider in the development of legal technology (compliance, lawfulness, capability, transparency and accountability),⁸² which largely align with the principles that were later articulated in the UK Government’s 2024 framework. The Law Society’s Generative AI: The Essentials report was intended to provide legal professionals with an overview of the opportunities and risks posed by using generative AI tools so that they can make ‘informed decisions’ about their responsible use.⁸³ Like their American counterparts, English lawyers are expected to account for the consequences of their generative AI use in relation to intellectual property, data protection and privacy, cybersecurity, training data concerns, output integrity, ethical and bias concerns, and human resources/reputation risks.⁸⁴ This long list of considerations implies that individual lawyers carry a high burden of responsibility, thereby incentivising a culture of self-regulation until further guidance is released.

⁸¹ The Law Society, *Lawtech and Ethics Principles Report*, 2021, <https://www.lawsociety.org.uk/topics/research/lawtech-and-ethics-principles-report-2021>.

⁸² Ibid.

⁸³ The Law Society, “Generative AI – the Essentials,” November 17, 2023, <https://www.lawsociety.org.uk/topics/ai-and-lawtech/generative-ai-the-essentials>.

⁸⁴ Secretary of State for Science, Innovation and Technology, *Consultation Outcome: A pro-innovation approach to AI regulation: government response, 2024*, CP 1019, accessed March 16, 2024, <https://www.gov.uk/government/consultations/ai-regulation-a-pro-innovation-approach-policy-proposals/outcome/a-pro-innovation-approach-to-ai-regulation-government-response#a-regulatory-framework-to-keep-pace-with-a-rapidly-advancing-technology>.



Looking Ahead -the Future of the UK's AI Regulations:

In theory, the UK's principle-based approach to AI regulation is sensible in facilitating a strong framework of sector-specific rules and a more agile response to further advancements in AI technologies. However, the lack of concrete measures articulated thus far makes the real effectiveness of this approach difficult to predict. Whilst the five principles articulated by the UK Government sound good, we do not know the threshold that AI models will need to meet in order to exemplify these principles to a legally permissible extent. It is further unclear what precise package of procedures will be required on the developer or user end in order to demonstrate commitment to the UK Government's principles, the extent to which these protocols make any meaningful difference in achieving these stated goals, or how this would actually be enforced. Further uncertainty arises as to how the UK Government and Courts will interpret the retained UK GDPR in the face of AI advancements and how this may deviate from the EU's approach. Thus, without further information, there is not much that can be said about the true efficacy of the UK's future regulatory framework.

Geopolitics and Other Factors in Global AI Regulation

The Collingridge Dilemma:

Collingridge eloquently identifies a unique paradox that lies at the heart of attempts to regulate emerging technologies:

“

*The social consequences of a technology cannot be predicted early in the life of the technology. By the time undesirable consequences are discovered, however, the technology is often so much part of the whole economic and social fabric that its control is extremely difficult. When change is easy, the need for it cannot be foreseen; when the need for change is apparent, change has become expensive, difficult and time consuming.*⁸⁵

”

This statement unfortunately remains as true today as when Collingridge warned of this in 1980. There will inevitably be oversights in any AI regulation and or method through which AI processes are integrated into legal tech products. We believe that it is important to try devise measured strategies to mitigate the risks that we can foresee instead of surrendering to various doomsday outcomes that some will claim are inevitable. However, we also believe that it is important for regulators to remain conscious of the potential fallibility of any regulatory framework that is devised and remain open to recalibrating their regulatory approaches as needed.

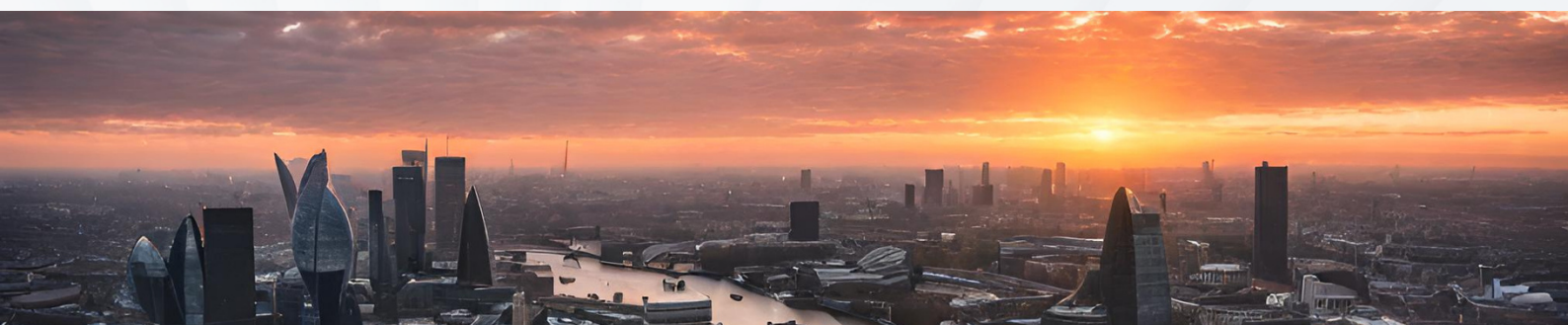
⁸⁵ David Collingridge, *The Social Control of Technology* (London: Pinter, 1980), 11.



AI Regulation vs Development Pace

Whether in China, the US, the EU or the UK, regulators face a common challenge: like almost all technologies, AI advances at a faster pace than regulators can keep up with. With legislative processes taking years in many jurisdictions, the most pertinent problems created by AI are likely to have significantly changed by the time clear rules are devised to address them. The complexity of this issue is frequently understood and articulated, but there is a notable frustration with current discourse as proposed solutions often entail reverting to calls for more regulation without concrete suggestions on how to actually make the process of AI regulation more responsive to new developments.

One of our interviewees, Kenneth Damien, emphasises the need for innovation and creativity in regulation and advocates for an outcome-based regulatory approach where regulation is seen as a form of technology designed to correct societal discrepancies and protect the public good. He highlights regulatory technology (also referred to as 'RegTech') as a means to set guardrails and pre-emptively address societal harms that could arise from unchecked AI development. He also recommends leveraging technologies like smart contracts to instantly execute amendments that would be required in the wake of new developments, thereby increasing the enforceability of new measures and lowering reaction times in responding to regulatory and market changes. Besides the Collingridge dilemma, several other factors make this ambitious vision of RegTech-centric AI regulation seem a bit too optimistic.⁸⁶ The UK's recent Post Office scandal, where problems with a seemingly innocuous programme caused many employees to be wrongfully convicted of theft over several years, serves as a cautionary tale regarding the extent of trust and dependence that we place in technological tools. This is especially crucial in higher-stakes use cases like compliance. Furthermore, using smart contracts (ie. blockchain-based tools coded to automatically execute a given task when specified conditions are met)⁸⁷ to aid enforcement gives rise to many of the same concerns over accuracy, contestability and accountability that AI does.



⁸⁶ "Post Office scandal explained: What the Horizon saga is all about," *BBC News*, March 13, 2024, <https://www.bbc.co.uk/news/business-56718036>.
⁸⁷ "What are smart contracts on blockchain," accessed April 8, 2024, <https://www.ibm.com/topics/smart-contracts>.



However, Damien's focus on RegTech's potential to aid quicker regulation is not entirely misplaced. Besides assisting with compliance, RegTech can also assist policymakers and other relevant parties in tracking industry trends and new issues that may be surfacing, allowing emerging regulatory challenges to be identified and flagged for resolution as soon as possible. It can also streamline collaboration between different stakeholders in devising, testing and refining new policies. There is unfortunately no silver bullet that can solve the problem of regulatory lag. However, defining the values that should underpin regulation and ensuring that working groups can be quickly assembled to tackle new challenges could be our best bet in striving towards effective, timely regulation.

Competition vs. Collaboration:

With multiple major wars being waged around the world, it is no surprise that there are growing trends of competition between major global powers in devising AI regulation strategies. As AI continues to be the hottest new battleground for "techno-nationalism", countries are keen to realise the economic, political and security benefits of being an AI superpower.

The race between global powers in dominating AI innovation is played out in multiple arenas. For example, the strategic importance of hardware in AI development has led to a "chip war" between the US and China, where the US implemented export controls to limit China's access to state-of-the-art semiconductor technology.⁸⁸ This was done to hamper China's competitive stance in developing cutting-edge AI systems. Devising effective and internationally influential AI regulatory frameworks is a more subtle but extremely important aspect of this competition. Countries are incentivised to boost AI development within their respective regions, and creating a business-friendly regulatory climate is obviously a factor in that respect. However, the benefits of being a leader in global AI regulation go far deeper than economic gains.





The values infused into AI regulation will differ based on those of the regulators that create them. Thus, it is within the global powers' interests to ensure that worldwide AI development occurs in a way that complements their domestic and foreign policy agendas. For example, if countries within a certain bloc adopt policies that create government-mandated backdoors in the development of AI systems, that government may then become vulnerable to internal and external pressures around harvesting, processing and sharing information through those means.

In light of recent geopolitical tensions, countries seem to be prioritising their ability to implement AI within defence strategies. For all of its rights-based posturing and emphasis on safeguarding individual freedoms, it is noteworthy the EU AI Act exempts AI systems exclusively used for military, defence or national security purposes from its scope.⁸⁹ We may see greater collaboration between geopolitical allies under the pressure of looming conflict. Wider good-faith cooperation is unlikely in the short-term, but may emerge when political tensions cool or, in a scenario analogous to the mutually assured destruction paradigm of the Cold War era, AI is believed to pose an existential threat to humanity. Fears could vary from AI-powered autonomous weapons, loss of control over AI systems, or other societal disruptions caused by advanced AI technologies. Just as the international community developed treaties and norms to regulate nuclear weapons, countries may eventually settle on AI regulation strategies that, while not optimal for any single global player, ensure that no party can benefit from unilaterally altering their course of action.

Tech Giants - Broad vs. Local Level Compliance

Disparities between regulations within different jurisdictions pose significant implications for global tech companies and startups, necessitating a nuanced understanding of compliance and strategic planning. It is unclear whether tech companies will adopt a single set of regulations globally that complies with the strictest regulatory standards, or local-level compliance tailored to fit local or regional requirements. Given that regulation varies significantly on a state-by-state basis within jurisdictions like the US, adopting local-level compliance might make more financial sense than it did when devising compliance strategies for tech governed by more cohesive regulatory frameworks. The move towards sector-specific regulations in the US might also indicate that tech companies may need to shift away from a one-size-fits-all approach to more sector-specific policies, necessitating more fine-tuning when it comes to compliance strategies. The application of AI in legal tech is unlikely to suffer under these inconsistent rules as their applications are, by definition, extremely sector-specific. .



Self-Regulation

On its face, self-regulation seems like a prudent approach to reducing risk in the absence of clear regulatory guidelines. However, given the existence of formidable tech giants with more money and resources than many governments have at their disposal, leaving industry players to self-regulate may lead to regulators overly deferring to existing frameworks and practices established to serve tech giants' own corporate agendas. A broad spectrum of scholars, including Vili Lehdonvirta, Professor of Economic Sociology and Digital Social Research at the Oxford Internet Institute, have voiced their concerns regarding regulatory capture and the undue influence of large technology companies over the sector and society.⁹⁰ Lehdonvirta's critique is centred around the observation that digital platforms have not only established their own governance structures and dispute resolution mechanisms but have also, to a significant extent, assumed roles traditionally filled by state institutions. To simply endorse existing business practices risks regulation that neglects public welfare and ethical standards. This concern is amplified by the global reach and socio-economic power of these platforms, which, according to Lehdonvirta, operate as "cloud empires" with the capacity to influence cross-border trade and digital marketplaces in ways that challenge traditional state sovereignty and regulatory paradigms. We have already seen glimpses of this in Australia in 2021, when Google threatened to cut the country off in response to a policy proposal that they saw as unfavourable.⁹¹ Thus, there is significant pressure for official regulatory bodies to prove themselves as legitimate authorities on AI regulation as soon as possible.

⁹⁰ Vili Lehdonvirta, "Cloud Empires: how digital platforms are overtaking the state and how we can regain control," *Information, Communication & Society* 26, 16 (2023).
⁹¹ "Google commits \$736m in Australia after threatening pull-out", *Al Jazeera*, Nov 16, 2021, <https://www.aljazeera.com/economy/2021/11/16/google-commits-736m-in-australia-after-threatening-pull-out>.



Conclusion & Key Takeaways

Legal technology is a highly specific but also highly important segment of the technology industry. Devising and deploying AI solutions within this sector comes with a myriad of considerations with varying levels of specificity to its legal use cases.

From a market standpoint, we have shown that the potential of AI use cases has fuelled growth and investment in the legal tech sector. Exact market value projections are difficult to ascertain due to the dominance of privately-owned companies in the sector and the over-inflation currently seen in a lot of AI-related markets. However, we are confident that the sector has shown robust growth that we expect will continue as law firms increasingly view technological tools as key to improving efficiency and providing better client services in the long run. Should the anticipated return of venture capital funding come to fruition, we expect that this will further boost investment amongst existing established players and further fuel the vibrant startup scene. The industry is largely comprised of companies that concentrate their focus upon highly specific parts of lawyers' workflows. However, as the industry matures, we expect to see significant consolidation in the market— particularly in the face of an industry move towards platforms as a means to centralise operations and improve internal and external communication.

We firmly believe that setting clear, specific goals in designing AI-powered processes is crucial to responsible and effective legal tech development, and that care should be taken in educating end-users on how to use any given AI tool or interpret AI-generated outputs as part their workflows. We also believe that robust feedback, reporting and auditing mechanisms should be in place to ensure the proper functioning of legal AI systems. The concrete effect that AI-powered legal tech will have on the market for legal services and the legal profession is contingent on which specific tasks AI systems will automate or augment, the quality of those outputs, and any rules dictating the level of human involvement required in different use cases. As legal tech becomes more central to legal practice, we expect reduced demand for pure 'lawyers' in the current sense alongside an emergence of hybrid careers requiring various mixes of legal and technological competencies. Significant downward pressures on revenues generated from pure legal advisory means that law firms are strongly incentivised to secure direct access to legal tech earnings through internal development or acquisition. As non-bespoke legal work is swallowed up by client self-service platforms, law firms will increasingly depend on providing more holistic data-driven advisory to their remaining clients.



There will likely be extreme disparities when it comes to the nature, extent and timeline of AI-powered legal tech adoption across different geographical regions. Besides regional differences in access to and use of technology, the language that the end-user speaks may become a determining factor in the quality of AI products developed as lesser-spoken languages will have less information to train large language models. We also anticipate significant asymmetries arising due to the vastly different approaches adopted by regulators at the helm of key jurisdictions. It has yet to be seen whether there will be more of a convergence or divergence in global AI policy in the long term. Given the importance of the law and legal systems to the proper functioning of society, AI-powered legal tech is likely to be governed with the highest thresholds of scrutiny within any given regulatory regime. However, as applications of AI in legal tech are so niche and sector-specific, the main impact that a lot of these regulatory debates will have on the industry will be to do with determining which new legal tech solutions can best serve the new types of issues that lawyers and their clients will face in navigating overlapping and ever-evolving regulatory frameworks.

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