

Augmented Lawyering

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AI for English Law Webinar: Digital Transformation in Legal Services

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**INDUSTRIAL
STRATEGY**

UK Research
and Innovation





Motivation

How will new technologies such as AI reshape the work of lawyers and the structure of law firms?

“[T]here is no obvious reason that many of today’s professionals won’t be displaced by increasingly capable systems and then fade from prominence, much as blacksmiths, tallow chandlers, mercers, and many trades became redundant in their day.” (Suskind, 2018)

“Even where automation has made significant progress, its impact has been less than the headlines would have us believe.” (Remus & Levy, 2017)



Agenda for this talk

- Impact of AI on Lawyers' work
- Impact of AI on Law Firms
- Quantitative Results
- Implications for lawyers and law firms



■ Qualitative

- 50+ semi-structured interviews with professionals involved in implementing, or overseeing the implementation, of AI in corporate/commercial legal services in the UK (Jan 2019-May 2020).

■ Quantitative

- Anonymous survey of practising solicitors in England & Wales, run in conjunction with the Law Society (Dec 2019-Jan 2020)



Impact on Lawyers





Technology's impact on work

- New technology can **substitute** for humans in relation to some tasks
- This effect is frequently emphasised in discussions of the topic

“[T]here is no obvious reason that many of today’s professionals won’t be **displaced** by increasingly capable systems and **then fade from prominence**, much as blacksmiths, tallow chandlers, mercers, and many trades became redundant in their day.” (Susskind, 2018)
- However, technology has two other important impacts on human tasks:
- **Complementing** humans who do tasks that cannot (yet) be automated, augmenting their productivity.
- **Creating** new tasks for humans necessary to implement the technology, which augment its productivity.

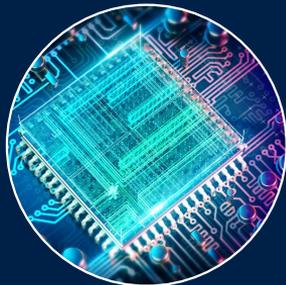


Three effects of AI on lawyers' work



AI augments:

Lawyers' advice to clients;
one-off/bespoke text-
based work



AI substitutes:

repetitive / scalable text-
based work



AI augmented:

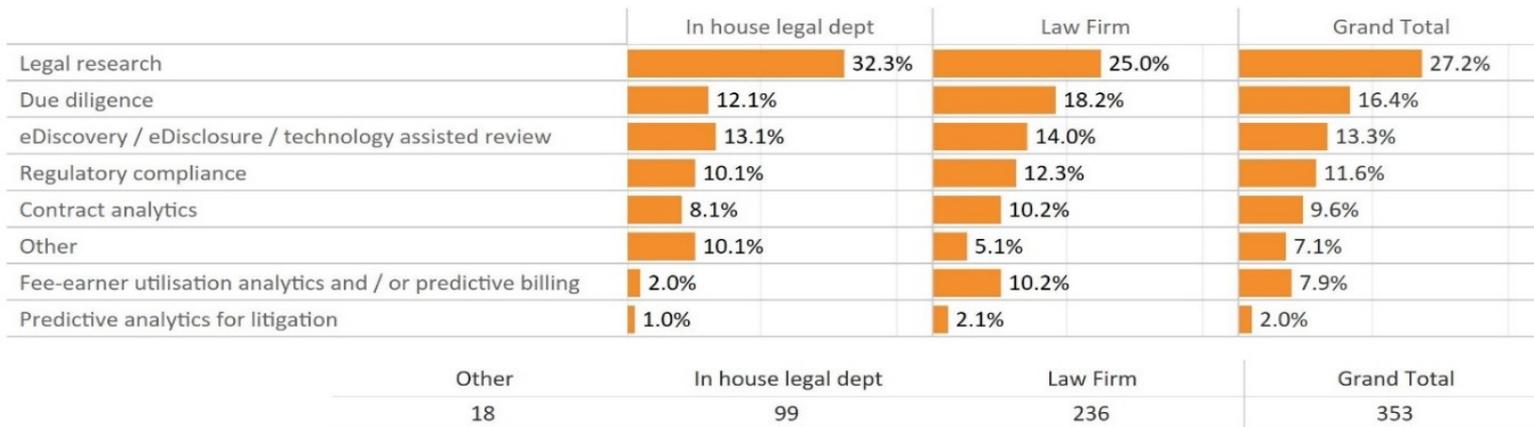
by lawyers working in
multi-disciplinary teams
(MDTs) to make AI
systems work

Lawyer-as-consumer

Lawyer-as-producer

Survey Results: AI use-cases in law

Figure 4: Use of AI-assisted legal technology, by organisation type



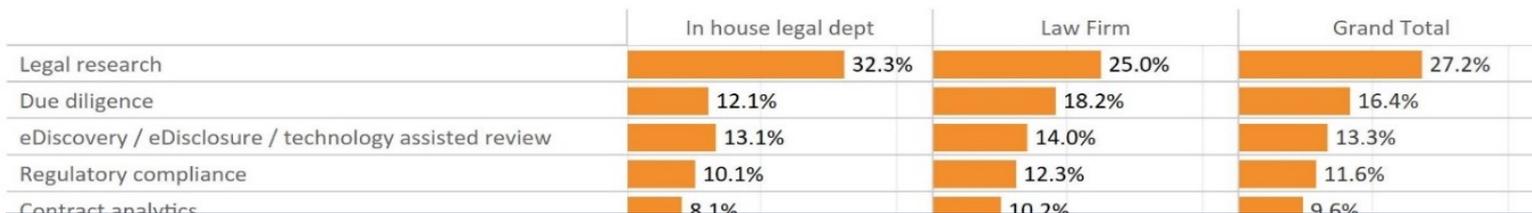
*'Grand Total' includes all complete responses, including from respondents working at ABS and legal technology solutions providers.

Source: Sako, Armour and Parnham, [LawTech Adoption and Training Survey](#) (2020)
 (Survey of 10,000 practising solicitors in England and Wales;
 conducted Dec 2019-Jan 2020; 353 responses)



Survey Results: AI use-cases in law

Figure 4: Use of AI-assisted legal technology, by organisation type



These reflect tasks for which AI **substitutes** for humans
 Outputs from these tasks in turn **augment** productivity of human lawyers

Other	In house legal dept	Law Firm	Grand Total
18	99	236	353

*'Grand Total' includes all complete responses, including from respondents working at ABS and legal technology solutions providers.

Source: Sako, Armour and Parnham, [LawTech Adoption and Training Survey](#) (2020)
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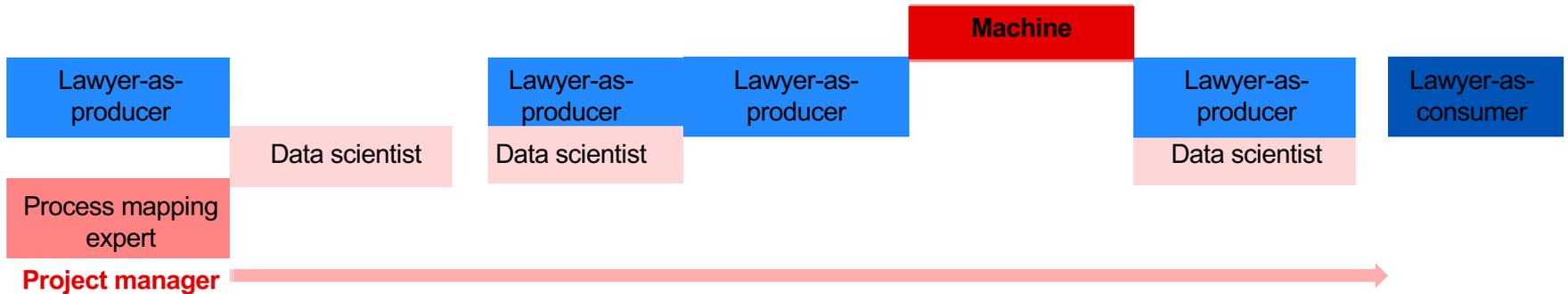
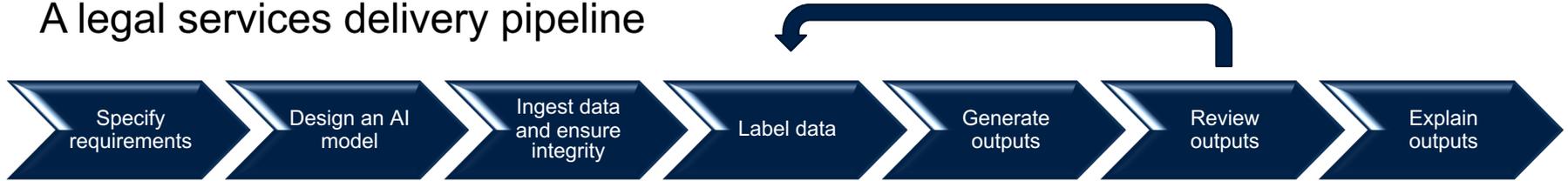
The AI implementation pipeline

“[Y]ou need, effectively, a solution to manage the matters, keep track of all of them, and manage who’s working on them, the delegation, the workflow, etcetera, ... it’s more like **a production line** kind of technology.” (ALSP interview)



Tasks involved in AI's deployment in these use cases

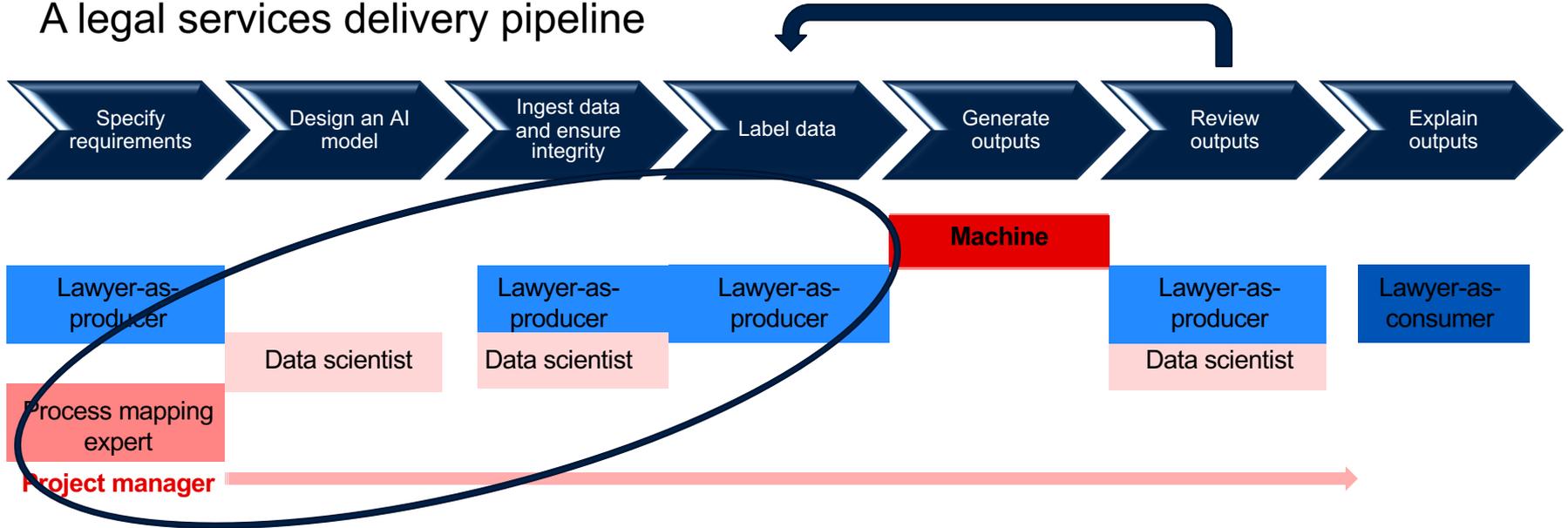
A legal services delivery pipeline



This **creates new tasks** for both lawyers and professionals with other skill sets

Tasks involved in AI's deployment in these use cases

A legal services delivery pipeline



Key survey finding #1: AI deployment is associated with lawyers and non-lawyers working together in **multidisciplinary teams (MDTs)**



Impact on Law Firms



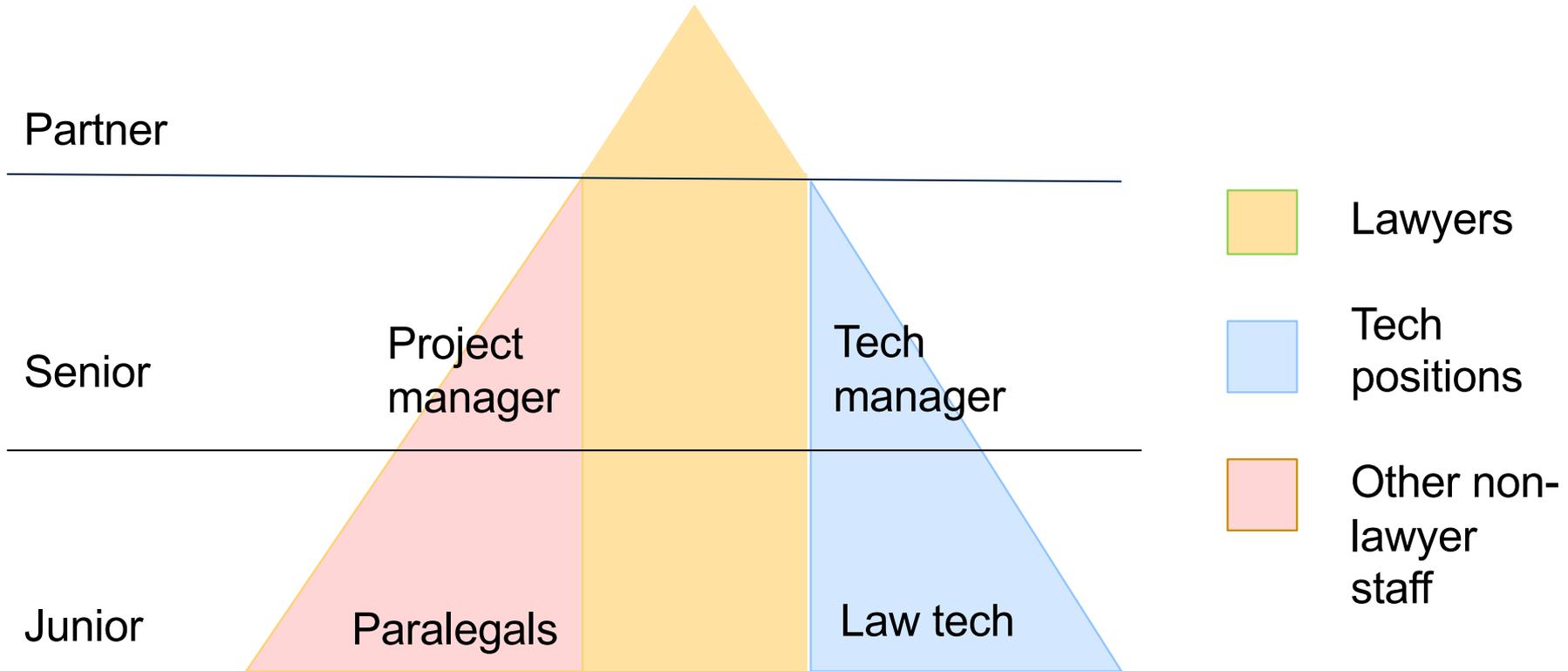


Are law firms at a disadvantage?

- Large law firms tend to be owner-managed partnerships – a consensus-driven form of democratic governance
 - Ownership of, and investment in, law firms is often limited to lawyers only
 - Mandated in US (eg ABA Model Rules of Professional Conduct r.5.4); cf AZ, UT, (CA)
 - Relaxed in UK by Legal Services Act 2007, permitting “alternative business structures” (ABS) – but partnerships remain widespread
 - Policy concern: outside finance for innovation
 - Key concern for our interviewees: recruitment and retention of non-lawyer human capital
- ⇒ Lawyer-only partnerships not a good complement to MDTs



Are law firms at a disadvantage?



Adapted from Veith, Bandlow *et al* (2016)



Law firms and MDTs: recruitment

“[W]e’re obviously a very good firm, with a good brand name associated, but in terms of access to young talent, in the software space, they normally don’t want to join a law firm – they want to go and work for a cool software company.” (Law firm interview)



MDTs: corporate legal services

“[Our team has] a [seasoned] BA [Business Analyst], ... an ex-legal engineer from [a large law firm], ... a very seasoned programme manager, ... a big-data analyst, ... [someone] who was in a sort of small consultancy doing law firm tech, ... and [someone] who’d worked for [a legal data provider]...”

(Corporate legal services department interview)



MDTs also prevalent in ALSPs

“[W]e have people that have been practising lawyers, that really know the legal work. We have people that were general counsel, that understand the leadership and executive communication. We have people that are experienced in other large business process outsourcing, that maybe came from finance or IT or HR, to learn from their experience. We have people that are process specialist black-belts. We have change management. We have financial analysts.” (ALSP interview)



Quantitative Results

For lawyers & law firms



Hypothesis

H1: Successful deployment of (AI-based) lawtech is associated with assembly of multi-disciplinary teams (MDTs)



Measuring incidence of MDTs

- Survey Q13: which types of specialist expert do you work with on a day-to-day basis? (Select all that apply)
 - Paralegals
 - Other lawyers
 - Legal project managers
 - Process mapping experts
 - Data analysts/data scientists
 - IT/Legal innovation experts



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Not MDT



Measuring incidence of MDTs

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Paralegals

Other lawyers

Not MDT

Legal project managers

Process mapping experts

Data analysts/data scientists

IT/Legal innovation experts

“MDT”

Table 1: Determinants of AI Deployment

	<i>Dependent variable:</i>					
	Uses any AI-based lawtech					
	(1)	(2)	(3)	(4)	(5)	(6)
Works in MDT	1.006*** (0.254)	1.012*** (0.254)	0.978*** (0.258)	0.903*** (0.261)	0.902*** (0.266)	0.918*** (0.264)
Years since qualification		-0.009 (0.009)	-0.009 (0.009)	-0.006 (0.009)	-0.0004 (0.010)	-0.009 (0.010)
# Lawtech solutions used			0.064 (0.083)	0.019 (0.087)	0.059 (0.091)	0.025 (0.087)
# Lawtech training				0.161** (0.076)	0.130* (0.077)	0.154** (0.076)
Partner or leadership role					-0.256 (0.261)	
Traditional legal career aspiration						-0.331 (0.321)
Constant	-0.298** (0.133)	-0.132 (0.206)	-0.313 (0.313)	-0.431 (0.320)	-0.502 (0.329)	-0.311 (0.339)
Observations	327	327	327	327	313	326
Log Likelihood	-218.410	-217.853	-217.556	-215.220	-206.031	-213.741
Akaike Inf. Crit.	440.820	441.706	443.112	440.439	424.063	439.482

Note:

* p<0.1; ** p<0.05; *** p<0.01

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Hypotheses

H1: Successful deployment of (AI-based) lawtech is associated with assembly of multi-disciplinary teams (MDTs)

H2: Successful deployment of MDTs is associated with use of corporate, rather than partnership, form.

Table 2: Determinants of Multi-disciplinary teams

	<i>Dependent variable:</i>					
	Works with other disciplines			Openness to other disciplines		
	<i>logistic</i>			<i>OLS</i>		
	(1)	(2)	(3)	(4)	(5)	(6)
Law firm	-0.704** (0.285)	-0.642** (0.291)	-0.599** (0.293)	-0.351*** (0.127)	-0.343*** (0.127)	-0.331*** (0.127)
Years since qualification	0.006 (0.010)	0.008 (0.010)	0.011 (0.010)	-0.009** (0.004)	-0.009** (0.004)	-0.008* (0.004)
# Lawtech solutions used	0.368*** (0.099)	0.344*** (0.100)	0.280*** (0.104)	0.105** (0.042)	0.102** (0.043)	0.080* (0.044)
AI lawtech used		0.932*** (0.261)	0.862*** (0.264)		0.068 (0.112)	0.040 (0.113)
# Lawtech training			0.165** (0.077)			0.059* (0.035)
Constant	-1.544*** (0.376)	-2.061*** (0.413)	-2.160*** (0.417)	3.831*** (0.161)	3.799*** (0.170)	3.767*** (0.170)
Observations	322	322	322	337	337	337
R ²				0.045	0.047	0.055
Adjusted R ²				0.037	0.035	0.040
Log Likelihood	-187.891	-181.283	-178.933			
Akaike Inf. Crit.	383.782	372.566	369.865			
Residual Std. Error				1.018 (df = 333)	1.019 (df = 332)	1.016 (df = 331)
F Statistic				5.288*** (df = 3; 333)	4.049*** (df = 4; 332)	3.827*** (df = 5; 331)

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Implications

For lawyers & law firms



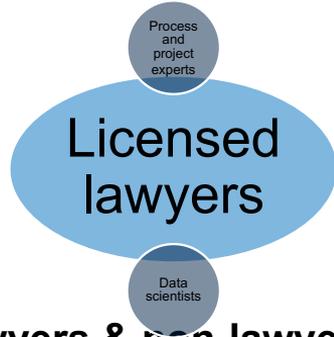


Implications for lawyers

- How are lawyers' roles evolving?
 - Classical advisory roles *augmented* by technology– increasing in quality, decreasing in quantity
 - New multidisciplinary roles *augmenting* technical systems – new training, careers paths. They may not be called “lawyers”.
- Multi-disciplinarity may be facilitated in different ways:
 - Lawyers and non-lawyers working together in teams
 - Lawyers themselves acquiring technical skills (“lawyer-coders”)
- What determines this choice in pathways to multi-disciplinarity?
 - Depends on professional control over jurisdictional boundaries
 - Depends also on law firm governance and make-or-buy decision



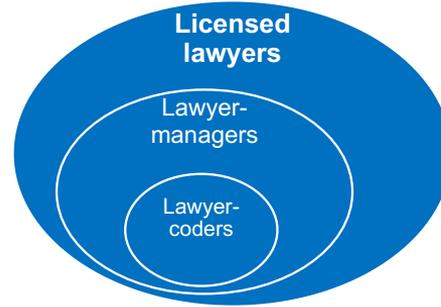
Possible legal career paths



Lawyers & non-lawyers

Lawyers assisted by managers and data scientists

Associate-to-partner progression remains mainline for lawyers



Rise of lawyer-coders

Some lawyers acquire technical skills
Accreditation of legal engineers by bar associations (e.g. Law Society of Scotland)

Would a transition to legal engineers be a one-way ticket in career pathways?



Professional fragmentation

Legal profession fragments into sub-disciplines for advisory work and legal operations work (e.g. CLOC)

Legal engineers and legal operations experts are not necessarily licensed lawyers



New AI-enabled business models

Business models	What customers value	How value is created	How value is captured
Legal advisory	Bespoke legal advice	Input-based (billable hour)	Trust, reputation, leverage
Legal operations	Process efficiency and project management	Output-based (fixed fee)	Process & project management capabilities
Legal technology	Technology solutions / platforms	Subscription, licensing	Intellectual property (copyright or patent) and platforms

Source: Armour & Sako, "[AI-enabled business models in legal services](#)" (2020) *Journal of Professions and Organization*



New AI-enabled business models

	Business models	What customers value	How value is created	How value is captured
Consume AI-enabled legal services produced elsewhere	Legal advisory	Bespoke legal advice	Input-based (billable hour)	Trust, reputation, leverage
	Legal operations	Process efficiency and project management	Output-based (fixed fee)	Process & project management capabilities
Rely on MDTs to produce AI-enabled legal services	Legal technology	Technology solutions / platforms	Subscription, licensing	Intellectual property (copyright or patent) and platforms

Source: Armour & Sako, "[AI-enabled business models in legal services](#)" (2020) *Journal of Professions and Organization*



Implications for law firms

- Will law firms change their governance?
 - Switching to corporate or alternative business structure (ABS) form would facilitate MDTs to ease AI implementation
 - Yet large law firms (with limited exceptions) remain mono-professional partnerships – a decade after the Legal Services Act 2007 (one in ten legal practices are ABSs)
 - ⇒ WHY? Because corporate form would risk diluting the autonomy valued by the firms' key intangible asset – the lawyers themselves.
- How will law firms adopt AI? Make-or-buy?
 - Firms whose business model is advisory will remain partnerships and be *consumers* of AI-enabled legal services
 - Firms *producing* AI-enabled legal services will more likely become corporations



Further information

- ⇒ Prior theory paper: John Armour & Mari Sako, 'AI-Enabled Business Models in Legal Services: From Traditional Law Firms to Next-Generation Law Companies?' (2020) 7 *Journal of Professions and Organization* 27-46 (link [here](#)).
- ⇒ Longer empirical paper: John Armour, Richard Parnham & Mari Sako, 'Augmented Lawyering' (2021), available on SSRN [here](#).
- ⇒ Survey report (descriptive stats): Mari Sako, John Armour and Richard Parnham, *LawTech Adoption and Training: Findings from a Survey of Solicitors in England and Wales* (Oxford and London: Oxford University and the Law Society of England and Wales, 2020) (link [here](#)).
- ⇒ Forthcoming White Paper: AI for Law research team, *AI legaltech: its impact on law firms*. To receive a free copy of this report on publication, please email admin.ai@law.ox.ac.uk
- ⇒ Regular updates on [Project website](#) and [Oxford Business Law Blog](#)

