AI in Corporate Law and Practice

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Spotlight Working Papers

How will new technologies such as AI affect…

The work of lawyers and structure of law firms?

ECGI WP 558/2020**: Augmented Lawyering**
John Armour, Richard Parnham, Mari Sako

The work of corporate boards and structure of corporate law?

ECGI WP 475/2019**: Self-Driving Corporations?**
John Armour, Horst Eidenmüller

Agenda for this talk

- What is AI?
- AI's Impact on Work
- AI's Impact on Organisations
- Implications

What is AI?

What is AI? Scope

Functional definition: *an artificial system performing tasks for which a human would use their brain*

Today's AI

Human or superhuman performance only for specific tasks (e.g. image recognition, text translation, etc.)

Weak on commonsense logic, transfer learning, etc

Tomorrow's AI

How far off is AGI/"superintelligence"?

What is AI? Implementation

“Top down”: Expert system

- Rule-based system: knowledge map hard-coded from “domain experts”
- Strength: deductive approach permits clear explanation
- Weakness: limited to scope of what is hard-coded

“Bottom up”: Machine learning (supervised)

- Training data labelled according to variable of interest
- Algorithm determines what other features of data best predict (= most correlated with) variable of interest
- Strength: finds whatever relationships are in the data
- Weakness: can’t explain results

Data is a key ingredient

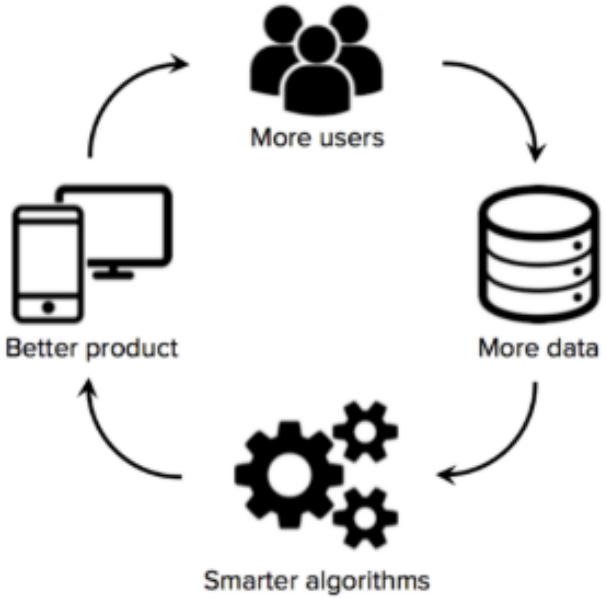
Preconditions for functionality of today's AI

- Algorithms – commoditized
- Computer power -- commoditized
- **Data is key constraint**: dataset must be *relevant*, *large,* and *labelled*

Implications for deployment:

- AI less useful for novel, or highly idiosyncratic, decisions ("judgments") (have fewer *relevant* data)
- For recurring decisions, fixed costs (of *labelling*); increasing returns to scale (as dataset gets *larger*)

The ‘data flywheel’



AI's impact on work

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

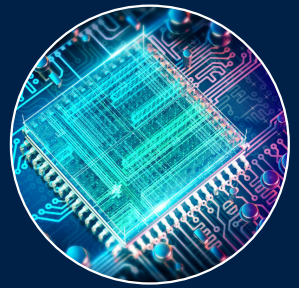
  "[T]here is no obvious reason that many of today's professionals won't be **displaced** by increasingly capable systems and **then fade from prominence**, much as blacksmiths, tallow chandlers, mercers, and many trades became redundant in their day." (Susskind, 2018)

- 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 work

AI augments:

"Creative intelligence": idiosyncratic/one-off analysis; "social intelligence"



AI substitutes:

repetitive / scalable text-based work

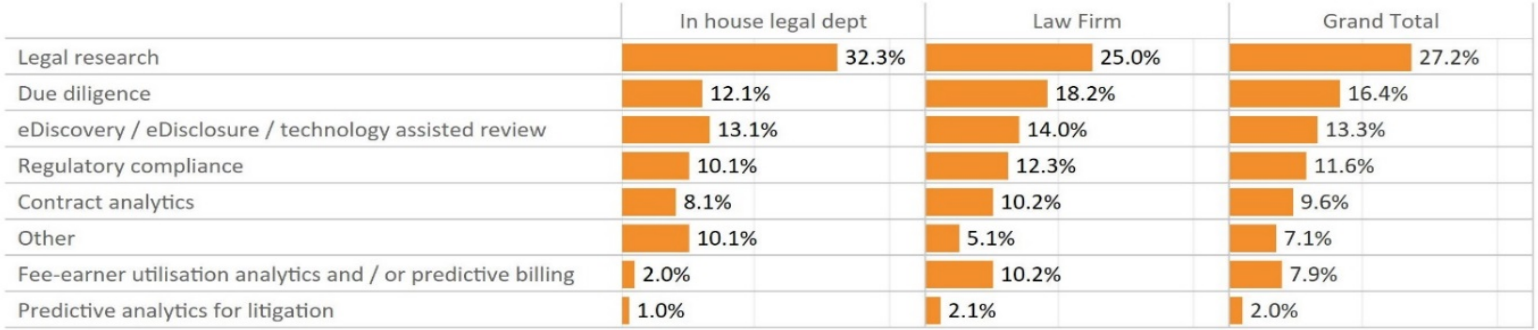
AI augmented:

by domain experts working in multi-disciplinary teams (MDTs) in a service delivery pipeline

Traditional human roles → New human roles

Evidence: AI use-cases in legal services

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



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)
(Survey of 10,000 practising solicitors in England and Wales;
conducted Dec 2019-Jan 2020; 353 responses)

Survey Results: AI use-cases in law

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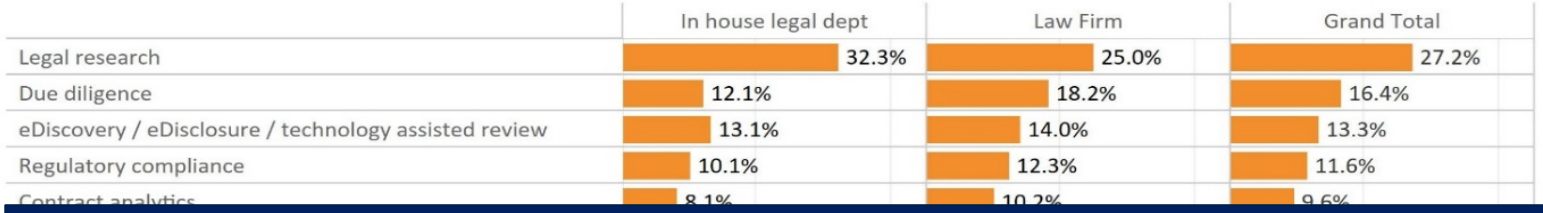

These reflect tasks for which AI **substitutes** for humans
Outputs from these tasks in turn **augment** productivity of human lawyers

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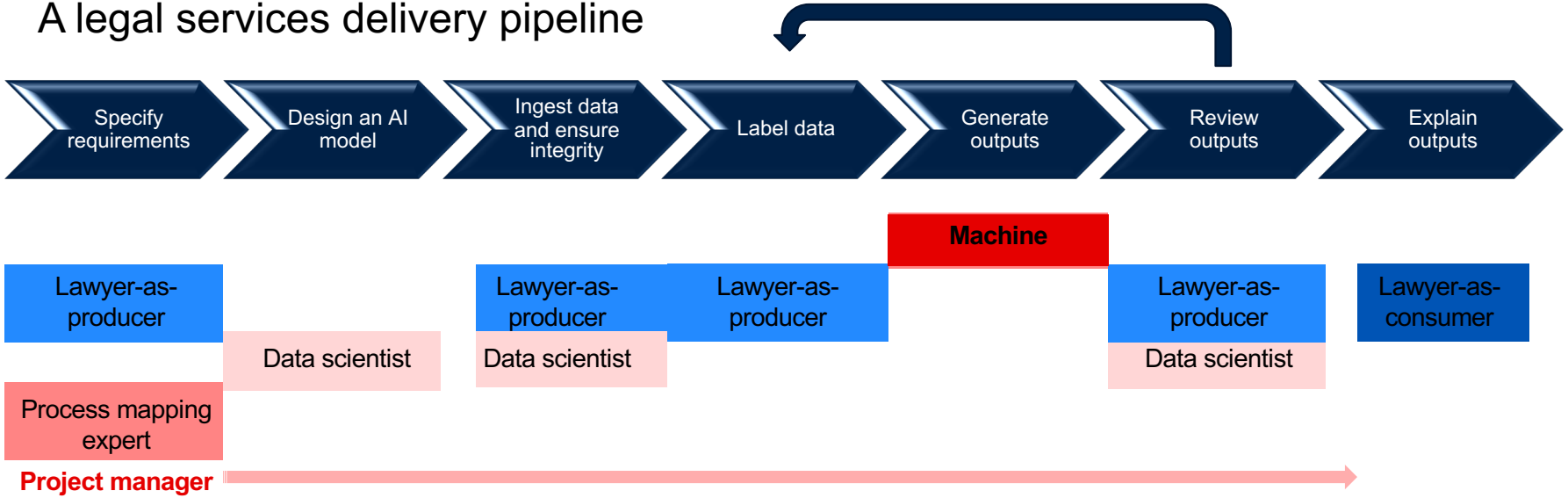
What implementation looks like from the inside

"[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

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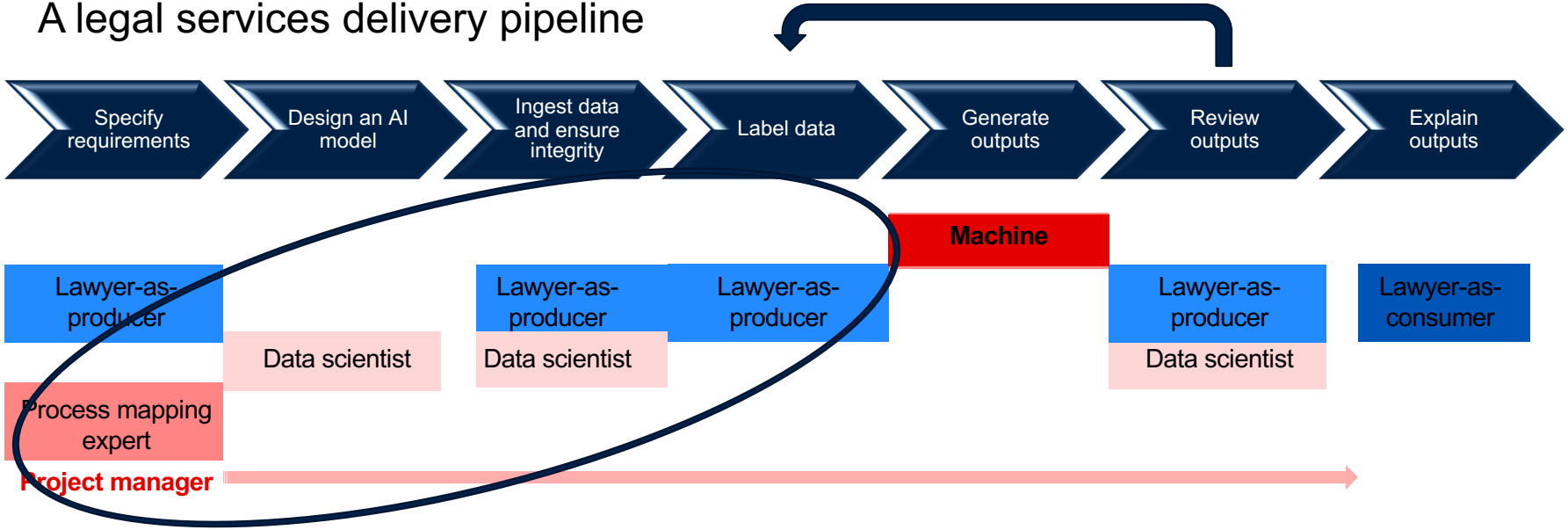


Key survey finding #1: AI deployment is associated with lawyers and non-lawyers working together in **multidisciplinary teams** (MDTs)

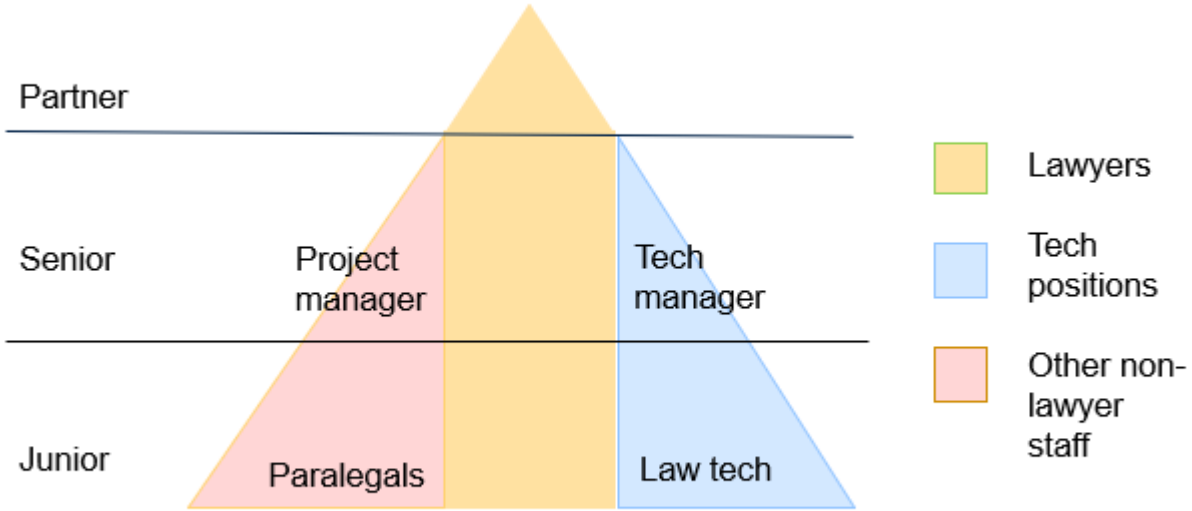
AI's Impact on Organisations

Internal challenges

- Data streamlining
- Process re-engineering
- Human capital
  - Skills: recruitment, training
  - Motivation: remuneration, promotion
  - Coordination: management
- Boundary challenge: Make or buy?

Law firms' particular challenge

Because of lack of career progression paths for non-lawyers



Adapted from BCG & Bucerius (2016) *How Legal Technology Will Change the Business of Law.*

Law firms and MDTs: recruitment

"What [law firms] don't have is, a lot of times, the technical know-how. I know a lot of wonderful, brilliant, talented data scientists that decidedly do not want to go work for law firms." (Law firm interview)

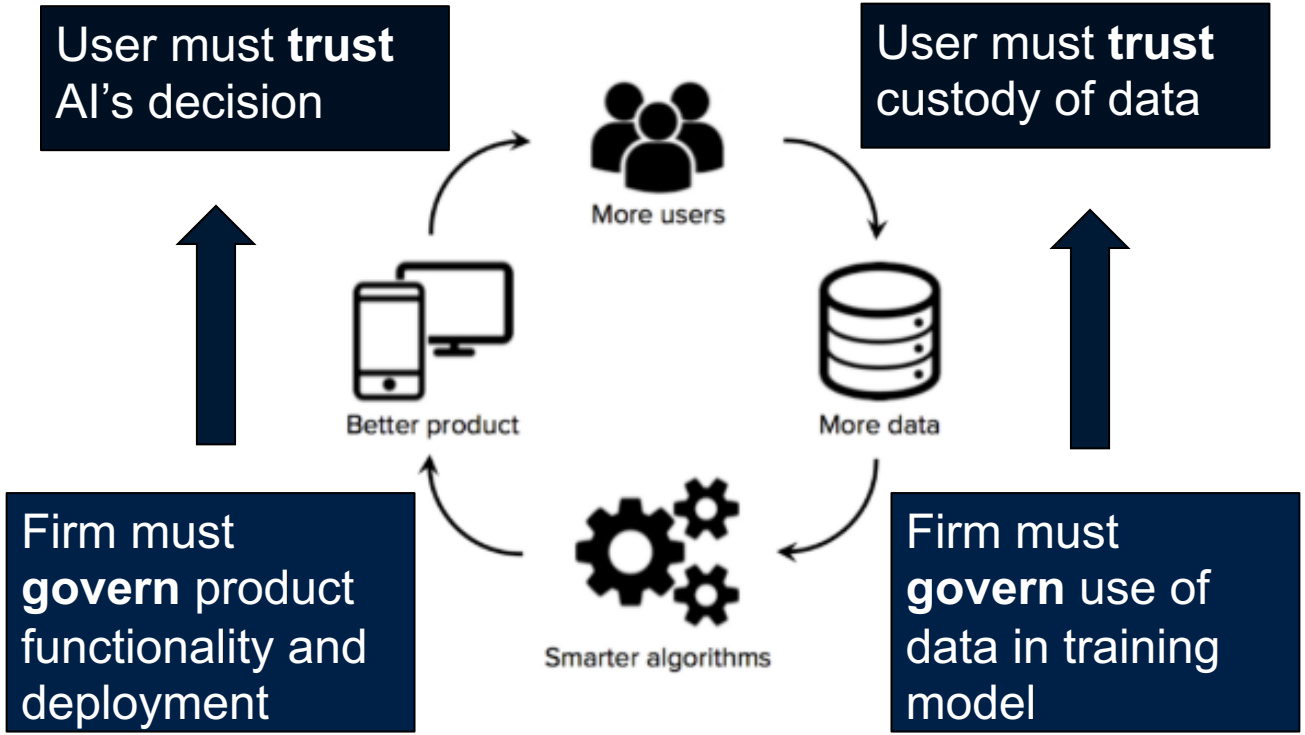
MDTs: corporate legal services

"[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)

Table 2: Determinants of Multi-disciplinary teams

	Dependent variable:					
	Works with other disciplines			Openness to other disciplines		
	logistic			*OLS*		
	(1)	(2)	(3)	(4)	(5)	(6)
Law firm	-0.704**	-0.642**	-0.599**	-0.351***	-0.343***	-0.331***
	(0.285)	(0.291)	(0.293)	(0.127)	(0.127)	(0.127)
Years since qualification	0.006	0.008	0.011	-0.009**	-0.009**	-0.008*
	(0.010)	(0.010)	(0.010)	(0.004)	(0.004)	(0.004)
# Lawtech solutions used	0.368***	0.344***	0.280***	0.105**	0.102**	0.080*
	(0.099)	(0.100)	(0.104)	(0.042)	(0.043)	(0.044)
AI lawtech used		0.932***	0.862***		0.068	0.040
		(0.261)	(0.264)		(0.112)	(0.113)
# Lawtech training			0.165**			0.059*
			(0.077)			(0.035)
Constant	-1.544***	-2.061***	-2.160***	3.831***	3.799***	3.767***
	(0.376)	(0.413)	(0.417)	(0.161)	(0.170)	(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)
Note:						*p<0.1; **p<0.05; ***p<0.01

External challenge: user trust



Implications

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 most 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 reputation and value of 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

Implications for corporate boards

- AI is not going to replace corporate directors as strategic decision-makers any time soon
  - Strategic decisions are idiosyncratic and so outside the scope of useful deployment of current AI
- AI-based decisions are taken *below* board level
  - Board role is therefore *oversight:* establishing policies for deployment of AI and quality control for its operation.

Role for Independent directors?

Classical challenge for independent directors:

How can they:

(i) Be sufficiently **close** to the business to be able to make properly informed decisions; and yet

(ii) Be sufficiently **distant** from the business to be "independent"?

Research struggles to find relationship between board independence and performance

Conjecture: Data governance issues are **important** but **generic**

⇒independents could (probably should) develop generic expertise