AI-ENABLED BUSINESS MODELS IN LEGAL SERVICES: FROM TRADITIONAL LAW FIRMS TO NEXT-GENERATION LAW COMPANIES?

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ABSTRACT

What will happen to law firms and the legal profession when the use of artificial intelligence (AI) becomes prevalent in legal services? We address this question by considering three related levels of analysis: tasks, business models, and organizations. First, we review AI's technical capabilities in relation to *tasks*, to identify contexts where it is likely to replace or augment humans. AI is capable of doing some, but not all, legal tasks better than lawyers, and is augmented by multidisciplinary human inputs. Second, we identify new *business models* for creating value in legal services by applying AI. These differ from law firms' traditional *legal advisory* business model, because they require technological (nonhuman) assets and multidisciplinary human inputs. Third, we analyse the *organizational structure* that complements the old and new business models: the professional partnership (P^2) is well-adapted to delivering the *legal advisory* business model, but the centralized management, access to outside capital and employee incentives offered by the corporate form appear better to complement the new AI-enabled business models. Some law firms are experimenting with pursuing new and old business models in parallel. However, differences in complements create conflicts when business models are combined. These conflicts are partially externalized via contracting, and segregated and realigned via vertical integration. Our analysis suggests that law firm experimentation with aligning different business models to distinct organizational entities, along with ethical concerns, will affect the extent to which the legal profession will become 'hybrid professionals'.

KEYWORDS: Artificial intelligence, business models, complementarities, professional service firms, legal services.

JEL CODES: J24, K40, L14, L22, L84, O33.

INTRODUCTION

The application of artificial intelligence (AI) and related technologies is poised to transform the way value is created and captured in professional services. AI involves the use of computer systems to perform tasks normally requiring human intelligence (Agrawal, Gans, & Goldfarb, 2019). Machines have long been used to automate routine tasks, but what makes AI highly pertinent for professional work is its growing capacity to automate non-routine or knowledge-based work (Brynjolfsson & McAfee, 2014; Susskind & Susskind, 2015; Trajtenberg, 2019). AI has been successfully applied to a wide range of professional and business contexts, from HRM and CRM (Davenport & Ronanki, 2018; Ransbotham, Kiron,

Gerbert, & Reeves, 2017), supply chain management (Ehret & Wirtz, 2017), to medicine and healthcare (Bates, Saria, Ohno-Machado, Shah, & Escobar, 2014; Liew, 2018). However, AI's application to legal services has so far been little studied. What will happen to law firms and the legal profession when the use of AI becomes prevalent in legal services? Will the profession preserve its traditional role and forms of organizing? Or else, how will their role and forms of organizing change in the face of competition from alternative legal service providers?

From a macro perspective, the impact of AI technology can be understood as one of a number of forces that together are putting pressure on professional autonomy and traditional forms of law firm organization (Leicht, 2016; Smets, Morris, von Nordenflycht, & Brock, 2017). These include intensifying competition—both within and between professions—fostered by globalization and fragmentation of professional expertise (Reed, 1996), associated pressure to redefine professional standards in terms of commercial outcomes (Hanlon, 1997), and deregulation of professional monopolies (Aulakh & Kirkpatrick, 2016). Consequently, large globalizing law firms face pressures to move away from the traditional professional partnership (P^2) model towards more managed professional businesses (Brock, Powell, & Hinings, 1999; Greenwood, Hinings, & Brown, 1990; Pinnington & Morris, 2003). Nevertheless, lawyers have retained much professional autonomy and discretion, and the role of partners as owners and decision-makers in law firms has proved remarkably robust (Ackroyd & Muzio, 2007; Faulconbridge & Muzio, 2008; Pinnington & Morris, 2003).

The transformational promise of AI as a 'general purpose technology' (Helpman, 1998), however, lies in its potential to substitute for humans altogether (Trajtenberg, 2019). Does this mean that the long-foretold demise of the P^2 model is now imminent, as predicted by commentators who have pronounced the 'death of Big Law' and the 'end of lawyers' in the face of technological change (Galanter & Henderson, 2008; Ribstein, 2010; Susskind, 2000; Susskind, 2008; Susskind & Susskind, 2015)? Or might the P^2 model be reinvigorated by using

AI to automate professional work within these firms, reversing the trend towards offshoring to low-cost locations (Harmon, 2008; Lacity & Willcocks, 2013; Sako, 2013, 2015)?

We derive answers to these questions from an analysis of *complements* to the productive deployment of AI (Helpman, 1998; Trajtenberg, 2019). In a productive process, 'complements' may be defined as inputs to production and organizational features the combined effect of which is greater than the sum of their individual effects (Brynjolfsson & Milgrom, 2012; Milgrom & Roberts, 1995). Our theoretical analysis focuses on a linked cluster of such complements: the business models for most effective deployment of AI, the assets—human and nonhuman—necessary to implement these business models, and the organizational structures best suited to assemble and manage these assets.

We develop our argument by transitioning through three levels of analysis: tasks, business models, and organizations. We begin by considering the technical capabilities of AI for application to tasks (not jobs) in legal services. Some tasks are substituted for, and others are augmented, by AI (Brynjolfsson & Mitchell, 2017). Today's AI systems are increasingly capable of substituting for 'non-routine' legal tasks, but are augmented by multi-disciplinary expert inputs (in data science, project management, etc.). Limits also remain: client-facing work, and services that are highly tailored to a particular client, are unlikely to be automated any time soon. Moreover, because today's AI requires large amounts of relevant and pre-labelled data, it can scale analysis only where such data are available.

We next consider how capitalising on these opportunities may engender new *business models* in legal services, understood as firms' logic of value creation, delivery and capture to satisfy customer need (Sako, 2012; Teece, 2018; Zott & Amit, 2013). In contrast to the traditional *legal advisory* business model (Greenwood & Empson, 2003), the AI-enabled business models we identify seek to deliver services that can be scaled, using output- rather than input-based pricing and drawing on a very different mix of assets, encompassing

nonhuman as well as a multidisciplinary mix of human capital. The assembly and management of these new combinations of assets in turn has implications for *organizational structure* (Armour et al., 2017; Hansmann, 1996; Kraakman, 2017). Law firms are traditionally structured as partnerships that complement the *legal advisory* business model and associated human resource practices (Greenwood et al., 1990). AI-enabled business models, by contrast, imply greater reliance on multidisciplinary teams of human capital and outside capital, for which the corporate form, with more hierarchical management and access to outside capital by issuing shares to investors, appears a better complement. This presents strategic challenges for incumbent law firms, as they attempt to mix old and new business models. We review law firms' experimentation in mixing business models during a nascent stage in industry change, and draw implications for shifts in professional fields of lawyers and other experts.

This study contributes to taking stock and charting the future of professions and professional service firms (PSFs) (Smets et al., 2017) in at least two ways. First, by carefully analyzing how AI affects tasks in legal services, we go beyond a simplistic 'AI will destroy professional work' view, and also beyond charting the potential exposure of professions to AI (Muro, Whiton, & Maxim, 2019). In particular, we highlight the central importance of business models and organizational complements in mediating how AI affects the complex interplay of task substitution, task augmentation, and the creation of new tasks. Second, we contribute to the literature on changes in professionalism as a result of deregulation, digital technology, globalization, and other forces (Freidson, 2001; Leicht, 2016; Reed, 2018; Smets et al., 2017). Specifically, our study demonstrates that different combinations of traditional and AI-enabled business models lead to varying pressures for the legal profession to become 'hybrid professionals' (Blomgren & Waks, 2015; Noordegraaf, 2007) and 'organizing professionals' (Noordegraaf, 2015). Thus, our study highlights the utility of business model as a level of analysis to inform the debate on the future of the professions.

APPLYING ARTIFICIAL INTELLIGENCE TO LEGAL SERVICES

Artificial intelligence (AI) involves automating tasks ordinarily requiring human intelligence.[1] Wholesale transformation of the professions by technology has long been predicted by some commentators (Katz, 2012, 2014; Susskind, 2000; Susskind, 2008, 2013; Susskind & Susskind, 2015). Others, however, remain skeptical that what lawyers do can ever be replaced by AI, at least in the foreseeable future (Remus & Levy, 2017). Of course, it is not necessary for machines actually to emulate *what lawyers do* if the outcomes that lawyers deliver for their clients can be delivered more cheaply without humans (Susskind, 2019; Susskind & Susskind, 2015). A key point is that it is tasks that are automated, not jobs (Autor, 2015). Where jobs contain a mix of some tasks that can be automated and some that cannot, human roles become more focused on those that cannot be automated. While automation *substitutes* for humans in some tasks, the ability to undertake other tasks that *augment* AI technologies becomes more valuable (Autor, 2015; Brynjolfsson & McAfee, 2016). This poses the obvious question: which are which? In short, we suggest that (a) some legal tasks will remain beyond the capabilities of AI for the foreseeable future, and continue to be exclusively performed by lawyers; (b) a few tasks will be substituted for by AI systems; and (c) that new tasks are created in order to deliver AI systems, and these tasks that augment AI are carried out by multidisciplinary teams of lawyers and other experts working together.

Machine learning and its limits

Until recently, it was thought that only 'routine' tasks—that is, those that can be specified by reference to a set of rules—were susceptible to automation (Autor, Levy, & Murnane, 2003). This perspective was premised on 'top down' deductive AI systems (Susskind, 2017), the regnant approach to AI research for much of the field's history (Russell & Norvig, 2010; Wooldridge, 2020). Such 'expert systems' utilize logical reasoning and hard-coding of

[1] The qualification of 'normally requiring human *intelligence'* distinguishes this from automation of manual tasks.

knowledge (Harmon & King, 1985; Susskind, 1997). However, this approach came up against a fundamental limitation: many tasks turn out to be far too complex to be encoded in explicit rules (Wooldridge, 2020).[2] On the other hand, recent advances in computer power and data availability have enabled massive progress to be made using a 'bottom up' inductive approach to AI known as 'machine learning' (ML) (Lehr & Ohm, 2017; Russell & Norvig, 2010). This has made it possible to automate tasks previously characterized as 'non-routine', such as driving a car or recognizing human handwriting (Frey & Osborne, 2017; Susskind, 2017).

The most widely-used approach to ML is *supervised* learning, which uses a set of training data labelled according to the dimension of interest (Ford, 2018). The system analyses these data and determines the best way to predict the relevant outcome variable by reference to other features of the data.[3] The trained model—that is, the algorithm with the set of parameters that optimized performance on the training dataset—is then put to work on new data to predict outcomes of interest.

ML has exhibited greatest successes in image recognition, exceeding human capabilities in many contexts. In relation to language, it is combined with *natural language processing* (NLP) which converts unstructured textual data to numeric vectors that can be analyzed using ML techniques (Jurafsky & Martin, 2019). These essentially rely on statistical relationships between words, or patterns of words, within a corpus of text. NLP methods work well for information retrieval tasks, but struggle with semantic context, meaning that tasks requiring 'social intelligence', i.e. an appreciation of the way in which potentially ambiguous

[2] Nevertheless, such systems can still generate many efficiencies in relation to the routine tasks. A number of providers (such as Neota Logic) offer such systems commercially.

[3] 'Deep learning' is a subfield of ML that involves multiple layers of representation of the data layers in series. These processes are often called 'neural networks', a term drawn from neurobiology, reflecting the fact that some draw inspiration from contemporary understanding of the functioning of the brain. However, their actual operation is quite different from the human brain Chollet, F. o. 2018. ***Deep learning with Python***. Shelter Island, New York: Manning Publications Co.. While most of the recent progress in ML has been through the use of deep learning methods, we refer for simplicity throughout the text to 'ML' where it is necessary to emphasize contradistinction to rule-based approaches to AI, and to 'AI' generically where it is not.

communications will be understood by humans, continue to elude ML systems (Frey & Osborne, 2017; Pettersen, 2019; Wooldridge, 2020).

The need for large labelled datasets points to another important limitation: ML works well for tasks that scale, but in the absence of prior examples from which to learn, it is ineffective (Halevy, Norvig, & Pereira, 2009; Sun, Shrivastava, Singh, & Gupta, 2017). So-called 'transfer learning'—that is, taking concepts learned in one context and generalizing to apply them in another—while natural for humans, is still limited to modest sideways steps in ML. Consequently, tasks requiring 'creative intelligence', to solve problems for which there are no obvious prior examples of answers, also remain beyond current ML systems (Frey & Osborne, 2017; Pettersen, 2019; Wooldridge, 2020).

This account implies that some aspects of legal services work will remain beyond the scope of automation for the foreseeable future. Interaction with clients—specifying requirements and explaining advice—commonly involves high levels of social intelligence, which professionals refer to as 'client skills' (Flood, 2019). Similarly, the first time a particular problem is solved, design work must be done anew, which necessitates creative intelligence. So, for work that is exclusively 'bespoke'—that is, novel in character and unlikely to be repeated—AI is unlikely to substitute for humans any time soon. However, if multiple outputs can be based on a single design, then the tasks involved in that production can in principle be automated using ML.

Using AI to scale the delivery of legal services

Once a ML system is up and running, it can make automated predictions at far lower cost, and often at higher accuracy, than could human decision-makers. Moreover, increasing returns exist when there is positive feedback between better predictive accuracy and increased user numbers (Varian, 2019). But to capture these, two hurdles must be overcome. The first is data availability: for supervised learning, data available for training must be both sufficiently large and representative of the matters on which the model will be applied. This condition is not

easily fulfilled in legal services with subtle differences between contexts. Second, labelling the training data for legal services generally requires expensive professional expertise. As a result, there are high fixed costs to training a ML model. Given these hurdles, the application of AI to legal services has so far been limited to large organizations with sufficient value at stake to justify the investment (ABA, 2019; LSB, 2018). This implies that corporate legal services rather than consumer legal services will drive the adoption of AI.

To apply AI in delivering legal services, a first step is to disaggregate lawyers' work into a series of tasks necessary to resolve a matter (Levy & Murnane, 2004; Susskind, 2008; Susskind & Susskind, 2015). This workflow can then be reviewed to identify which tasks AI can replace (that is, *substitute* for) and which tasks it will continue to require human input (that is, *augment* the use of AI). Lawyers provide necessary expert input to label training data and to review, interpret and explain results in common AI use cases in contract analytics, litigation, legal research, and M&A due diligence. However, as we shall see, the successful implementation of AI will also require human inputs that are not part of lawyers' professional expertise.

INSERT FIGURE 1 ABOUT HERE

When AI is introduced, the workflow may be specified in a process map (such as in Figure 1) with six steps: I. Define a problem; II. Select and test an ML model; III. Prepare data (ensuring the selection, integrity, and security of the data; and labelling data); IV. Generate outputs; V. Review outputs for consistency; and VI. Evaluate and explain implications of the outputs. Of these, all steps except IV (generate outputs) require human inputs. Moreover, these inputs are a combination of professional knowledge across different fields including law but also in data science, software engineering, information security, project management, and design thinking. Lawyers initiate the process by defining a legal problem, but specifying the workflow upfront also requires non-lawyer expertise including in project and process management. In the process of refining the ML model (by iterating steps II – V), lawyer input

with respect to steps II (select an ML model) and III (prepare data) will recede into oversight and review functions. Moreover, step IV (generate outputs) no longer requires a large number of junior associates and paralegals doing document reviews for example, but rather is automated using machines supported by a modest number of staff. Thus, the introduction of AI *substitutes* for humans in step IV (generate outputs), but humans *complement* the AI system's design and application in all other steps. Moreover, the relevant human capital is not purely legal, but encompasses a multidisciplinary mix of this and other specialisms.

Drawing this discussion together, it is evident that the impact of AI on the work of lawyers is greatest where AI can easily facilitate the scaling of the delivery of legal services. At one extreme, for work that is unique in its analysis, for example in litigation, AI may feature as a part of the workflow, but will not replace human lawyers. At the other extreme, for work that can be scaled, for example in contract analytics and legal research, lawyers remain necessary in the workflows, but their expertise is more focused on labelling legal data points and interpreting results to interface with human clients.

Moreover, successful AI implementation requires close collaboration by lawyers and other professionals in multidisciplinary teams. Lawyers remain necessary for the successful implementation of AI in legal services, but changes in work design resulting from AI adoption are likely to alter the nature of lawyers' job, not least by shifting the boundaries of 'jurisdictional domains' to which lawyers make exclusive claims (Abbott, 1988). The emergence of a new expert division of labor, between what only lawyers can do and what non-lawyers are permitted to do, is likely to be a contested process (Reed, 1996). There is evidence that some firms are seeking to recruit individuals with different disciplinary backgrounds (e.g. lawyers and data scientists separately) and integrate them in teams; other firms are seeking individuals who themselves combine multidisciplinary backgrounds (e.g. lawyers who can code) (Saunders, Ahrens, & Qian, 2020). Either way, the diffusion of multidisciplinary teams

is likely to lead to the emergence of 'hybrid professionals' (who develop a relational capability vis-à-vis expertise in other areas) or 'organizing professionals' (who embed organizing capabilities with professional action) (Blomgren & Waks, 2015; Noordegraaf, 2007, 2015). That is, just as doctors are expected to organize good quality patient treatment, not just to treat patients, lawyers may come to design and manage the provision of good quality legal services, not just to give legal advice. This goes beyond senior lawyers taking on managerial positions to supervise lawyers; it embraces even junior professionals adopting managerial and technical expertise into their own professional practices and identities.

The way in which AI facilitates scaling the production of legal services has implications for business models in the sector. Moreover, the presence or absence of complements to each business model determines the extent and speed of adoption of AI in legal services and the emergence of 'hybrid professionals.' We now turn to these issues.

AI-ENABLED BUSINESS MODELS

We briefly review the concept of a 'business model' before outlining the *legal advisory* business model, which historically has been adopted by law firms. The core of this section is to characterize—as 'ideal types'—three new AI-enabled business models. The contours of these new business models are based on our foregoing analysis of AI's technical capabilities and the economics of its implementation, allied reflexively to a review of practices emerging in the sector.

What is a business model?

We take a *business model* to be a description of a firm's logic of value creation, delivery and capture (Amit & Zott, 2001; Chesbrough, 2010; Teece, 2010). This management concept,

which has recently emerged in the management literature,[4] is particularly useful for analyzing strategic choices enabled by technology because it is independent of existing industry structures that may be disrupted (Zott, Amit, & Massa, 2011). A business model may be a particular firm's approach; or it may encompass the combined logic of value creation for the firm and its other stakeholders working together in networks or clusters (Zott & Amit, 2009). Elucidating the core logic of a business model starts with a customer value proposition, or how the business 'best meets the perceived needs of its customers' (Zott & Amit, 2013). A business model consequently reflects a 'hypothesis about what customers want, and how an enterprise can best meet those needs, and get paid for doing so' (Teece 2007: 1329). Understood in this way, business models can be operationalized by focusing on the following three questions. (i) *Customer needs*: what do customers value, and how can their needs be satisfied? (ii) *Value creation*: what revenue model is used to create value? (iii) *Value capture*: what are the mechanisms and the assets held for generating profit?

Law firms' traditional *legal advisory* business model

Law firms have traditionally adopted a business model which we call *legal advisory.* In this business model, lawyers meet *customer needs* by providing bespoke (customized) advice in relation to clients' specific legal problems. Lawyers as 'trusted advisors' are responsive and flexible to diverse client demands. The idea of a bespoke service is reflected in regulatory definitions establishing the perimeter of lawyers' professional expertise: in many jurisdictions, only qualified lawyers can give 'legal advice', which involves the application of legal judgment to specific circumstances.

[4] While disagreements remain in the management literature on what constitutes a business model (Foss and Saebi 2017; Zott et al. 2011), consensus exists that the business model is an attractive construct to describe how firms 'do business' (Zott et al. 2011).

Value creation to raise revenue is via the billable hour, an input-based approach to pricing (Gilson & Mnookin, 1985; Greenwood et al., 1990). This is appropriate for providing services the quality of which clients cannot fully assess until after delivery.[5] Crucial to the success of this model is trust between lawyers and clients, engendered by the reputation of the firm attached to teams of professionals as opposed to individual lawyers (Galanter & Palay, 1991). *Value capture*, measured by profit per equity partner, can also be improved by increasing the ratio of associates to partners, known as 'leverage'. Increasing leverage is achieved by pushing work down to the most junior person capable of doing it (Ackroyd & Muzio, 2007), but the only asset used for value creation and capture remains the human capital of lawyers.

Legal operations: scaling the delivery of legal services

As we have seen, AI makes it possible to scale aspects of legal services in ways that could not be achieved by human-only production. This is facilitating an emerging business model in legal services, which we term *legal operations*. The term 'legal operations' is used to describe a business-focused approach to legal service delivery, with an emphasis on efficiency (CLOC, 2019; ThomsonReuters, 2016).[6] This approach satisfies the demand by businesses for legal service delivery that is efficient and responsive, and integrated with the digital solutions being adopted in other aspects of business. Value creation is achieved by lowering costs, not only by labor cost arbitrage but also by applying business process re-engineering, process mapping, design thinking and project management to improve the workflow and quality. AI enables the growth of this business model by automating, and lowering the costs, of various process steps. The use of AI to predict pricing also enables the services to be sold for a fixed (or per-unit) fee, rather than on an hourly basis.

[5] Economists term these 'experience' goods.

[6] 'Legal operations' tends to be used in the context of corporate in-house legal services, whereas 'legal delivery' is used in the context of services provided by law firms. In our analysis, the business model is essentially the same in each case, as evidenced that alternative legal service providers (ALSPs) are offering similar services to both corporate teams and law firms.

The assets used in value capture are therefore quite different from the *legal advisory* model: a mix of computer systems, data, and multidisciplinary human capital. Legal expertise is only one component of the human capital input in the legal operations model, itself only one part of the overall asset mix for value capture. Profit in the legal operations model is captured by enhancing efficiency with key assets in project and process management capabilities.

In terms of the workflow described in Figure 1, AI-enabled legal operations solutions focus on step IV (generate outputs) and some component of III (prepare data) and V (review outputs for consistency). Strategic or high-level input to the selection of training data is provided by the client; once the system is up and running, routine review and analysis of results can be carried out by employees of the legal operations firm. A firm adopting a legal operations business model may choose to build or buy an AI platform. Either way, steps II (select and test a model) and III (prepare data) are handled by, or on behalf of, the legal operations firm, as opposed to its clients.

Blueprints for legal operations

The *legal operations* business model focuses on the process of delivery of legal services, which require mixtures of data, technical and human capital. Assembling these components and optimizing their joint performance in a particular context is a complex task, and one that likely involves more creative intelligence—and hence is less susceptible to automation—than the execution of the process once in place. The advent of the legal operations business model consequently brings with it a new set of customer needs, namely for the design and joint optimization of the legal operations and available technologies. Because meeting these customer needs may require different assets to the execution of legal operations itself, this implies there may be further distinct business model(s).

What we term a *legal technology* business model focuses on a particular subset of the needs of legal operations—namely the design of technical systems for use in legal operations.

Value creation is based on product sales (licensing) or usage (so-called 'software as a service'). Successful value capture necessitates having in-house skills in data science and software development, intellectual property (patents and copyrights), and sufficient understanding of the way in which legal workflows operate to be able to deliver an effective user experience. Design skills, human-computer interaction, legal project management, and customer liaison are all important aspects of the human capital mix. Clearly, the software development function should work closely with the customer liaison teams to ensure that any new demands for functionality can be incorporated quickly. Also, value capture is enhanced by convincing customers to buy/use more of the products. Hence sales and marketing will be a large part of the team mix, as is the expertise on regulatory requirements to carry out state-of-the-art security checks.

There is also another business model, which we term *consulting*, that seeks to respond to the full range of customer needs for the selection and implementation of legal technology, and/or the design and optimization of legal operations processes. Consulting comes in all sizes and shapes, with some engagements restricted only to reorganizing the process flow in one area, while others have a broader remit to optimize the entire legal function for a global corporation, including advice on choosing AI platforms and software tools.[7] In this consulting business model, advice is customized, and the value created – greater process optimization – for clients commands a higher profit margin than the margin on delivery of process-based legal services. Because this work is human-capital intensive and bespoke, value creation is typically based on billable hours—input-based pricing. Value capture is also enhanced by trust, reputation and leverage, as in the *legal advisory* model.

While the consulting model resembles the *legal advisory* model in some ways, it differs in the human capital mix necessary to capture value. Consulting on legal operations or legal

[7] This may be called 'digital consulting', or 'engineering consulting' with digital solutions. Related consulting offerings include bespoke analysis of legal data and the provision of R&D support for clients developing their own legal technology platforms.

technology requires multidisciplinary expertise spanning software engineering, project management, human-computer interaction, design thinking, training and education, as well as relevant legal knowledge.

Table 1 summarizes the four business models we have identified in this section.

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ORGANIZATIONAL COMPLEMENTS TO BUSINESS MODELS

In the previous section, we analyzed the opportunities presented by AI technology in terms of business models precisely because these are independent of any particular organizational structure, hence permitting a mapping of opportunities that is not constrained by existing industry structures. An obvious next question is the extent to which incumbent firms in the sector, as opposed to new entrants, will be able to take advantage of these new opportunities. This requires consideration of how these business models complement, or fit with, particular organizational structures. *Complements* are clusters of practices that generate synergies together: that is, their combined effect is greater than the sum of their individual effects (Brynjolfsson and Milgrom 2012). While complementarities between aspects of a firm's makeup can enable it to function more efficiently, they can also create a barrier to change, because switching just one aspect without the others may trigger a decline in performance.

We focus on three types of organizational complements for business models. The first is human capital and human resource practices (Brynjolfsson, Rock, & Syverson, 2019; Ransbotham et al., 2017). These encompass not only capabilities and skills, but also compensation and promotion systems for motivating and incentivizing personnel. The second is the availability of outside capital, which may be needed to acquire technological capital, or to invest in R&D to develop it. In our analysis, a firm's ability to deliver these two complements to the AI-enabled business models is closely tied up with a third institutional complement—

the firm's organizational governance structure. By this, we refer to the institutional arrangements that legitimize how decisions and policies ought to be made, by whom and for whom (O'Sullivan, 2000). We consider two governance 'ideal types': namely the professional partnership and the corporate form.[8]

Partnerships as complements to the *legal advisory* business model

The *legal advisory* business model is facilitated by the *professional partnership* (P^2) (Greenwood et al., 1990; Smets et al., 2017). This has two key governance characteristics: senior professional employees are the owners (equity partners) of the firm, and decisions are typically made in a consensus-based fashion amongst the partners.[9] These features complement the human capital-intensive nature of the *legal advisory* business model, and the importance of firm reputation to value capture. By making senior lawyers the sole owners of the firm, the partnership generates powerful incentives for cross-monitoring of junior lawyers' work (Greenwood & Empson, 2003; Hansmann, 1996). This is valuable because the law firm's reputation—a key asset—is largely an aggregate of the reputations of its senior lawyers. But value creation relies on junior lawyers who have not as yet established reputations for themselves (Galanter & Palay, 1991; Hansmann, 1996). They are incentivized by contingent compensation in the form of meeting billable hour targets, and through promotion to partner as a reward (Galanter & Palay, 1991; Morrison & Wilhelm, 2004).

Consensus-oriented decision-making in a decentralized partnership structure (Greenwood & Empson, 2003; Greenwood et al., 1990) is made possible via peer control because of the homogeneity of human capital (Hansmann, 1996); all lawyers receive similar training and are bound by the same professional ethics. Little firm-wide coordination is

[8] Each ideal type has variations. Partnerships that resemble 'managed professional businesses' and corporate forms that are adapted to entrepreneurial startups with a controlling stake by the founder are noteworthy variations.

[9] The default position under partnership law is that all partners are entitled to participate in management decisions. While most large partnerships modify this to delegate day-to-day decisions to a subset of their number, major decisions often still require a referendum of the partners.

required as lawyers apply their personal skills to respond to client demand, and can preserve autonomy and discretion, highly valued by them. However, consensus-based governance and the distributed nature of authority among partners make the achievement of radical change and innovation particularly challenging (Malhotra, Smets, & Morris, 2016).

Corporations as complements to AI-enabled business models in legal services

The partnership form is something of a rarity in business generally (Greenwood & Empson, 2003; Hansmann, 1996). Its very strengths for the *legal advisory* model are weaknesses in many other contexts. Consensus-oriented decision-making is a disadvantage where, as in a typical business context, a wide range of different skills and perspectives are represented within a firm, and quick reactions are required to a changing environment. More hierarchical management helps to expedite decision-making. Moreover, employee ownership, an essential feature of the partnership form, puts constraints on fundraising for innovative projects. Capital must either be sourced from partners' accumulated profits or take the form of borrowing. Partners only receive profits for the period of their tenure; as a result, they will only be willing to reinvest these (as opposed to paying them out) where returns will be generated prior to their retirement (Ribstein, 2010). This short investment time-horizon, when coupled with the delays associated with consensus-based decision making, can make reacting to new opportunities difficult for partnerships.[10]

In contrast, the *corporate* form automatically delegates decision-making to a board of directors, facilitating a more hierarchical management approach (Armour et al 2017). More fundamentally, ownership is in the hands of shareholders, who do not need to be employees of the firm. This facilitates the raising of external capital. Moreover, shareholders can exit the

[10] Borrowing capital for investment is not a complete solution, as creditors are typically more conservative as regards project risk than equity investors Armour, J., Davies, P., Enriques, L., Hansmann, H., Hertig, G., Kanda, H., Kraakman, R., Pargendler, M., Ringe, W. G., & Rock, E. 2017. ***The Anatomy of Corporate Law: A Comparative and Functional Approach***. Oxford: Oxford University Press..

firm by selling their shares, the price for which will reflect the expected value of the firm's future profits, extending their investment time-horizon relative to partners (Ribstein, 2010).

These aspects of the corporate form appear much more compatible with the emerging legal operations and legal technology business models than does the partnership form.[11] The new business models involve multidisciplinary human capital, which makes consensus-based decision-making more costly.[12] They also require investment of risk capital, to establish and organize technical systems in advance of associated revenues.

This account of complementarities between business models, human capital, and organizational forms has a clear implication: professional partnerships likely face internal obstacles to the adoption of the legal operations and legal technology business models within their existing organizations. In the final section, we consider how adoption of the new business models is occurring both within existing organizations and new entrants.

THE CHANGING LEGAL SERVICES MARKETPLACE

Our account of new AI-enabled business models in legal services raises obvious questions about the impact of these new models on the sector. Which firms will be able to execute them most effectively? How will these firms relate to others in the sector? Barriers created by the partnership form to the development of multidisciplinary teams and capital investment necessary to implement these new business models are considerable, but law firms are experimenting with a variety of approaches to overcoming these challenges, with differing implications for the legal profession. Before considering these, however, we describe how new

[11] Matters are less clear-cut for the consulting business model, which as we saw has more similarities to the traditional PSF models for law firms: meeting bespoke customer needs with human capital and generating revenues through billable hours. The principal contrast is simply that the mix of human capital, as compared with a law firm, is much more diverse.

[12] Moreover, in contrast to junior lawyers progressing from execution to management in the PSF model, there may be no obvious career ladder from execution to management roles in legal operations; the prospect of partnership cannot be offered as an incentive to motivate employees.

opportunities are being pursued by other players in the sector—the corporate clients law firms traditionally serve, and new entrants styled as 'alternative legal service providers' (ALSPs).

Corporate clients

We have argued that two of the new business models—legal operations and legal technology—are complemented by the corporate form of business organization. While this form is not traditionally adopted by large law firms, it is by their *clients*—themselves typically large corporations. Such businesses have hierarchical management structures, can incentivize and retain multidisciplinary teams, and can readily access external capital. For example, some large corporates such as GE, Barclays and BT have sought to restructure their legal teams so as to capture the benefits of new technologies, including AI (Fowler, 2015; Jordan, 2016; Rogers, 2017).[13] If large corporate clients are capable of doing all this for themselves, will this not negate the 'customer need' we identified for the legal operations and legal technology business models? That is, will the opportunities AI provide for cost savings in legal services be taken up by clients themselves, rather than independent legal services providers?

Despite these seemingly receptive organizational attributes, corporate clients nevertheless face obstacles to the implementation of AI. The first concerns investment. In-house legal teams within a business that generates revenues in their main business sector serve an auxiliary function. They are viewed internally as a cost center, rather than a source of revenue. Where the company is listed on the stock market, analysts will focus on its revenues, and the steps the company is taking to grow these in a sustainable way. Capital investment in an aspect of the business that does not generate revenues may be harder for analysts to evaluate, leading to an unflattering stock price reaction (Haskel & Westlake, 2018; Stein, 1989). This in turn can make it relatively more difficult for large corporations to invest in cost-reducing

[13] Barclays has gone so far as to establish an incubator for legal technology startups: see https://labs.uk.barclays/lawtech.

measures in their internal legal services department, as opposed to investments that will lead directly to revenue generation (Armour, Gordon, & Min, 2020).

A second challenge for corporate clients in the internal implementation of legal AI is data availability. An initial aspect is simply gaining access to internal data, which often will be spread across a multitude of legacy systems. Many organizations are of course engaging in 'digital transformation' to facilitate better access to internal data (Andal-Ancion, Cartwright, & Yip, 2003; Kane, Palmer, Phillips, Kiron, & Buckley, 2015). Even where this is done, only very large corporations may have sufficient data to enable effective training of AI models, and generate sufficient volume of activity to justify the fixed costs of labelling training data. In contrast, legal services providers might have the potential to scale analysis of data provided by many clients, provided of course that clients are amenable to sharing data.

New Entrants

There has been a dramatic rise in new entrants to the legal services sector in recent years, labelled 'alternative legal service providers' in distinction to incumbents (ThomsonReuters, 2019). Our business model framework allows more analytic granularity: we can distinguish entrants pursuing each of the new business models.

The *legal technology* business model is being pursued by 'legal tech' (or 'lawtech') startups (Law Society, 2019). Some such startups (e.g. Luminance, Kira and RAVN) focus primarily on selling to law firm users; others (e.g. Atrium, Neota Logic and Nivaura) focus primarily on corporate users including startups; and yet others (e.g. Cognitiv+ and ThoughtRiver) are selling to both corporations and law firms. Use of cloud computing also enables platform providers (e.g. Reynen Court) to become an 'app store' for other providers.

Start-ups utilize the corporate form and bring together multidisciplinary teams configured specifically for the development task at hand. Team members are motivated by grants of stock in their firm, and investment capital is raised from business angels and venture

capitalists. What start-ups lack, however, is reputation with users and access to data necessary to train AI models developed on their platforms. Start-ups must therefore negotiate with their users over the utilization of the value created by training their AI platforms with users' data. Many users wish to retain the value created by training with their own data. This constrains legal technology startups' ability to scale their products.

Large established data providers, such as LexisNexis and Thomson Reuters, are also pursuing the legal technology business model, by providing AI products and platforms, and by acquiring tech startups.[14] These firms already have access to vast quantities of data, meaning that it will be much easier for them to scale AI that utilizes such data.

Second, the *legal operations* business model is being pursued by a group of rapidly-growing 'law companies' such as UnitedLex, Elevate, and Axiom. Some of these law companies have their roots in legal process outsourcing (LPO) (Sako, 2015), but have diversified into combining the *legal operations* and *legal technology* models. For example, Axiom, with capital investment from Permira, is developing into an on-demand lawyer platform with considerable technology and data capture expertise.[15] Elevate is also growing by acquiring Halebury (a contract lawyer platform) and LexPredict (an AI legal tech firm operating a SaaS model) to ensure the smooth supply of AI platforms for their legal solutions.[16]

The 'Big Four' audit firms, occupying a significant proportion of the ALSP market (ThomsonReuters, 2019), are seeking to apply capabilities they have developed in their audit and accounting business to legal operations. Their ambition to provide an 'integrated solution'

[14] In July 2019, Thomson Reuters acquired a legal data sharing platform, HighQ (https://highq.com/gb/), and LexisNexis acquired an NLP/ML document analysis company, Knowable (https://www.theknowable.com/).

[15] Mark Cohen "Axiom redux: why models, capital and differentiation matters in today's legal industry", *Forbes,* December 12, 2019. https://www.forbes.com/sites/markcohen1/2019/12/12/axiom-redux-why-models-capital-and-differentiation-matter-in-todays-legal-industry/#38468d6a58fc

[16] "Behind Elevate's buying binge: Liam Brown's meticulous strategy" February 7, 2019. https://www.law.com/corpcounsel/2019/02/07/behind-elevates-buying-binge-liam-browns-meticulous-strategy/

for corporate clients has been hindered in many jurisdictions by regulatory constraints over who may carry out 'the practice of law'. But in England and Wales, the 2007 Legal Services Act has permitted the Big Four to diversify into legal services. EY Law's acquisitions of Riverview Law in September 2018 (Cohen, 2018) and of Thomson Reuters' Pangea3 Legal Managed Service in April 2019 (Tuahene, 2019) signal the Big Four's intention to combine the AI-enabled business models we have identified. Moreover, unlike the law companies, the Big Four offer a range of legal and non-legal professional services to corporate clients.

The *consulting* business model is also being pursued by a variety of new entrants, principally as an add-on to core competencies. Thus, some legal technology start-ups offer consulting services to users about how best to implement their product; some legal operations companies and the Big Four offer legal operations consulting to assist clients in designing more effective legal operations prior to actually doing the legal operations work for the client.

Adaptation and Experimentation by Law Firms

We now turn to law firms' responses to the opportunities and competitive challenges triggered by AI-enabled business models. So far, engagement with AI and related technologies has been limited to very large law firms (ABA, 2019; LSB, 2018). This tracks the economics of implementing AI solutions: fixed costs and increasing returns to scale. Major law firms as partnerships have wrestled with implementing AI and related technologies due to the absence of complements to AI-enabled business models; first, relevant non-legal human capital inside the firm, and second, a governance structure that does not constrain risk-taking and exclude people with essential technological and other expertise from the firm's decision-making process. We identify three distinct approaches amongst large laws firms' responses.

(a) Focusing exclusively on the legal advisory model

One possibility is simply to abstain from competing for the types of legal services work for which AI-enabled business models are applicable. Such firms simply focus their energies on

what we have termed the *legal advisory* model: aspects of legal services for which humans retain comparative advantage, at least for the foreseeable future. There will clearly continue to be a demand for such work, although this will make up only a subset of the total market for legal services. For firms pursuing this path, there is little need for organizational restructuring, because the existing partnership form remains well-adapted to their governance needs. However, firms pursuing this approach will cede any influence over the way in which clients purchase and bundle legal operations and legal technology services with other aspects of legal services; nor will they have the basis on which to develop an associated consulting practice.

(b) Engaging with new business models through contracting

An over-arching challenge for law firms engaging with these issues is uncertainty about the extent of AI's utility and associated savings, and about which platforms will come to dominate. This has led many firms to diversify by establishing tentative relationships with multiple providers. Thus, law firms contract with legal technology firms to provide technical solutions and with legal operations firms to outsource certain aspects of their workflow (ThomsonReuters, 2019). Some have established 'incubators' in which legal technology firms are offered space to work, in return for early insights into product performance.[17] Such relationships enable the law firm to experiment with the utility of the provider's products or services, thus giving them better market scanning information for step II (select and test AI models) in Figure 1. Incubators also attempt to satisfy client needs identified in both the law firm's traditional offering and the new business models (Gilson, Sabel, & Scott, 2009).

Law firms pursuing this approach do not need to raise external financing, as they pay for the AI-based services as they go. Moreover, they need only develop within the law firm a modest amount of new human capital for multidisciplinary teams. For example, lawyers in the

[17] For example, A&O's Fuse (https://www.allenovery.com/en-gb/global/expertise/advanced_delivery/fuse) and Slaughter and May's Collaborate incubator (https://www.artificiallawyer.com/2019/06/17/slaughter-and-mays-collaborate-incubator-the-cohorts-view/).

law firm may take a lead in steps I (define a problem) and V (evaluate and explain outputs) (see Figure 1), and collaborate with legal operations or technology providers to perform other steps. Where this happens, lawyers will need relevant skills to participate in multidisciplinary teams, but this is far less of a demand than creating the entire team from scratch.

Combining business models by contract may be unstable in the medium term, however. On the one hand, where legal operations or technology providers are also seeking to market directly to corporate clients, the law firm may be concerned that clients will ultimately bypass them in these aspects of the work. Another problem is that contracting leaves open for renegotiation the division of the surplus generated by AI technology, as between the law firms and the providers. Because the multidisciplinary team that creates value spans two organizations, there is likely to be considerable potential for 'hold-up' in contractual renegotiation (Gilson et al., 2009; Williamson, 1985). The provider's platform augments the value of the lawyers' human capital, but—where the training benefits are specific to a particular provider's system—this value is dependent on continued use of the particular platform. These problems will be exacerbated for the law firm if the provider can persuade sufficient users to permit it to pool the training benefits of their data; increasing returns to scale may enable the provider to build market power.

Seemingly with such concerns in mind, a number of law firms have taken equity stakes in legal technology firms: for example, Slaughter and May have an equity stake in Luminance, as do Taylor Vinters in ThoughtRiver. In other cases, joint ventures are established. These techniques for sharing control serve to lower adjustment costs (Eklund & Kapoor, 2019; Helfat & Eisenhardt, 2004) and mitigate potential hold-up costs (Gilson et al., 2009; Klausner, 2015).

(c) Combining the legal advisory with new business models through vertical integration

Other law firms have sought to combine their existing *legal advisory* business model with new AI-enabled business models through vertical integration. Sometimes this is done

organically. For example, even before the advent of AI, some major law firms created captive 'knowledge centers' in offshore locations (e.g. Clifford Chance in Gurgaon, India) and nearshore locations (e.g. A&O and Herbert Smith in Belfast and Freshfields in Manchester), rather than outsourcing to independent LPO providers. These have now evolved into fully-fledged legal operations capabilities. At these centers, paralegals are supervised by lawyers who step out of the associate-to-partner promotion route to become managers, with only a minority of these non-fee earning senior lawyers able to insist on a partner status.

Similarly, some law firms (e.g. Pinsent Masons) began early to develop in-house technology/innovation/knowledge management teams, the remit of which extended as far as the design of proprietary software. Such teams are tasked with supporting a variety of practice areas that require tech support to either improve internal workflows and/or to win business from clients. These enter the domain of the legal technology business model. Moreover, some law firms offer consulting in legal operations, project management, and digital solutions to their clients.[18]

Inside a law firm that seeks to combine the PSF with AI-enabled business models, tensions can build up in terms of complements in both human resource practices and governance. With respect to human resources, the new business models entail recruiting multidisciplinary teams, with valuable human capital coming from a wide range of backgrounds. The voices of many such (non-lawyer) team members cannot formally be heard in a PSF's traditional decision-making. Moreover, profit-sharing between lawyers in a PSF is incompatible with recognizing contributions by non-lawyers.

To overcome constraints imposed by the partnership form, many firms have sought to establish some organizational autonomy for the unit carrying on the new business model. Thus

[18] Freshfields Lab in Berlin is an example of a law firm offering engineering consultancy. See https://www.artificiallawyer.com/2019/07/02/more-than-law-is-the-traditional-big-law-model-over/

for firms that have established legal operations units, these are either operationally distinct—as a separate cost or profit center—or even organizationally distinct, as a subsidiary corporation. Similarly, with the legal technology business model, some firms (such as Mishcon de Reya) have established new subsidiaries specifically for the development of technology, whereas others have acquired legal technology startups as subsidiaries (for example, Simmons & Simmons' recent acquisition of Wavelength Law).[19] This parent-subsidiary structure minimizes negative synergies between the business models, and enables greater risk-taking within the subsidiary. But to the extent that funds for investment come from the parent law firm, the subsidiary does not have access to external capital.

The long-term relationship between these new subsidiaries and their parent law firm is as yet unclear. On the one hand, growing economies of scale from AI technology may lead the subsidiaries to seek business from clients who are not clients of the parent; ultimately their value may be maximized by being spun out. On the other hand, maintaining vertical integration has the advantage of treating the AI technology subsidiary as a catalyst for reforming the traditional PSF model from within.

A more comprehensive transformation can be achieved through vertical integration if it is the professional (law firm) partnership that becomes a subsidiary of a corporate entity. This type of structure has been adopted by DWF, a UK firm, which undertook an initial public offering in March 2019 (DWF, 2019). The corporate parent (DWF Group plc) issued shares to outside investors in order to raise capital for investment, including in technology R&D.

A new division of DWF's business (known as 'Connected Services') explicitly focuses on the *consulting* business models we have identified, offering clients proprietary software solutions and advice about implementation for legal operations. In addition to facilitating capital-raising, the corporate structure enables the recruitment, retention and incentivization of

[19] See https://www.wavelength.law/blog/someexcitingnews

multidisciplinary teams, through the ability to share profits via stock-based compensation (DWF, 2019). It also provides legal operations support for DWF's law partnership subsidiary, DWF Law LLP. The resulting human capital mix within the corporate group is truly multidisciplinary, combining legal skills with a range of other specialisms.

At the same time, DWF seeks to retain many features of the *legal advisory* model by continuing to structure its law firm subsidiary as a partnership. The partnership focuses on legal advisory and legal operations business for clients. However, control is now in the hands of the corporate parent with a more hierarchical structure, and the partners' remuneration consists of a mixture of profits of the partnership (in a smaller fraction than before) and stock in the parent company (DWF, 2019).

The three patterns in law firm adaptation to, and experimentation with, new AI-enabled business models can be understood as points on a continuum of engagement. Differences in the complements to the *legal advisory* and new business models—in terms of organizational structure, financing and human resources—create conflicts when business models are combined. These conflicts are avoided in the first, partially externalized via contracting in the second, and segregated and realigned by organizational restructuring in the third, type of experimentation we outlined above.

The role of regulation

Professional regulation constrains the choices open to law firms in many jurisdictions. For example, in the US, the American Bar Association's Model Rules of Professional Conduct, adopted by most state Bar Associations, restrict the sharing of fees by lawyers with non-lawyers and prohibit lawyers working in partnerships with non-lawyers or corporations with non-lawyer shareholders.[20] Even under these rules, both contracting with new business model providers and vertical integration are permitted, provided in the latter case that the new

[20] ABA Model Rules of Professional Conduct, Rule 5.4.

business model provider is a subsidiary of the law firm and not vice versa. What remains restricted are partnerships with non-lawyers, or a move by a law firm to become a subsidiary of a public company.

In contrast, the UK regulatory regime underwent a far-reaching reform with the Legal Services Act 2007, which made it possible for legal advice to be offered by firms that are wholly or partly owned by non-lawyers (Clementi, 2004; Flood, 2012).[21] Lawyers' ethical obligations in this regime are overseen by public regulators, who must authorize any firm that carries on reserved legal activities (Boon, 2010). While the reform's early impact appears to have been modest (Aulakh & Kirkpatrick, 2016), it offers UK incumbents a set of opportunities for organizational experimentation that are not open to their counterparts in the US. In particular, the corporate structure, which matches that of new entrant law companies, most effectively facilitates the raising of outside capital. Such capital could be used not only to invest in R&D, but also to subsidize growth in market share and thereby stimulate data access. Regulatory restrictions impede law firms from pursuing this approach may put them at a competitive disadvantage, leading to renewed pressure for change in some US states, most notably California (Henderson, 2018; Hudgins, 2019).

DISCUSSION AND CONCLUSION

In this paper, we develop a framework for analyzing business models and their complements, in order to shed light on the likely impact of artificial intelligence (AI) on legal services. Our analysis is conducted at three levels – (i) that of AI's technical capabilities in relation to *tasks*, to identify in which contexts it is likely to replace or augment humans; (ii) that of *business models,* to identify new opportunities for creating value in legal services

[21] Legal Services Act (UK) 2007, Part 5.

through the application of AI; and (iii) that of *organizations*, to consider the implications of taking advantage of these new business models for the organization of legal services firms.

While ML-based AI is now capable of automating many non-routine tasks, there remain—at least for the foreseeable future—limits to its capability for those involving creative or social intelligence. These encompass, amongst other things, client-facing legal work (social intelligence) and the design of bespoke legal solutions (creative intelligence). Moreover, given high fixed costs, AI application is led by entities with resources, primarily large commercial law firms, their corporate clients, and some new entrants with large external capital investment.

We identify three new AI-enabled business models – legal operations, legal technology and consulting – and their complements in human resources, external capital, and organizational governance. These new business models meet client needs for lower-cost legal services of predictable quality through the application of AI and related technologies. In so doing, they require different complements from the *legal advisory* business model, with more heterogeneous human resources and a need for an organizational governance framework that will facilitate outside capital-raising and permit centralized hierarchical management. At the same time, the limits of AI's capabilities imply that there will clearly remain a role for a version of the traditional *legal advisory* business model in relation to legal work that is highly tailored to particular contexts.

We detail how these complements map onto the ways in which firms in the legal services sector are seeking to engage with these new business models. There is a range of new entrants, including startups adopting the *legal technology* model, law companies combining *legal operations* with *consulting*, and the Big Four combining all three AI-enabled business models to deliver 'integrated solutions' to corporate clients. Most of these new entrants are organized as companies rather than partnerships, a form that better complements their business

models.[22] These approaches are not easily imitated by incumbent law firms operating the *legal advisory* model because of their existing complements in human resource practices (for lawyers) and organizational governance (professional partnerships of lawyers).

Many law firms, especially smaller ones, have not yet engaged with AI. Such firms are—whether by choice or by default—continuing to pursue a pure *legal advisory* business model. At the same time, some incumbent law firms are experimenting with new business models through contracting with multiple new entrants. This is motivated by a desire to meet evolving client needs while not committing prematurely to unproven innovation. While contracting provides flexibility, it leaves law firms exposed to new entrants seeking to capture, over time, an increasing part of the surplus generated by technology. Some law firms are consequently experimenting with a range of deeper connections: taking equity stakes or acquiring startups outright. In such cases, differences in organizational structure and human capital mix mean that merging the subsidiary into the *legal advisory* business model is neither feasible or desirable; rather the firm seeks to pursue different business models at the parent (partnership) and subsidiary (company) levels.

Where raising external capital is a particular need, some law firms in jurisdictions where non-lawyer ownership is permitted are going further still and transforming themselves into subsidiaries of public companies. Such firms also pursue more than one business models together, but the parent company now operates the new business models and the subsidiary partnership the *legal advisory* model.[23] The choice between these structures is likely dictated by which aspects of the overall business the firm sees as coming to dominate.

What are the implications of this for law firms and the legal profession? We draw three tentative conclusions. First, because many legal tasks remain outside the capabilities of AI,

[22] While the Big Four are not organized as companies, their multidisciplinary partnership structure is likely more amenable to the assembly of multidisciplinary teams than is a standard law firm partnership.

[23] This is structurally similar to the new law company entrants, some of which have captive law firm subsidiaries.

many law firms will correspondingly retain an exclusively human and lawyer-centric approach, operating the *legal advisory* model and the partnership form. However, our analysis of AI's role in legal workflows suggests that AI may become an input—as through research and analysis tools—to many human-only legal tasks. Firms that focus exclusively on the *legal advisory* business model may therefore increasingly become consumers of legal technology products and legal operations services, but the logic of their business model will mean that they capture little of the value that is created by AI's application.

Second, while corporate clients themselves may capture some of the value created by AI's application to legal services, this will likely be shared with firms that adopt new business models for the provision of legal services. Some of these firms will be new entrants; others will be incumbent law firms that diversify so as simultaneously to pursue legal advisory *and* one or more of the new AI-enabled business models. Consolidation may mean they are combinations of the two. Legal human capital will also be required in these firms (or parts of them) that pursue the new business models, but in a way that interfaces closely with other components of a multidisciplinary team.

Our analysis points to a clear division emerging in the nature of what is done by those applying legal skills in legal advisory businesses and those doing so in legal technology or legal operations. This flags a third implication: whether this legal human capital has to be acquired in a way that is recognizable as the bearer becoming a 'lawyer' with associated professional training, regulation and ethics. This issue seems likely to be the front line in the contestation of the boundaries of the profession (Abbott, 1988; Reed, 1996). Jurisdictional differences have already emerged as to whether lawyers may share ownership of their businesses with 'non-lawyers', and the scope of legal services work reserved exclusively to lawyers. The debate on whether full professional training as a lawyer is necessary to supply relevant legal human capital to new business models will need to deal with market forces

pushing for greater efficiency and ethical concerns. In particular, the design and routine application of AI systems to legal services raise many distinct ethical challenges (Gasser & Schmitt, 2020; Surden, 2020). How these ethical concerns are resolved within or outside the domain of the legal profession will also determine the extent to which lawyers will become 'hybrid professionals' (Noordegraaf, 2007, 2015). Hybrid professionals develop a certain competence outside their main area of expertise, and therefore are likely to have the capacity to bridge divergent logics (Blomgren & Waks, 2015; Gasser & Schmitt, 2020; Kurunmäki, 2004). What is clear from our analysis is that the 'legal' bits in the multidisciplinary teams delivering new business models will need to become 'hybridized', and they need not even be lawyers. By extension, lawyers working in law firms that access new business models by contracting face pressure to become hybridized to a lesser degree than lawyers working in organizations that access them via vertical integration.

The jury remains out on what are the viable business model combinations and governance forms for legal service providers. Nevertheless, this study highlights the importance of couching the 'death of law firms' and the 'end of lawyers' debates in a nuanced understanding of law firms' simultaneous pursuit of old and new business models, and the managerial choices that exist in leveraging their existing assets – facilitating or conflicting – to enable business model combinations. AI adoption is not just about technological innovation; it is fundamentally also about business model innovation with profound implications for the nature of the legal profession.

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Table 1: Traditional and AI-Enabled Business Models in Legal Services

Business models	What is sold? (What customers value)	Pricing (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	Technological solutions	Subscription, licensing	Intellectual property (copyright or patent) & platforms
Consulting	Consulting advice	Input-based (charge by the hour)	Consulting expertise grounded in legal operations and/or legal technology

Note: the legal advisory model is traditional; the other three are AI-enabled.

Figure 1: Process Steps in AI Use and Step-specific Requirement in Human Resources