Ethics, Technology and Regulation

Lisa Webley[1]

1. Introduction

Professionals, professional bodies and regulators have long been involved in assessing and mitigating the risks of making use of new ways of being a lawyer and doing law. When more people became literate and thus could use the technology of the written word, the profession developed a means to regulate that by defining those who could write things for official use and those who could use the written word to articulate legal arguments in court.[2] The latest digital technological developments pose contemporary equivalent questions. The recent leap forward in digital technology has led to a swifter pace of change with less time for the implications of those intersecting technologies to be vetted and for systems of regulation and ethical frameworks to be put in place.

Legal and other professional services are said to be in the early stages of the fourth industrial age, with fundamental technological transformation predicted if not yet borne out at the speed anticipated by futurologists.[3] Sophisticated online platforms are emerging rapidly and some professional service organisations are investing heavily on delivery systems capable of making use of artificial intelligence (AI). The potential benefits of automated tools with machine learning capabilities are being explored, having been predicted as an imminent disruptive force and/or professional threat in legal services for the past twenty years.[4] Other forms of technological change, rapid communication by email, increased and more efficient and cost effective connectivity by phone and video conferencing have enabled commodification and unbundling of products and services in firms large enough to have a means to outsource the more routine aspects of their work to a discrete cadre of personnel, sometimes in another office within the jurisdiction, sometimes to third parties, such as debt collection agencies and sometimes overseas, for example to legal professionals in India.[5] Many of these delegated tasks are ripe for automation due to their relatively routine nature.[6] Our regulatory framework has, thus far, tended to focus on people undertaking tasks within a jurisdiction, yet tasks are increasingly capable of being conducted by machine rather than by human lawyers, and, further, by people or by machines at a distance from the regulatory context within which the

---

[1] Professor Lisa Webley is Chair in Legal Education and Research and Head of Birmingham Law School, University of Birmingham, Edgbaston, Birmingham B15 2TT, UK. Email for correspondence: L.C.Webley@bham.ac.uk

[2] See this history of the Worshipful Company of Scriveners on the regulation of the written word in legal contexts: https://www.scriveners.org.uk/ and for an analysis of the development of the early legal profession in England see: Brand, P. A. (1987) 'The Origins of the English Legal Profession' 5 *Law and History Review* 31.

[3] Brynjolfsson, E. and McAfee, A. (2016) *The Second Machine Age: Work, Progress and Prosperity in a Time of Brilliant Technologies,* W.W. Norton & Company; Schwab, K. (2017) *The Fourth Industrial Revolution*, World Economic Forum; Susskind, R. and Susskind, D. (2017) *The Future of the Professions: How technology will transform the work of human experts*, OUP.

[4] Susskind, R. (1998) *The Future of Law: Facing the challenges of information technology*, OUP; Bennett, J, Miller, T., Webb, J., Bosua, R, Lodders, A, and Chamberlain, S. (2018) *Current State of Automated Legal Advice Tools Networked Society Institute Discussion Paper 1*, University of Melbourne.

[5] Carroll, E. and Vaughan, S. (2019) 'Matter Mills and London-Lite offices: exploring forms of the onshoring of legal services in an age of globalisation' 22:1-2 *Legal Ethics* 3-27.

[6] CGMA (2018) *Accounting in Extraordinary times: The Future of Finance.*

effects of the work may be felt by legal consumers. This poses interesting and novel questions of regulation, and also of ethics.

The system of legal professional regulation in England and Wales is one of the more liberal in the common law legal world, with only a limited set of legal activities reserved to authorised professionals- those admitted lawyers in good standing with their professional bodies.[7] Areas not reserved to authorised professionals may be undertaken by anyone, including for payment, and clients do not have recourse to the legal regulatory processes or investigatory mechanisms (such as the Legal Ombudsman) if legal work undertaken by non-authorised professionals falls short of threshold competence. Consumers have the fall back of suing in any service provider for breach of contract and/or tort law depending on the terms of the contract with the provider; consumer law may be limited by exclusion clauses in terms of service that legal consumers may skim through at speed as many of us do when clicking through to access online goods and services. We shall turn to this later in the paper, but for now the importance of the narrow unauthorised legal practice rules is that the jurisdiction is a friendly environment within which to innovate. It permits partnerships between lawyers and others, including outside investment into legal businesses, allowing capital to be injected into legal services so as to enhance their technological capabilities. These liberal rules create a unique environment among common law jurisdictions. They also permit elements of co-working between clients and legal and other professionals such that clients may partner with others to get DIY+ help with their legal problems. Yet novel technologies may yield novel risks as well as benefits, and an ethical and regulatory model based on authorised people and entities may not be sufficient or best placed to address them fully in an open legal marketplace.

How does the legal landscape differ from those of other professional service providers? Why regulate the practice of law and legal services differently from other forms of work? Lawyers are in a unique position in many ways, in that they are the foundation of the rule of law and of the health of the functioning of the legal system. Their work contributes in important ways to the stability and integrity of the legal, political and financial systems, through ensuring effective and lawful decision-making and governance by organisations of all kinds. Lawyers challenge decisions, actions and omissions when they appear to fall short, whether on behalf of individuals, organisations and/or states. They provide a means to mitigate risk and harm and to maximise rights and benefits. Their own working practices must be of at least as high a standard if they are to be able to perform this function in society and to maintain and improve the rule of law. Sharp or poor-quality practice not only harms the clients involved but wider society through a gradual erosion of confidence in the legal system. Once confidence in the legal system falls below a threshold level, the rules-based order in society fails and that has a negative impact on all areas of life. The regulatory regime plays a vital role in maintaining standards and confidence in the profession and the legal system, as does ethical reflection by each lawyer. There continue to be debates about whether legal services regulation has had the maintenance of the rule of law and public protection, as opposed to the protection of lawyers, as their goals but without these goals in mind the system of law and justice will degrade.

This paper will consider what are the latest technological developments in the legal services context, both those currently in use and those that are likely to be used within the next few years. It will then consider how these may affect the current practice of law. Further, it will

---

[7] Legal Services Act, 2007, c. 29, section 12. The reserved activities are set out in the LSA 2007 schedules 2 and 12 but predate the Act: (1) the exercise of rights of audience (appearing as an advocate before a court); (2) the conduct of litigation (issuing proceedings before a court and commencing, prosecuting, or defending those proceedings); (3) reserved instrument activities (dealing with the transfer of land or property under specific legal provisions including registration of land); (4) probate activities (handling probate/estate matters for clients); (5) notarial activities (work governed by the Public Notaries Act 1801); and (6) the administration of oaths (swearing affidavits, taking oaths).

examine how these changes may give rise to ethical considerations similar to or distinct from those already affecting the profession. Ethical questions do not, in and of themselves, give rise to behaviour change and thus a regulatory response may be needed. Consequently, the paper will then examine questions that are raised about regulation in this context. Finally, it will provide some tentative conclusions about the ethics and regulation of use of technology in legal services.

2. Technological Change in Legal Services

Technological change is being driven through a number of distinct routes.

- Firstly, a range of international law firms including the big four international accountancy firms with legal departments are investing substantially in technology and/or automated technologies. Some have their own lawtech start-up hubs or labs to allow new technologies to be developed and tested as incubator projects.[8]
- Secondly, organisations that work with the legal sector that have an interest in fostering technological disruption are also seeking out new ways of offering their products to the profession. For example some legal publishers and database providers (such as LexisNexis) have been developing decision trees with a view to providing them as expert systems to guide lawyer decision-making in smaller law firms that lack the budget to develop their own systems.
- Thirdly, some niche legal service providers, whether more traditional law firms with areas of distinct specialism or alternative business structure providers (sometimes referred to as 'NewLaw'[9]) are aggressively investing in new ways of working that are mediated through technology. Some are partnering with or have merged or taken over more traditional legal businesses (for example Legal Zoom with Beaumont Legal[10]) or have been taken over by large legal service providers (Riverview Law by EY[11]). Some legal technology platforms are not-for-profit enterprises with access to justice intentions or innovation missions: DoNotPay[12] and LISA the robot lawyer[13], providing support to unserved sections of the public who undertake the tasks themselves with the help of the technology.
- There is a developing 'DIY-with some professional help' model too, through which clients do much of the work themselves with support from technology and may pay for additional help from professionals if they wish. This keeps legal costs low for clients and may empower them to self-help within a supported environment.

Many, if not all, of these ways of working are only possible because of England and Wales' liberal regulatory framework.

Predictions have varied considerably about the speed of adoption and their likely disruptive impact on the nature of legal practice. Adoption is usually slower than commentators suggest. Having said that, some changes are evident as legal services are unbundled, tasks broken down and undertaken by a range of people and software systems.[14] At one time, much of the

---

[8] See, for example, Allen and Overy's Fuse, http://www.allenovery.com/advanceddelivery/fuse/Pages/default.aspx all websites up to date as of 15/4/20; and Herbert Smith Freehills: https://www.herbertsmithfreehills.com/latest-thinking/hubs/disruptive-technology-and-innovation

[9] Kohn, A. (2017) 'An AI Law Firm Wants to 'Automate the Entire Legal World'' January 30, 2017 https://futurism.com/an-ai-law-firm-wants-to-automate-the-entire-legal-world/

[10] Hyde, J.(2015) LegalZoom to Make First UK Acquisition, Law Society Gazette 7 December 2015 https://www.lawgazette.co.uk/news/legalzoom-to-make-first-uk-acquisition/5052608.article

[11] EY Law (2018) 'EY expands global legal managed services offering with acquisition of Riverview Law' 8 August 2018, https://eylaw.ey.com/2018/08/08/ey-expands-global-legal-managed-services-offering-with-acquisition-of-riverview-law/

[12] https://www.donotpay.com/

[13] http://robotlawyerlisa.com/

[14] CGMA (2018) *Accounting in Extraordinary times: The Future of Finance.*

work on any one transaction will have been undertaken by a single legal professional with the help of a legal secretary or assistant. Matters have grown in size and become more and more complex; it is usual for large numbers of people with different levels of qualification to be involved in discrete elements of each matter. Other forms of digitisation have slowly changed working practices. Legal research tools have been technologically enhanced for many years, lawyer-client interactions at a distance are routine, and virtual working increasingly the norm. Advances in machine learning from other professional contexts are starting to be felt in some niche areas of law. Some commentators suggest that distributed ledger systems such as blockchain[15], by which transactions are logged and added to a chain and ownership can be verified definitively, will reduce or eradicate the need for certain types of compliance and due diligence procedures often undertaken by lawyers. When coupled with machine learning this may permit many forms of transactions to be automated without the need for human input. Professional and regulatory frameworks have not yet focused on changes to legal practice and the legal system in this context.[16] This section will consider the technologies currently in use by legal professionals and examine the benefits and potential risks these may pose.

Digital working has facilitated many of these changes, as paper files have given way to electronic ones and material may be transmitted, called up and sent at the click of a button. This raises questions of data security, similar to those in other service contexts but imbued with the additional factor of legal professional privilege – advice and litigation privilege – adding further weight to the need for robust storage and sharing protocols. Digital working has also reduced the need for paper documentation. Some legal service providers have made a virtue of this and have broken common matters down into a series of discrete tasks, worked out which level of legal qualification is needed for each task and the cheapest way of doing this competently and have split the tasks so that they may be performed efficiently by people in a range of settings. This is known as unbundling, made possible by the switch from largely paper communication to digital methods. Some tasks have been outsourced to those beyond the original firm. This may reduce costs, it may lead to swifter service (if the outsourced service operates on a different time-zone, for example). It challenges traditional conceptions of who is responsible for the quality of the work undertaken and requires strong and effective supervisory systems to be in place as well as robust training practices. It is no longer quite as easy for a single senior lawyer to account for all aspects of the work undertaken in a matter, in the way it was once, and regulation has changed to encompass not just the regulation of individuals but also, in some instances, entities (law firms or legal businesses) to address some of these complexities.

Document Analysis and Review

Lawyers in many fields have spent a considerable amount of time reviewing and analysing documents, whether these are draft contracts, documents that allow a buyer to know whether the business under consideration is financially sound and legally compliant, or documents that form the basis of a legal case to be adjudicated by the courts. Reviewing hundreds of thousands of pages of documents is essential, if tedious, time consuming and so costly. Human reviewers also get tired and make mistakes. A technological solution able to take on much of this work would be almost universally welcomed and this is where much of the early focus of digital products has been seen. There are range of document review and discovery products that employ natural language processing to automate complex searches that swiftly

---

[15] Reuters has a very clear graphic that explains blockchain: http://graphics.reuters.com/TECHNOLOGY-BLOCKCHAIN/010070P11GN/index.html For a detailed examination of regulation and blockchain see: Donovan, A. (2019) *Blockchain: Developing Regulatory Approaches for the Use of Technology in Legal Services*, LSB https://www.legalservicesboard.org.uk/wp-content/uploads/2019/10/Blockchain-Developing-Regulatory-Approaches-for-the-Use-of-Technology-in-Legal-Services.pdf

[16] Bennett, J, Miller, T., Webb, J., Bosua, R, Lodders, A, and Chamberlain, S. (2018) *Current State of Automated Legal Advice Tools Networked Society Institute Discussion Paper 1*, University of Melbourne; Donovan, above.

and systematically scan, check and compare large quantities of documents. Much of the underlying technology in Technology Assisted Review systems (TAR) is no longer novel, it can be as simple as the matching of words and phrases that are displayed in a lawyer friendly user interface. Other review tools are more sophisticated and match law-fact patterns but in essence perform a similar task but give rise to the identification of more complex relationships between information.

TAR tools are being used as ancillary to but not replacement for legal expertise at present. They are at least as good as human lawyers at spotting key information.[17] And they are much faster, and thus cheaper following initial investment. Examples of products such as these are: RAVN[18]; Luminance[19]; Leverton[20]; Kira.[21] There are others including contract management and analysis tools such as ContractProd,[22] Relativity[23] and Law In Order. When used to assist lawyers they are viewed as a tool to enhance legal practice; they may reduce costs and/or increase the quality of the tasks they perform. Were they to be used as a replacement for human lawyers then they may fall foul of some jurisdictions' unauthorised practice of law rules although this would not be a concern in England and Wales as long as the documents that are reviewed are stored and used in ways that do not offend against any legal privilege claims. Such systems are supportive of lawyer expertise, although may be substitutive of lawyer expertise if used by lay people.TAR is not likely to disrupt the way in which lawyers work and raises few obvious ethical issues for clients and wider society when used by lawyers.

There are a smaller group of TAR tools that are capable of using machine-learning to change the way in which they search and report on results over time. These tools may be trained to learn how to answer procedural and substantive law questions with reference to decision-trees that operate like yes/no flowcharts that can be followed by the machine. As yet these technologies are in their infancy, in part because law needs to be set out in a structured way to allow decision trees to be formulated in granular detail. There are projects in place to pilot the technology, such as the UK's National Archives Big Data for Law project.[24] These kinds of tools may have a greater likelihood of changing the way in which legal practice is delivered in a jurisdiction like England and Wales, as the provision of legal advice is not a reserved activity and so such tools could be developed and used by anyone rather than by authorised professionals. We shall return to this issue later in the paper.

There are other digital products and platforms that allow law firms and similar legal organisations to manage their cases, their clients and their finances and billing and these have been available for many years. Some format legal documents and file them with courts and other agencies. Augmented versions of these systems have become available more recently, and offer some of the capabilities set out above, including legal research and digital discovery. Automation aims to reduce human lawyer time and also reduce human error. It also takes some of the tedium out of routine tasks and may reduce the number of paralegal or administrative staff needed within a firm. Smart contracts, on the other hand, aim to go a step

---

17 Bindman, D. (2018) 'AI Beats Average Legal Mind but not Best Performing Lawyers' https://www.legalfutures.co.uk/latest-news/ai-beats-average-legal-mind-not-best-performing-lawyers
18 For details see https://imanage.com/product/ravn/, see further for use: https://www.legalpracticeintelligence.com.au/reed-smith-experience-with-ravn-and-imanage/
19 For details see https://www.luminance.com/, see further: https://www.slaughterandmay.com/news-and-recent-work/news/luminance-launches-with-backing-of-invoke-capital-and-in-collaboration-with-slaughter-and-may/
20 For details see: https://www.leverton.ai/; see further https://www.artificiallawyer.com/2017/03/29/baker-mckenzie-signs-global-ai-deal-with-leverton/)
21 For details see: https://kirasystems.com/how-it-works/contract-analysis/
22 For details see: http://www.contractpod.com/
23 https://www.relativity.com/
24 See, for example, the pilot project being undertaken by the National Archives Big Data for Law Project in the UK: https://www.nationalarchives.gov.uk/documents/digital-projects-at-the-national-archives.pdf

further to automate components of contracts so that they are self-executing and self-reporting.[25] These contracts are structured in a way that allows the next stage of the contract to be triggered assuming that a specified condition or conditions are verified as being met. It also allows for early warning flags if conditions have not been met by a specified time. Smart contracts are enabled through blockchain technology, which when embedded into a smart contract can trigger the next stage of the contract, for example the transfer of the legal title for a property from the seller to buyer on receipt of the purchase price.[26] These forms of contract are likely to transform certain types of transactions, for example the conveyancing, if and when national land registries become blockchain enabled (as in Dubai, for example). Forms of smart contracts are starting to be used, full scale block chain enabled transaction are possible, if not common, in England and Wales.[27]

Assisted Legal Research

Many law students will have been trained in how to use semi-intelligent legal research tools at law school. Some of the more recent systems provide search facilities that go beyond primary legal sources (cases, legislation etc) to secondary and others sources including practitioner and academic commentary, and further to other relevant available documents (for example, in the USA Casetext's CARA AI[28] locates all documents filed with courts[29]). Some will apply law to identified facts, such as Ravel Law[30] providing contextual legal research results for US federal and state law. IBM's ROSS[31] also indicate how law is applied in context for certain areas of law.[32]

Technology that enhances lawyer decision making and may involves predictive analysis of issues/problems (expert support systems)

The term AI is an umbrella term that covers a wide range of technologies, including: (1) systems that make sense of human language (natural language processing) in their analysis of documents and so do not require human language to be translated into computer language before use; (2) neural networks made up of algorithms that link together and use data in a model more similar to human brain activity, mimicking if not actually performing human decision-making processes; (3) systems that use sophisticated statistical techniques so that the algorithm, the formula used to reach decisions, may 'learn' and so improve over time by constant input of feedback into the system (machine learning algorithms); and (4) artificial social intelligence systems that learn from human conversations (usually written interactions) so that these computer based systems or bots may appear to chat with people in a relatively

---

[25] For details see: Peyrott, S. (2017) 'An Introduction to Ethereum and Smart Contracts: a Programmable Blockchain', 28 March 2017, https://auth0.com/blog/an-introduction-to-ethereum-and-smart-contracts-part-2/

[26] For one view of how Blockchain may impact on lawyers' roles see: 'Smart Contracts: The Blockchain Technology That Will Replace Lawyers; A beginner's guide' https://blockgeeks.com/guides/smart-contracts/

[27] Cross, M. (2017) 'Blockchain deal bodes ill for conveyancers' 16 October 2017, Law Society Gazette https://www.lawgazette.co.uk/news/blockchain-deal-bodes-ill-for-conveyancers/5063242.article; for a detailed discussion see Donovan, above.

[28] See https://casetext.com/

[29] See Mills, M. (2018) 'The AI Robots are (not) Coming' *Law Practice Today* https://www.lawpracticetoday.org/article/3417, 2. and Koebler, J. (2017) *Is Artificial Intelligence Making Lawyers a Disappearing Profession?* (25 April 2017) Australian Financial Review https://www.afr.com/business/legal/is-artificial-intelligence-making-lawyers-a-disappearing-profession-20170418-gvmzbs.

[30] https://ravellaw.com/search

[31] See https://rossintelligence.com/ . Ross notes that "ROSS is an artificial intelligence (AI) system designed to improve the efficiency, accuracy, and profitability of legal research. Firms using ROSS have reported a 30% reduction in research time and found 40% more relevant authorities, translating to an ROI of 177% to 545% off of core search alone."

[32] Mills, 2018 and Koebler, 2017, above.

naturalistic way. They can be employed in many ways including to automate the nature of the problem and diagnose the legal and factual issues, to make decisions within defined parameters, and where large data sets are available in contexts that are less structured. They are applicable to both non-contentious (transactional) and contentious matters (disputes). Their utility spans document analysis and review, problem diagnosis and prediction of risks and likely settlement patterns and compliance, verification, automation and execution of contingent actions. Although these are discussed below in a legal professional context, they are relevant to many other professional environments including medicine, accountancy and more.

Assisted Analysis, Prediction and Strategy Development

Some systems seek to provide either guidance on likely outcomes (prediction) or appropriate strategies (assisted analysis and strategy development) in particular contexts. DocketAlarm,[33] Lexis Nexis Legal Analytics Australia (High Court judgments)[34] and VizLegal produce analytics that may assist with litigation strategies. Judge Analytics by Ravel Law[35] analyses certain types of court judgments to assess how named judges decide different types of cases. Lex Machina[36] analyses US federal legislation, case law and court files in the context of a client's case information to provide predictions about how cases in certain areas of practice may settle and/or be concluded and material that may assist in developing appropriate case strategies.[37]

They are reliant on high quality, large data sets that form the basis of the predictive models, as many use statistical analysis of probability (Bayesian analysis) to assess likely outcomes. The statistical analyses learn over time through feedback loops. The results are not factual but are suggestive and are best interrogated by those who have sufficient underlying expertise to recognise whether the suggestions appear sound in the circumstances. They are currently, thus, not a replacement for legal expert help but a means to guide lawyers' decision-making. Whether they will develop to an extent that they may replace human legal expertise is unclear and would raise questions of desirability too. Were lay people to make use of such products and services then it may be necessary to consider the product as a form of legal practice that is subject to regulation itself, as lay people will find it harder to question the output of the product. The less interrogable are the outputs the more likely the product would need to be regulated even if the user has legal expertise.

Other Tools

AI may be used within the courts' system, for example, setting criminal sentences following conviction in some US courts (COMPAS, US), applying statutory formulae that guide sentencing alongside data that assist to predict future behaviour such as reoffending rates.[38] AI may also be used in some civil disputes, to support the parties through an online dispute resolution mechanism (for example, The Family Court of Australia's Split Up initiative[39] and the Canada, BC's, Solution Explorer for small claims and residential tenancy disputes going through the Civil Resolution Tribunal[40]) or for small claims (for example all small claims under 7,000 euros will go through this system in Estonia[41]). It is being explored in a range of

---

[33] https://www.docketalarm.com/

[34] https://www.lexisnexis.com.au/en/insights-and-analysis/practice-intelligence/2018/Lawyer-vs-AI-A-legal-revolution

[35] https://www.ravellaw.com/judges

[36] https://lexmachina.com/

[37] See Koebler, above.

[38] Stobbs, N., Hunter, D. and Bagaric, M., 'Can Sentencing Be Enhanced by the Use of Artificial Intelligence?' (2017) 41 *Criminal Law Journal* 261.

[39] Carneiro, D., Novais, P., Andrade, F., Zeleznikow, J., and Neves, J. (2014) 'Online Dispute Resolution: An Artificial Intelligence Perspective' 41(2) *Artificial Intelligence Review* 211.

[40] https://www2.gov.bc.ca/gov/content/housing-tenancy/residential-tenancies/solution-explorer

[41] https://www.newscientist.com/article/2212953-ai-learns-to-predict-the-outcomes-of-human-rights-court-cases/.

jurisdictions, with scrutiny of the extent to which it is reliable, results are explicable and are considered to be fair by lawyers and lay people.

Many forms of digital technology are a routine part of legal practice, are not readily considered to pose particular risks and may confer many benefits in terms of efficiency, cost reduction and a better quality of service. Many are technologies that make running a law firm easier, rather than changing the nature of legal decision-making, Email and videoconferencing are now so standard as to warrant little attention; they are even used routinely by the courts. Other more cutting-edge technologies are starting to be introduced by either global law firms, or smaller niche practices and are doing so in ways that enhance lawyer expertise. Clients may be unaware of their use, and were they to know, may have few concerns because they are tools to augment lawyer expertise rather than to replace it. There are some digital technologies that may, however, change the nature of legal decision-making and their novelty may pose state of the art concerns. Further, clients may not fully recognise that some of the standard terms of service used by global law firms allow for client data to be aggregated with other clients' data to form data lakes. Those data lakes may then be used to train algorithms to allow for more sophisticated products and services or better predictions of likely results. In essence, some law firms are operating like internet service and other product providers, and pooling client data to develop products and services – it is unclear whether there are any firms separately monetizing client data. It is not always clear whether that data remains in house or may potentially be shared with software developers. And it is not clear what impact this may have on legal advice and litigation privilege protections that are designed not only to maintain the confidentiality of client data but are key components of our conceptions of the rule of law. The client file remains the property of the client and must be returned to the client on request (once payment for services is made); this is not possible in a context where data has been pooled with other client data.

Some of the digital technologies discussed above give rise to important questions about the nature of legal services, what and who are 'lawyers'. Some of the traditional ways of thinking about professionalism and education and oversight of professionals, consumer protection, the nature of competence and the thresholds for liability for poor service may need reconsideration.[42] These run alongside the ethical challenges and risks that these technologies may pose and further, into other debates including how to increase access to justice and how to protect and enhance the rule of law. The Law Society of England and Wales' inquiry into the ethics of AI provides five themes against which these debates may be explored: transparency, ethics, liability; electronic personhood; public acceptance.[43] The next section will reflect upon each in turn.

3. The Ethical Use of Technology in Legal Services: When benefits and risks become ethical issues

The term 'ethics' encompasses a range of different things in this context. Some use it to mean the extent to which a technology or its use in a particular way offends against fundamental moral principles. In this form ethics are philosophical concepts about how we reach decisions and/or justify one set of actions over another.[44] These kinds of ethical questions examine things that we can do but it would be morally wrong to do when one takes into account those who may be burdened by the process or the outcome and those who may benefit (in some people's considered view, or according to a particular philosophical tradition or theory). These

---

[42] See City-REDI, BPS Birmingham and Black Country Consortium (2018) *An Investigation into the Foundations of Productivity for Business, Professional and Financial Services in the West Midlands Combined Authority Area*. Birmingham: WMCA. https://www.wmca.org.uk/media/2236/business-professional-and-financial-services.pdf

[43] Law Society (2018) *Artificial Intelligence (AI) and the Legal Profession – Horizon Scanning Report*, the Law Society of England and Wales; see also for details of changes to legal services: Law Society (2016) *The Future of Legal Services,* the Law Society of England and Wales.

[44] Delacroix, S. (2019) 'Computer Systems Fit for the Profession' Vol. 21 No. 2 *Legal Ethics* 119-135.

decisions are often ones that are value driven and are considered to be the preserve of society rather than the professions. They are most likely to be addressed through legislation rather than by professional regulators and will not be addressed here.

Others use the terms 'ethical' to consider the extent to which a particular technology or its use infringes upon more context specific notions of fairness such as access to justice, equality of arms between the individual and the state or between those with less power when compared to those with more. These discussions are a means to reflect on the extent to which employing a particular technology or using it in a particular way may be contrary to, or should be contrary to, professional rules. These are things that we may legally be permitted to do, but which because of the profession's role in society it may be inappropriate for a lawyer to do. This is the preserve of the profession (members, membership bodies and professional regulators with input from other stakeholders). This falls within the professional regulatory domain.

Finally, for others, a discussion about the ethics of technology and its use is a discussion about issues of liability. In essence they seek a decision about who would be liable were things to go wrong. The value judgement here is not whether the thing should be done, but who should bear the responsibility if it leads to injury. This may be a matter for legislation but in the absence of that contract and tort law principles would be used to determine who bears the risk. A regulator may get involved to determine whether a professional may legitimately pass her/his liability on to the client via the terms and conditions of the client retainer, or the regulator may seek to augment the liability burden placed on the regulated professional beyond that imposed by legislation. This section will focus on those elements of ethics that have a professional regulatory dimension.

Much of the debate on use of digital technologies addresses the use of client data, whether covertly or quasi covertly. Data is needed in quantity, and of a sufficient quality, to allow algorithms that form the basis of more sophisticated automation to be trained. The reliability and fairness of the decisions reached through computation is a function of the quality of the data and how much of it is available to train the algorithm. Where data is not robust, or the dataset is partial then the algorithm may develop in a biased way with discriminatory results. Lawyers must be particularly careful to avoid these missteps given that they, along with judges, act as guardians of the rule of law. They also need to maintain trust, and covert use of data, or use of data without fully informed consent is to be avoided in all but exceptional circumstances. Further, questions for professional regulators may include: should lawyers be permitted to use standard terms and conditions giving automatic consent to ongoing use data, the waiver of legal professional privilege etc? Professional regulators will need to build robust regulatory regimes to govern lawyers' practice. Machine learning may deliver quicker, cheaper and more efficient access to legal services[45], but if it does that may be at the cost of trust in the legal system and lawyers then it will be too high to pay.[46] In some jurisdictions these concerns will be less urgent as the practice of law is highly restricted, whereas in England and Wales some of these questions require imminent consideration.

Transparency
Transparency of decision-making is a fundamental tenet of the rules of natural justice which underpin the rule of law. People need to know the reasons (and evidence) that gave rise to a decision in order to be able effectively to challenge it.[47] This is well established, settled law.

---

[45] Susskind, R. (1998) *The Future of Law: Facing the challenges of information technology*, OUP.
[46] Bingham Centre for the Rule of Law (2017), *Artificial Intelligence, Big Data and the Rule of Law Event Report,* available at:https://www.biicl.org/documents/1798_ai_event_-_final_report_15_11_2017_002.pdf?showdocument=1
[47] Hamilton, V. (2017) 'We use big data to sentence criminals. But can the algorithms really tell us what we need to know?'6 June 2017 *The Conversation* available at: http://theconversation.com/we-use-big-data-to-sentence-criminals-but-can-the-algorithms-really-tell-us-what-we-need-to-know-

There is increased use of algorithms to automate decision-making and where the algorithms are easily explicable, they do not pose challenges to 'the right to know the case against you' and 'the right to reasons for a decision'. This becomes more of a difficulty in instances where the algorithms become so sophisticated that they are difficult to explain, or where the explanation is problematic because the algorithm has developed from its original programming having 'self-trained' as it has worked on more data. Such algorithms are not a mainstream part of the legal system (although are increasingly used by companies and the state, including by the HM Customs and Revenue Service), but they have been used in some online dispute resolution services, and in some US courts for sentencing purposes and are predicted to be used in legal practice settings over time. Algorithms used in court sentencing decisions, that were once heralded as an objective way to sentence those convicted of a crime, have been subject to criticism for racial and other forms of bias.[48] Large data sets are usually an aggregation of existing datasets that were developed for different reasons and with varying levels of data quality which may have errors of biases inbuilt. For example, in the US recidivism data used as the part of the sentencing data set has been collected from police forces and was based on the number of people who had been stopped, searched and then charged for crimes, and was in part of function of the biases of those who made the decision to stop, search and/or charge one person and not another (for example people from particular ethnic groups). Problems with the algorithmic decision-making can only be challenged if the decision-making process can be understood and reviewed. The transparency of algorithms is currently insufficient to allow for many algorithmically rendered decisions to be subject to proper challenge. The inability effectively to understand and to challenge decisions made in this way would constitute a breach of natural justice grounds in many jurisdictions. It would thus be considered to offend against the rule of law and to undermine the health of the legal system.

There is also the question of how the norms that underpin the development of law in a common law jurisdiction will be contested and integrated into the algorithms that may support either expert decision-making by lawyers or as the basis for smart contracts, or to support negotiations and other dispute resolution mechanisms, if disputes on the law are not brought before the courts to develop case law. There are fears that if lawyers do not engage in a dialogic debate about how the law is to be interpreted in hard cases then the law may become whatever the algorithm determines it to be over time. Law is more than a set of rules; it is a contested set of values that over time change as the societal context changes. If algorithms reach decisions on precedent, without dialogic debate about what the law should be, then the interpretation of the law may be stagnate. Many disputes are not law based, but fact based, and algorithmic decision-making in these contexts may be efficient and cost effective, if errors can be spotted and challenged and it is possible regularly to update the underlying legal interpretations within the algorithm. Disputes that involve legal interpretation may require a different approach, and as long as lawyers are not overly reliant on expert systems and remain sufficiently well trained to spot and address legally contentious issues.

Liability for Harm
Lawyers are experts at apportioning liability and claims for compensation and attempting to limit its application to their clients. With all novel technologies there is a period during which it is unclear who bears the liability for harm. In legal practice, liability has tended to rest with the firm, who may in turn pass on liability to the individual. This will be more complex when decision-making is a human-AI hybrid. And more contentious when those AI systems have been developed by an external company rather than developed in-house. There is another

77931; Kehl, D., Guo, P. and Kessler, S. (2017) 'Algorithms in the Criminal Justice System: Assessing the Use of Risk Assessments in Sentencing' Responsive Communities Initiative, Berkman Klein Center for Internet & Society, Harvard Law School available at: http://nrs.harvard.edu/urn-3:HUL.InstRepos:33746041.

[48] Dressel, J. and Farid, H. (2018) 'The Accuracy, Fairness, and Limits of Predicting Recidivism' *Sciences Advances*, available at: http://advances.sciencemag.org/content/4/1/eaao5580.

layer of complexity when lawyers and clients work in partnership together under a DIY+ arrangement. Having said that, the basic questions to be asked will be similar in all instances: Whose actions and decisions gave rise to or contributed most to the error? And in the absence of law on the point, who as a matter of public policy and professional values, who should bear the risk, and when would it be appropriate from a service provider or product supplied to exclude their liability? Some of these questions are ones for national legislatures, others a matter of international agreement given the global and virtual nature of some technologies, others still for professional regulators.

Public Acceptance of the Technology and Its Use
Public trust is integral to the functioning of legal and financial systems and this places an additional burden on those that work within these sectors. Trust builds over time but may be lost very swiftly. It is a complex calculation which is a function of societal and individual understandings of the ways in which a system benefits them or poses risks to them. In a digital context it includes issues of privacy, data security, the extent to which the data held about them is accurate and complete, is used with integrity and for only the purposes that they foresaw and consented to, and is not shared with others beyond their consents. Further, the public will expect that any decisions reached are made competently by humans or systems (and perhaps expertly), according to their instructions and in their interests. Were algorithmic decision-making to become mainstream in legal practice, and were those decisions considered to be unpredictable or otherwise unfair, it would give rise to wider lack of trust in the legal system well beyond the individual lawyers or the system that was used. Trust may also be improved or diminished through the professional regulatory framework; oversight by a well-respected regulator and/or professional body that has mechanisms that provide appropriate and effective routes to redress for poor service or unethical behaviour. Levels of trust may also depend on whether clients consider that their data is being used for their benefit or whether their data is being monetized for the benefit of others.

The fifth area of consideration was noted as electronic personhood by the Law Society, but in this lawyer-client professional context it may be better considered from the standpoint of the locus and balance of power.

4. Regulatory Theory and Ethical Practice

Most professionals, including those in law, are subject to a complex matrix of national laws, professional regulations and norms. Professionals often benefit from privileged access to a specified market and are permitted to provide a range of restricted services that are deemed to require high levels of knowledge and skills. Often the function that professionals perform has social, economic and cultural impacts that necessitate more than a pure consumer protection regulatory regime.[49] The regulatory environment to which professionals are subject provides a competitive advantage over other service providers, and is thus a source of value, but also acts as a constraint on them.[50] The title of professional confers a trusted status and implies a marker of quality. Regulation also serves as a means to protect clients/consumers and society. Some have argued it also leads to a tendency to conservatism and a brake on innovation as regulatory regimes tend to adopt a precautionary approach to new ways of working. In these contexts, it can be particularly challenging when professionals may seek to harness new technologies that involve a degree of risk.

There are different regulatory models that could be employed, underpinned by different conceptions of the purpose of regulation. Regulatory theories fall into two broad schools of

---

[49] Abel, R.L. and Lewis, P.S.C. (1995) *Lawyers in Society: An Overview*, University of California Press. For a discussion see Moorhead, R., Paterson, A. and Sherr, A. (2003) 'Contesting Professionalism: Legal Aid and Non-lawyers in England and Wales' Vol. 37, No. 4 *Law and Society Review* 765-808.
[50] Abel, R.L. (1988) *The Legal Profession in England and Wales*, Wiley Books.

thought – positive and normative theories[51]. The positive school includes theories that look to why regulation develops as it does in particular sectors: how regulation has been used to meet stakeholder interests and/or to prevent monopolies; how the power of the market has been harnessed to positive effect and so as to mitigate its negative effects; how regulation has been used as a tool to increase efficiency for clients or consumers where the market will not so provide if left unregulated; how it has been used to reinforce professional status and/or privilege. These theories are explanatory, setting out how regulation has been employed to address asymmetries in power, information/knowledge and interest, between professionals, clients, society and the state.

The other broad school is normative, meaning that these theories explain how regulation should be used and why. Whereas the positive school seeks to explain what has happened or is happening, the normative school seeks to drive how regulation will be used now and in the future. These theories are imbued with more obvious ideological underpinnings, such as: that competition is good for consumers that in turn is good for service providers and wider society; regulatory burdens should be the lowest needed to achieve their aims so as to minimise the cost to service providers and thus to clients; that information asymmetries should be minimised so as to empower clients to make informed choices about service providers and that this will drive up standards within the sector; that the costs of a service should be structured in a way to maximise economic efficiency; that regulation should adhere to standards such as lawfulness, independence from the state or the profession, decision-making should be transparent, fair, legitimate and credible and serve the interests of consumers and wider society. There are also very different understandings about the way in which regulation should be undertaken or effected, the norms of the what and the why to regulate may be coupled with understandings of how.[52]

Regulation is, in essence, the incentivisation of certain types of behaviour and/or the management of risk through the application of legal and other formal rules, informal rules and through economic incentives.[53] Regulation may be via supra-national organisations, nation states, regulatory agencies including statutory bodies, professional associations and many other regulator actors including the organisation and the individuals within it.[54] Regulatory theory has historically focused on formal rules enacted by states and enforced through administrative agencies, but has increasingly moved towards a less formalised and more principle based understanding of regulation organised around Teubner's three principles of effectiveness, responsiveness and coherence.[55]

As indicated above, the regulation in England and Wales is relatively light touch compared to that in many other jurisdictions and consequently is unlikely to be an undue damper on technological innovation. There are other factors that are more likely to do this including acceptability to the public, cost and the availability of investment at the right level for what are

---

[51] For brief details see: http://regulationbodyofknowledge.org/general-concepts/theories-of-regulation/. For a more detailed discussion see: Baldwin, R. and Cave, M. (1999) *Understanding Regulation: Theory, Strategy, and Practice* OUP.

[52] For different forms of regulation see Braithwaite, J (2017) 'Chapter 7 Types of Responsiveness' in Drahos P. *Regulatory Theory: Foundations and applications*, ANU Press117- 132.

[53] Parker, C. and Braithwaite, J. (2005) 'Regulation' in *Edited by Mark Tushnet and Peter Cane (eds) The Oxford Handbook of Legal Studies* , OUP.

[54] Black, J. (2001) 'Decentring Regulation: Understanding the Role of Regulation and Self-Regulation in a Post-Regulating World' 54 *Current Legal Problems* 103–47.

[55] Teubner, G. (1987) 'Juridification: Concepts, Aspects, Limits, Solutions', in G. Teubner (ed.), *Juridification of Social Spheres: A Comparative Analysis of the Areas of Labor, Corporate, Antitrust and Social Welfare Law*. Berlin: Walter de Gruyter, 3–48 at 21; Black J. (2014) Learning from Regulatory Disasters. LSE Law, Society & Economy Working Papers 24/2014. London Society of Economics, London, http://eprints.lse.ac.uk/60569/1/WPS2014-24_Black.pdf .

often SME law firms, having a cadre of legal professionals with sufficient technological understanding to push for change and to deploy technology effectively and data scientists who understand enough about the legal environment to partner with and/or lead them through change.[56]

The Legal Services Act 2007 sets out the regulatory aims of the Legal Services Board, which gives us some insight into the regulatory model that the legal regulator is required to follow. The regulatory objectives, set out in section 1 of the Act, are:

> (a) protecting and promoting the public interest;
> (b) supporting the constitutional principle of the rule of law;
> (c) improving access to justice;
> (d) protecting and promoting the interests of consumers;
> (e) promoting competition in the provision of services within subsection (2);
> (f) encouraging an independent, strong, diverse and effective legal profession;
> (g) increasing public understanding of the citizen's legal rights and duties;
> (h) promoting and maintaining adherence to the professional principles.

The promotion of competition only extends to services provided by authorised professionals whether they are conducting reserved activities or not, so to services being provided by solicitors, barristers, chartered legal executives etc., rather than services that are provided by law start-ups or others who are not authorised professionals. Authorised persons are those authorised in the jurisdiction of England and Wales. Regulation of technology in the context of the LSA 2007 is discussed in much more detail in Semple's paper developed for the LSB.[57]

Many of the digital tools available to the legal profession and to clients are virtual ones, they may be developed and sold by those that operate beyond the jurisdiction. Further, as most legal services are not reserved to authorised professionals, those who provide those services may also fall outside the full extent of the regulatory framework. At present lawtech products and systems are not regulated in this jurisdiction.[58] This is not currently that problematic as machine learning is in its infancy in law. When such products are being used by authorised professionals, the legal regulator makes the lawyer responsible for ensuring that the tools they select and their competence in using them are of sufficient quality to protect the end consumer.[59] As products become more complex and it becomes harder for a professional to interrogate the results received through the underlying algorithm, product regulation may also be required.[60] Where that regulatory imperative would sit is unclear as we do not currently have a legal tech/device regulator as we do a medical tech/device regulator. There will be lessons that may be learned from other sectors such as medicine and finance.[61] Information

---

[56] See, for example Webley *et al*, above and Galloway *et al*, above.

[57] Semple, N. *Tending the Flame: Technology and the Legal Services Act 2007*, LSB https://www.legalservicesboard.org.uk/wp-content/uploads/2019/09/Semple-Final-version-for-publication.pdf

[58] For other international approaches see Hook A. *Lessons from abroad – international approaches to regulating legal technology*, LSB https://www.legalservicesboard.org.uk/wp-content/uploads/2019/07/International-AH-Report-VfP-4-Jul-2019.pdf and for a discussion of regulation on the context of blockchain see Donovan, above.

[59] See Semple, above.

[60] For the importance of interrogability of algorithms in order to permit effective challenge of decisions that flow from them see Yeung, K. (2018) 'Algorithmic Regulation: A critical interrogation Vol. 12 Iss. 4 *Regulation and Governance* 505-523 which discusses the use of algorithms as a tool for regulation but also the way in which algorithms will need to be susceptible to being interrogated if they are to perform effectively and safely as part of either a reactive or a pre-emptive regulatory schema.

[61] Brownsword, R. (2019) *The Regulation of New Technologies in Professional Service Sectors in the United Kingdom: Key Issues and Comparative Lessons*, LSB https://www.legalservicesboard.org.uk/wp-content/uploads/2019/07/Professions-RB-Report-VfP-4-Jul-2019.pdf

asymmetries between large tech-companies and small law firm users may necessitate this as many increased use by those without expertise in law.

A shift from person to product or to person and product regulation may assist in contexts where legal tools are used either directly by consumers or through a DIY+ model and delivered digitally. These products and services may circumvent professional regulatory regimes, given that such regimes are largely jurisdictional rather than international and much of the data is stored within relatively difficult to govern virtual space.[62] Expert knowledge and its use have been uncoupled from professionals and also from jurisdictional contexts, rendering current models of regulation less effective.[63] The ability to police and sanction behaviour is increasingly difficult, when services can be provided from overseas. Some jurisdictions and client types may benefit from this potential regulatory freedom, others may not or may be ill-equipped to make decisions about quality and/or the integrity of the services they may purchase and rely on. This is particularly true in a context where it is difficult to know who is an authorised (and thus regulated) professional and who is not, whether a service is being provided by an authorised professional and the nature of the recourse available if things go wrong. These service providers fall outside the jurisdiction of the Legal Ombudsman and cannot be barred from practice. Product regulation would shift liability from the consumer to the service provider but may do nothing to address concerns about the integrity of those offering legal services.

There is also a concern that automated systems and tools being used by professionals, in a regulated context, may be so seductive that the risks associated with them are overlooked. Automation relies on algorithms that are often hidden from view – their biases developed from incomplete and/or skewed data may not be obvious for some time and their decision-making left unchallenged with serious consequences for public perceptions of the integrity of lawyer and the legal system.[64] Public acceptance of the use of these tools is not just a function of lower cost, increased speed and lower friction in the lawyer-client relationships, but also of trust in how well they serve them and wider society. Recent scandals in other contexts, whether that is due to data leaks, the use of data for unpublished purposes and exploitation of consumer data for profit have led to a cynicism that frames this debate. The tools lawyers use and the way in which they handle client data need to be beyond reproach.

Professionals mediate a range of power imbalances: imbalances between their clients and other parties to the legal matter and imbalances in power between them and their lay clients. Digital tools that involve sophisticated algorithms that are not easily interrogable, including machine learning algorithms, embed yet another layer of power-relationships viz. the data, the companies that develop the tools and those that use the tools to reach decisions. Professionals are more than simply expert service providers. They must engage critically with the positives and negatives that digital tools, particularly tools that automate decision-making, bring and work with legislators and the courts to ensure that fundamental values are protected rather than eroded. Is it possible for regulators to be technologically neutral, and should they be? The short answer is no. There is no neutrality in regulation, it always privileges some things over others or else there would be no regulation. The question is what things to privilege and why. Maximising access to justice is not simply a question of maximising access to legal services, it also requires that those services uphold the rule of law and the integrity of the

---

[62] Lovelock, P. (2018) *Framing Policies For The Digital Economy Towards Policy Frameworks In The Asia-Pacific*, UNDP Global Centre for Public Service Excellence.

[63] See Yeung, K., above; Yeung, K. and Lodge, M.(eds) (2019) *Algorithmic Regulation* Oxford University Press, forthcoming. See further: Brownsword R., Scotford, E. and Yeung, K. (2017) *The Oxford Handbook of Law, Regulation and Technology* OUP; Brownsword, R. and Yeung, K (eds) (2008) *Regulating Technologies: Legal Futures, Regulatory Frames and Technological Fixes* Hart Publishing; *An Introduction to Law and Regulation* (2007) Jointly authored with Bronwen Morgan, Cambridge University Press, Law In Context series; Yeung, K. (2004) *Securing Compliance* Hart Publishing.

[64] See Yeung, above.

justice system including the ability to challenge potentially faulty decisions reached whether by human or computer, based on small or large data sets. That goes beyond a consumer protection model in a service provider-service user context.

5. Conclusions

It is clear that some digital technologies are providing lawyers with a different set of tools that may augment and, in some cases, replace their previous forms of decision-making. They also change the tools and choices that clients have available to them, as well as potentially the range of service providers from which they may seek legal assistance. These tools may provide some efficiencies in terms of cost, speed and accuracy.[65] They may also improve access to justice, develop the legal literacy of the public and empower a wider range of people and groups to challenge abuse or unfairness. They are already challenging our conception of what it is to be a lawyer and the way in which lawyers practise law, although they are not the only reasons for these challenges – professional-client dynamics have been shifting in all domains for decades, and legal practice has become increasingly stratified and segmented as firms have needed to specialise either in particular areas of law or particular client groups.[66]

Lawyers working with AI assisted tools will need training and support to make the best use of these systems and also to enable them to dig behind machine generated results, to test the basis upon which they were reached and provide them with confidence to question the results so as to be able to assess the relevance and quality of these suggestions in meeting their clients' needs'.[67] Legal professionals will still need a solid knowledge of law, practice and its application, well developed critical analytical skills in order to do this, and an appreciation of the basis of data science. Professional education and training models may need to adapt to new ways of working. A traditional approach to apprenticeship, learning from those with more experience, may not serve the profession at times of intense change. It is possible that the profession may shrink as routine tasks are automated[68], but many clients may still need interaction with and support from human lawyers at a challenging point in their lives and if so soft skills may become even more important than ever. Professional pathways within the legal profession may diverge further into highly knowledgeable expert-systems lawyers, more

---

[65] Mills, above.

[66] For a discussion see Webley *et al.,* above. For a discussion of how regulation may contribute to this see Sommerlad H. (1999) 'The implementation of quality initiatives and the new public management in the legal aid sector in England and Wales: Bureaucratisation, stratification and surveillance' International Vol. 63 No. 1 *Journal of the Legal Profession* 311-343.

[67] See Galloway *et al.* above.

[68] Arntz M. Gregory T. and Zierahn U. (2016), 'The risk of automation for jobs in OECD countries: a comparative analysis', OECD Social, Employment and Migration Working Papers No 189 and OECD (2018) *Transformative Technologies and Jobs of the Future*, https://www.oecd.org/innovation/transformative-technologies-and-jobs-of-the-future.pdf; Frey C.B. and Osborne M.A. (2017) 'The Future of Employment: How Susceptible are Jobs to Computerisation?' *Technological Forecasting and Social Change*, Vol. 114, Jan 2017, 254-280; University of Oxford and PwC (2018) *Will Robots Really Steal Our Jobs? An international analysis of the potential long-term impact of automation.* https://www.pwc.co.uk/economic-services/assets/international-impact-of-automation-feb-2018.pdf .

routine service providers and legal technicians[69], which may require different regulatory approaches. [70]

There will be ongoing challenging questions about transparency, ethics including the balance of power between clients, legal professionals and service providers, liability including consumer protection and broader societal protection from harm, as well as how to maintain public trust. We have reflected on some of these issues in this paper, but they will need ongoing consideration as new technologies emerge and are deployed in legal contexts. Use of client data and legal professional privilege are unique to the legal profession, many of the others are held in common if experienced differently by other professions and their clients. Medicine is often used as an example in this context, although medical confidentiality serves subtly different aims from legal privilege. Confidentiality is considered to be of importance so that patients provide full disclosure of the medical information to allow doctors to diagnose and treat them effectively and so that patients are willing to seek their help. Legal confidentiality is wider to encompass not just the equivalent of the patient, the client, but also the justice system that requires confidentiality to allow for fair trial guarantees to underpin the whole system of law for all, for example. Were lawyers fundamentally to lose public trust, the legal system and ultimately respect for the law may be eroded; law underpins how our society functions. These issues must be considered in this light.

How can regulators respond to technological developments in an agile way while providing sufficient certainty to legal services providers? And how cautious should professional regulators be about new technologies? Should legal services technology regulation interact with general technology regulation eg the Information Commissioner's Office? Many of these questions have been addressed in other papers that form part of this series. Responses will depend, in some measure, on the model of regulation that the regulator seeks to adopt to regulate legal practice. In fast moving areas it often becomes necessary to reason from first principles, drawing upon relatively fundamental concepts in order to weigh competing interests effectively and fairly in a fast-moving environment when consequences cannot readily be predicted.

What appears clearer is that it will become less easy for regulation to be restricted (largely) to authorised persons or those in training to become authorised persons. That approach is already proving challenging in a context where clients are not well versed in the consequences of instructing an authorised person, or a 'lawyer' who is not so authorised. Access to legal help needs to be balanced against not just protection of the consumer but also the wider public through continued faith in the rule of law. Client and societal trust is of foundational importance and thus the more standard rules on consent to use of data by lawyers may need to be tightened beyond those expected of other professionals. The regulatory framework may need to be expanded beyond authorised professionals, or a means developed to signpost effectively to potential clients who is a regulated professional and who is not. In short, public acceptance and trust are paramount to maintaining both as ethical and regulatory principles.

Further, the ethical underpinnings of regulation in this context must take account not just of clients or consumer needs as purchases or users of legal services and the justice system, but wider societal needs for a fair, legitimate and effective legal system. That requires thought beyond a consent based model of professional service provision, which addresses risk by

---

[69] de Rozario, M. and Kumaragamage, R. (2017) 'Why Legal Technologists are becoming the 'New Normal' (4 September 2017) Corrs Chambers Westgarth
http://www.corrs.com.au/thinking/elsewhere/why-legal-technologists-are-becoming-the-new-normal/.
There are also an increasing number of AI and law conferences that bring together lawyers and computer scientists/technologists, in the UK context see for example, the British Legal Technology Forum; the Alterative Legal IT Conference; the Legal Futures Annual Innovation Conference; the Legal Geek Conference.
[70] Boon, A., Flood, J. and Webb, J. (2005) 'Postmodern Professions? The Fragmentation of Legal Education and the Legal Profession' Vol. 32 No. 2 *Journal of Law and Society* 473-492.

providing clients with information and asking them to determine whether to make use of a particular lawyer, or to allow use of their data, on the basis of what is often considered to be informed consent. The regulatory objectives in the Legal Services Act anticipate the need for the oversight legal regulator to approach regulation as a protective force, to protect individuals and the rule of law, the system, and consequently to engage well beyond the common regulatory module of ensuing threshold quality of service providers and giving information to clients to allow them to exercise choice about who they use and on what terms. The regulatory objectives require the public interest to be protected and the rule of law to be supported as imperatives, both of which will necessitate an engagement with machine learning and the storage and use of client data to allow that learning, which will be a very new way of regulating the legal field in England and Wales.

References

Abel, R.L. and Lewis, P.S.C. (1995) *Lawyers in Society: An Overview*, University of California Press

Abel, R.L. (1988) *The Legal Profession in England and Wales*, Wiley Books

Arntz M. Gregory T. and Zierahn U. (2016), 'The risk of automation for jobs in OECD countries: a comparative analysis', OECD Social, Employment and Migration Working Papers No 189 and OECD (2018) *Transformative Technologies and Jobs of the Future*, https://www.oecd.org/innovation/transformative-technologies-and-jobs-of-the-future.pdf

Baldwin R., Cave M., and Lodge M. (eds) (2010) *The Oxford Handbook of Regulation*, New York, Oxford University Press

Baldwin, R. and Cave, M. (1999) *Understanding Regulation: Theory, Strategy, and Practice* New York: Oxford University Press

Bennett, J, Miller, T., Webb, J., Bosua, R, Lodders, A, and Chamberlain, S. (2018) *Current State of Automated Legal Advice Tools Networked Society Institute Discussion Paper 1*, University of Melbourne

Bindman, D. (2018) 'AI Beats Average Legal Mind but not Best Performing Lawyers' https://www.legalfutures.co.uk/latest-news/ai-beats-average-legal-mind-not-best-performing-lawyers

Bingham Centre for the Rule of Law (2017) *Artificial Intelligence, Big Data and the Rule of Law Event Report,* available at:https://www.biicl.org/documents/1798_ai_event_-_final_report_15_11_2017_002.pdf?showdocument=1

Black J. (2014) Learning from Regulatory Disasters. LSE Law, Society & Economy Working Papers 24/2014. London Society of Economics, London, http://eprints.lse.ac.uk/60569/1/WPS2014-24_Black.pdf

Black, J. (2001) 'Decentring Regulation: Understanding the Role of Regulation and Self-Regulation in a Post-Regulating World' 54 *Current Legal Problems* 103–47

Block Geeks 'Smart Contracts: The Blockchain Technology That Will Replace Lawyers; A beginner's guide' https://blockgeeks.com/guides/smart-contracts/

Boon, A., Flood, J. and Webb, J. (2005) 'Postmodern Professions? The Fragmentation of Legal Education and the Legal Profession' Vol. 32 No. 2 *Journal of Law and Society* 473-492

Braithwaite, J 'Chapter 7 Types of Responsiveness' in Drahos P. (2017) *Regulatory Theory: Foundations and applications*, ANU Press117- 132

Brand, Paul A (1987) 'The Origins of the English Legal Profession' 5 *Law and History Review* 31

Brownsword, R (2019) *The Regulation of New Technologies in Professional Service Sectors in the United Kingdom: Key Issues and Comparative Lessons*, LSB https://www.legalservicesboard.org.uk/wp-content/uploads/2019/07/Professions-RB-Report-VfP-4-Jul-2019.pdf

Brownsword R., Scotford, E. and Yeung, K. (2017) *The Oxford Handbook of Law, Regulation and Technology* Oxford University Press

Brownsword, R. and Yeung, K (eds) (2008) *Regulating Technologies: Legal Futures, Regulatory Frames and Technological Fixes* Hart Publishing

Brynjolfsson, E. and McAfee, A. (2016) *The Second Machine Age: Work, Progress and Prosperity in a Time of Brilliant Technologies,* W.W. Norton & Company

Carneiro, D., Novais, P., Andrade, F., Zeleznikow, J., and Neves, J., 'Online Dispute Resolution: An Artificial Intelligence Perspective' (2014) 41(2) *Artificial Intelligence Review* 211

Carroll, E. and Vaughan, S. (2019) 'Matter Mills and London-Lite offices: exploring forms of the onshoring of legal services in an age of globalisation' Vol. 22 Nos.1-2 *Legal Ethics* 3-27

CGMA (2018) *Accounting in Extraordinary times: The Future of Finance*

City-REDI, BPS Birmingham and Black Country Consortium (2018) *An Investigation into the Foundations of Productivity for Business, Professional and Financial Services in the West Midlands Combined Authority Area*. Birmingham: WMCA. https://www.wmca.org.uk/media/2236/business-professional-and-financial-services.pdf

Cross, M. 'Blockchain deal bodes ill for conveyancers' 16 October 2017, Law Society Gazette https://www.lawgazette.co.uk/news/blockchain-deal-bodes-ill-for-conveyancers/5063242.article

Delacroix, Sylvie, (2019) 'Computer Systems Fit for the Profession' Vol. 21 No. 2 *Legal Ethics* 119-135

de Rozario, M. and Kumaragamage, R. 'Why Legal Technologists are becoming the 'New Normal' (4 September 2017) Corrs Chambers Westgarth http://www.corrs.com.au/thinking/elsewhere/why-legal-technologists-are-becoming-the-new-normal/

Donovan, A. (2019) *Blockchain: Developing Regulatory Approaches for the Use of Technology in Legal Services,* LSB https://www.legalservicesboard.org.uk/wp-content/uploads/2019/10/Blockchain-Developing-Regulatory-Approaches-for-the-Use-of-Technology-in-Legal-Services.pdf

Dressel, J. and Farid, H. 'The Accuracy, Fairness, and Limits of Predicting Recidivism' (2018) *Sciences Advances*, available at: http://advances.sciencemag.org/content/4/1/eaao5580

EY Law, 'EY expands global legal managed services offering with acquisition of Riverview Law' 8 August 2018, https://eylaw.ey.com/2018/08/08/ey-expands-global-legal-managed-services-offering-with-acquisition-of-riverview-law/

Galloway, K., Webb, J., Bartlett, F., Flood, J. and Webley, L. 'The Legal Academy's Engagements with Lawtech' (2019) Vol. 1 *Law, Technology and Humans* https://lthj.qut.edu.au/article/view/1337

Hamilton, V. 'We use big data to sentence criminals. But can the algorithms really tell us what we need to know?'6 June 2017 *The Conversation* available at: http://theconversation.com/we-use-big-data-to-sentence-criminals-but-can-the-algorithms-really-tell-us-what-we-need-to-know-77931

Hook A. (2019) *Lessons from abroad – international approaches to regulating legal technology*, LSB https://www.legalservicesboard.org.uk/wp-content/uploads/2019/07/International-AH-Report-VfP-4-Jul-2019.pdf

Hyde, J. LegalZoom to Make First UK Acquisition, Law Society Gazette 7 December 2015 https://www.lawgazette.co.uk/news/legalzoom-to-make-first-uk-acquisition/5052608.article

Kehl, D., Guo, P. and Kessler, S. (2017) 'Algorithms in the Criminal Justice System: Assessing the Use of Risk Assessments in Sentencing' Responsive Communities Initiative, Berkman Klein Center for Internet & Society, Harvard Law School available at: http://nrs.harvard.edu/urn-3:HUL.InstRepos:33746041

Koebler, J. *Is Artificial Intelligence Making Lawyers a Disappearing Profession?* (25 April 2017) Australian Financial Review <https://www.afr.com/business/legal/is-artificial-intelligence-making-lawyers-a-disappearing-profession-20170418-gvmzbs>

Kohn, A. (2017) 'An AI Law Firm Wants to 'Automate the Entire Legal World'' January 30, 2017 https://futurism.com/an-ai-law-firm-wants-to-automate-the-entire-legal-world/

Law Society (2018) *Artificial Intelligence (AI) and the Legal Profession – Horizon Scanning Report*, the Law Society of England and Wales

Law Society (2016) *The Future of Legal Services,* the Law Society of England and Wales

Lovelock, P. (2018) *Framing Policies For The Digital Economy Towards Policy Frameworks In The Asia-Pacific*, UNDP Global Centre for Public Service Excellence

Moorhead, R., Paterson, A. and Sherr, A. (2003) 'Contesting Professionalism: Legal Aid and Non-lawyers in England and Wales' Vol. 37, No. 4 *Law and Society Review* 765-808.

Mills, M. 'The AI Robots are (not) Coming' (2018) *Law Practice Today* <lawpracticetoday.org/article/3417>, 2.

Morgan B. and Yeung, K. (2007) *An Introduction to Law and Regulation* Cambridge University Press, Law In Context series

National Archives (UK) 'Digital Projects' https://www.nationalarchives.gov.uk/documents/digital-projects-at-the-national-archives.pdf

Osborne M.A. (2017), 'The Future of Employment: How Susceptible are Jobs to Computerisation?' Vol. 114, Jan 2017 *Technological Forecasting and Social Change* 254-280

Parker, C. and Braithwaite, J. (2005) 'Regulation' in Mark Tushnet and Peter Cane (eds) *The Oxford Handbook of Legal Studies*, Oxford University Press

Peyrott, S. 'An Introduction to Ethereum and Smart Contracts: a Programmable Blockchain', 28 March 2017, https://auth0.com/blog/an-introduction-to-ethereum-and-smart-contracts-part-2/

Reuters, 'Technology and Block Chain' http://graphics.reuters.com/TECHNOLOGY-BLOCKCHAIN/010070P11GN/index.html

Schwab, K. (2017) *The Fourth Industrial Revolution*, World Economic Forum

Semple, N. (2019) *Tending the Flame: Technology and the Legal Services Act 2007*, LSB https://www.legalservicesboard.org.uk/wp-content/uploads/2019/09/Semple-Final-version-for-publication.pdf

Sommerlad H. (1999) 'The implementation of quality initiatives and the new public management in the legal aid sector in England and Wales: Bureaucratisation, stratification and surveillance' International Vol. 63 No. 1 *Journal of the Legal Profession* 311-343

Stobbs, N., Hunter, D. and Bagaric, M. (2017) 'Can Sentencing Be Enhanced by the Use of Artificial Intelligence?' 41 *Criminal Law Journal* 261

Susskind, R. and Susskind, D. (2017) *The Future of the Professions: How technology will transform the work of human experts*, Oxford University Press

Susskind, R. (1998) *The Future of Law: Facing the challenges of information technology*, Oxford University Press

Teubner, G. (1987) 'Juridification: Concepts, Aspects, Limits, Solutions', in G. Teubner (ed.), *Juridification of Social Spheres: A Comparative Analysis of the Areas of Labor, Corporate, Antitrust and Social Welfare Law*. Berlin: Walter de Gruyter 3–48.

University of Oxford and PwC (2018) *Will Robots Really Steal Our Jobs? An international analysis of the potential long-term impact of automation.* https://www.pwc.co.uk/economic-services/assets/international-impact-of-automation-feb-2018.pdf.

Webley, L., Flood, J., Webb, J., Bartlett, F. Galloway, K. and Tranter, K. 'The Profession(s)' Engagements with Lawtech: Narratives And Archetypes Of Future Law' (2019) vol. 1 *Law Technology and Humans* https://lthj.qut.edu.au/article/view/1314

Yeung, K. and Lodge, M. (eds) (2019) *Algorithmic Regulation* Oxford University Press

Yeung, K. 'Algorithmic Regulation: A critical interrogation (2018) Vol. 12 Iss. 4 *Regulation and Governance* 505-523

Yeung, K. (2004) *Securing Compliance* Hart Publishing