

TC Beirne School of Law, University of Queensland

Special Lecture Series on Technology and the Future of the Legal Profession

“Technology and the Future of the Courts”

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Introduction

Thank you for the opportunity to speak at this lecture: the first of a series organised by the University of Queensland on *Technology and the Future of the Legal Profession*. I acknowledge the traditional custodians on the land on which we meet and pay my respects to their elders past, present, and emerging.

Technology is woven into our daily lives. It is the now, and the future. One does not need to look too far to see mistaken disregard of technology in the past. Take the Western Union electrician who, in 1876, sent the company president an internal memo claiming that “[t]his ‘telephone’ has too many shortcomings to be seriously considered as a means of communication. The device is inherently of no value to us.”

As core public institutions, courts need to take a leading role in the responsible implementation of technology in the law and in legal practice, with a specific emphasis on problem solving and the facilitation of the just resolution of disputes in a quick and inexpensive manner, while still maintaining the fundamentally human character of the courts. The uptake of technology is not about the use of buzzwords.

This lecture first looks at the role of the court in the uptake of technology. It then looks at what has been achieved, what could be achieved, and some lessons learnt along the way.

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Finally, I will discuss the three core outcomes technological uptake should address, and some of the challenges which may arise (or have already arisen): (a) practical obstacles to implementation, including the need for behavioural change across the profession; (b) ensuring access to (not obstruction of) justice; and (c), perhaps most critically, the implications of the use of big data and artificial intelligence for public trust and confidence in the courts as public institutions.

I do not want to sound cynical when I discuss these challenges. I am not. There are always going to be challenges when developing and improving a deeply in-grained system or way of doing things. Knowing what these challenges may be and how to address them will enable better policies and processes to be implemented.

Section I: Role of the courts

Courts are human institutions. I have referred to the courts in this way before.¹ In my view, the human element of institutions, especially public institutions, is too often neglected.

Courts are public institutions made up of people. Their purpose is the exercise of public governmental power of a special, protective kind: the judicial power. This power is the manifestation and application of equality before the law, impartiality (both substantive and apparent), the rights of parties to properly ventilate and respond to disputes and allegations against them, and the fair and (as far as possible) correct determination of questions of fact and law. These are not quantifiable features; they are not reducible to statistics and metrics. They are not fully digitisable. As Chief Justice Kiefel noted in a keynote address at a recent ABA national conference, it is a human ability to evaluate complex evidence and apply nuanced legal reasoning to cases past and present with competing possible outcomes.

¹ See *Courts as (Living) Institutions and Workplaces*, Chief Justice Allsop, 2019 Joint Federal and Supreme Court Conference, upon which I have drawn for this discussion.

By saying the courts are human, I mean that courts involve human reasoning and emotion, and that the courts are humane, but there is also something more. To explain this I need to come to the topic of the abstractionism and deconstruction of whole human thoughts, human values, and human institutions into what is seen as their taxonomically organised and abstractedly expressed constituent parts. There is a modern cast of mind in deconstructing a whole proposition into a series of abstracted definitional propositions. The impetus is often a sensible one, perhaps to “unwrap”, as is sometimes said, the constituent elements of a whole idea or entity. From that process one may well get valuable insight, but the process often goes further, past insight or explanation, to definition through abstraction. The deconstructed parts then stand as the default, the re-presentation, of that human whole idea or human whole entity. For instance, instead of describing the fairly straight-forward human traits that make up a good judge using language that is experientially based – intelligence, experience, legal knowledge, decency, fair-mindedness, patience, and balanced good judgment – some would define these human qualities in an abstracted hierarchy or framework using language that is abstractedly definitional. The same can happen with courts with the development of so-called frameworks for excellence through abstracted definitional terms written on the premise that one can define excellence or fair-mindedness or good judgment. One knows when one is reading this kind of material because one is overcome by the suffocating sense of meaninglessness of the phraseology being used.

This overwhelming of human institutions by deconstruction, abstraction and bureaucratisation has struck at universities and hospitals and other institutions. There are countless protocols, quality assurance manuals, procedure manuals, mission statements, check lists, questionnaires, and formal requirements written in language that needlessly abstracts and categorises, and that deadens thought and does little, if anything, to illuminate. The essence of the problem is that the experientially human is deconstructed and abstracted

into definitional or quasi-definitional form in an endeavour to be certain and measurable and complete.

This cast of mind treasures price over value, measurement over evaluation, and a certain structure over the elusive place of talent. It founds the tyranny of metrics.²

How is this of importance for court governance and organisation in the context of technological change? The human element is important for a number of reasons. One of particular note is that we must be wary of talk that reduces the courts to a mere service or place. Richard Susskind, IT Adviser to the Lord Chief Justice of England and Wales, posed what is, in my view, an inadequate and binary question in his 2013 book, *Tomorrow's Lawyers*: “is the court a service or a place?”³ The court is not just a service, nor is it just a place. It is the embodiment of judicial power and the guardian of the rule of law; fundamentally so.

So, if I could, I would suggest that throughout this lecture and going forward, you dive headfirst into this topic of technology and the courts with the human role of the courts, and the law, in mind.

Section II: What the courts have achieved and could achieve

It can be useful to conceptualise the uptake of technology by courts from more than one perspective, distinguishing in particular between the internal (or back office) and external (or front of house). Back office digitisation refers to developments such as the digital stamping and storage of documents filed in court proceedings. Front of house digitisation refers to the move to presenting digitally in the courtroom, and more generally digital engagement with the court. Back office digitisation may sound stale, but it is critical. Front of house

² See Jerry Z Muller, *The Tyranny of Metrics* (Princeton University Press, 2018).

³ Richard Susskind, *Tomorrow's Lawyers* (Oxford University Press, 2013), 99.

digitisation cannot work completely or cohesively without it. In order to create apps that give litigants answers based on previous cases, or to have a virtual hearing, the data and documents need first to be digitally stored.

There are a variety of ways in which technology has been embraced by courts in the back office context. Much has changed since the 19th century, when Charles Dickens worked as a court stenographer in London. Indeed much has changed since the 20th century. The Federal Court of Australia, if I may say, is a good example. In 2014, the Federal Court implemented the National Court Framework, or NCF. The NCF harmonised and streamlined the operation of the Court. There had in the past been a certain lack of cohesion in how each of the State registries functioned, and within each registry, how individual judges ran his or her docket. The uniformity of national practice, and the corresponding certainty of expectations afforded to litigants and practitioners alike, eventuated through the Court embracing technology. The Court's adoption of the Electronic Court File as a complete and synchronised system for judges, court staff and parties before the NCF was an important first step in the Court embracing the possibilities afforded by technology to enhance the way in which fair and accessible justice can be provided, and be seen and felt to be provided.

In the Federal Court, documents are filed electronically on the eLodgment system, at any time, from anywhere. They are then sealed, or stamped, electronically. Prior to eLodgment, originating applications would be left at the relevant registry counter and eventually sent to a Registrar for manual checking, signing and sealing. The turnaround could be several days. Then, the sealed documents would be left in pigeon holes in the Registry for the law firm or litigant to check and collect. With the eLodgment system and digital file, the Registry aims for a 24-hour turnaround. Often, it only takes a couple of hours. Indeed, many documents have no turnaround time at all: originating application, winding up applications, and

documents lodged that do not require a fee to be paid or a return date to be fixed are automatically accepted.

The Federal Court is not the only court making headway in this regard. In Australia, the New South Wales Supreme Court has its Online Registry, the Victorian Supreme Court has an electronic filing and case management system called RedCrest, and the Queensland Courts have adopted online filing for matters ranging from filing a statement of claim to applying for family violence protection orders. In Western Australia, it has been mandatory to file electronically in the civil jurisdiction of the Supreme Court since 1 March 2018, and in South Australia, a new eFiling system called Registry Online was recently launched. In Tasmania, litigants can even use email attachments to lodge court documents.

There are also a plethora of international examples. The United States and commercial courts of China are some of the many courts taking steps to further and better incorporate technology into the daily functioning of the courts. In the United States, some courts started adopting electronic filing systems as early as 1993. Even where eFiling is undertaken, few courts recognise the eFiled documents as the official record of the court, resulting in a parallel manual processes. E Filing is not an electronic court file.

Systems like the Electronic Court File and eLodgment are critical because they provide the platform to make the court a more accessible and timely dispute resolution platform. For example, the Victorian Bushfire Royal Commission estimated that it reduced hearing time by 25% due to the electronic accessibility of documents. In this context, it is valuable to add that the uptake of technology is not restricted to constant innovation; there is also value in leveraging familiar technologies that are part and parcel of modern daily life. Even Excel spreadsheets and PowerPoint presentations have vastly changed the way in which evidence is presented in court proceedings. A perhaps more interesting example is in Dubai, where the

Small Claims Tribunal (**SCT**), a video-driven digital court, has given claimants the option of using instant messaging apps to give defendants notice. It will also be making its website and document lodgement portal accessible through a mobile phone app.

This brings me to front of house operations. The Dubai SCT's implementation of supportive technologies has made the institution considerably more accessible to users. Another good example of such a human-centred design approach is the Civil Resolution Tribunal (**CRT**) in Canada. The CRT is Canada's first online tribunal, and deals with small claims disputes of under \$5,000, as well as strata property issues of any amount in the province of British Columbia. As of 1 April this year, the CRT will also start to deal with motor vehicle accident and injury claims of up to \$50,000. The first level of public engagement with the CRT is the "Solution Explorer". This program asks questions and diagnoses the dispute at hand. It provides free legal information and resources like letter templates to assist users to resolve the dispute. If this fails, parties can apply to the CRT for dispute resolution. From there, the parties can use the CRT's online negotiation platform to negotiate a result; can mediate the dispute with agreements being turned into enforceable orders; or have the dispute determined by a tribunal member. With the introduction of this system, only 6% of small claims filed reach tribunal members for adjudication.

This is where we can see that court-annexed technology need not only focus on the final judicial determination of disputes. The court journey starts well before one even steps foot in a court, and in the majority of cases, ends before that point too. The CRT is one example. I-CAN!, the Interactive Community Assistance Network in Orange County in the United States, is another. I-CAN! provides interactive modules addressing the legal issues which self-represented litigants often find themselves working through. Self-represented litigants are taken through the modules to find the appropriate forms to file in court. By 2012, the

system generated about 182,000 pleadings in California. Not only does this mean self-represented litigants are able to better understand legal processes, but it also saves time and money for under-funded legal aid centres. A further example is Uit Elkaar, based in the Netherlands. It is a user-pays online conflict resolution platform currently configured to assist people with separation or divorce. The users collaborate on personal divorce agreements, online and in their own time. The platform has seen a very positive response from users and lawyers alike. Use of the platform led to over half of the participants experiencing ‘low’ or ‘very low’ stress levels during their separation, with another 36% experiencing ‘normal’ stress levels.⁴ The average completion time of separation agreements was 24.3 active hours; that is, hours actively spent on the platform. Because of the ability of users to spread this time as they wished, 84% felt they had more control over the process of separation than traditionally was the case. I should note that as of March 2017, the Dutch Legal Aid Board announced that the platform would be discontinued, although it has since been resurrected and continues to function, with different funding sources.

The use of AI is not limited to making legal information and procedural guidance more accessible. AI, also known as machine learning, is a burgeoning area. It is based on the idea of ‘artificial neural networks’; the machine uses the source data, in the way a human uses experiences and knowledge, to reason.

AI is playing more of a role in the court context. Singapore recently announced its AI court technology programme, which would include AI decision-making for some minor misdemeanours. China has also adopted AI in its courts. In the Hebei province, an application called “Intelligent Trial 1.0” assists judges in analysing data and trends for use in decisions. In Liaoning province, the courts have launched a robot called “Heping Fabao” which

⁴ Roger Smith, *Rechtwijzer: why online supported dispute resolution is hard to implement* (20 June 2017) <<https://law-tech-a2j.org/odr/rechtwijzer-why-online-supported-dispute-resolution-is-hard-to-implement/>>.

provides 24-7 AI-based legal advice to citizens. AI-based case review has also been introduced, where a program analyses cases, flags issues regarding evidence, and looks at factually and legally similar cases for the benefit of the judge. This program has, thus far, led to over 30 criminal convictions being overturned.

None of these advancements have AI replacing judges completely. Even assuming AI programs could be programmed with the *will* to do justice and the discretionary flexibility to respond to the constantly changing factual circumstances in each and every case which “make the mechanical application of legal rules to human situations ordinarily objectionable”,⁵ there are a number of things that AI needs in order to be successful. One is large amounts of quality data. AI needs to refine and test its algorithms. In order to do this, it needs data; swathes of it. We are lucky in Australia, as we have been digitising judgments for some years now. The Federal Court has about 35,000 electronic court files. But not every file relates to the same issues, so the data on a specific issue is probably less than the numbers suggest. Further, say new legislation in a particular area changes the law dramatically, rendering precedent unhelpful. Then there is no sea of data for the algorithm to rely upon to come to its conclusion.

AI also needs algorithms. Yet, who owns the code? This raises IP concerns. Another concern is whether biases may be (deliberately or not) embedded in algorithmic reasoning, an issue I will address when I come to the challenge of maintaining public trust and confidence.

Putting these concerns aside for the moment, AI has shown its value in the realm of supportive and advisory tools for small matters like in the Canadian CRT; to make legal information, guidance, and the courts themselves more accessible and in line with society’s daily digital usage.

⁵ Michael Kirby, ‘The Future of the Courts – Do They Have One?’ (1998) 9(2) *Journal of Law, Information and Science* 141.

Digital hearings are very important in this regard. The Federal Court does not at present have any plans to roll out digital hearings as a default position, but there is scope to introduce the option of having some digital hearings. Parties already have the ability to appear remotely. In the Online Court of the Local Court of NSW, practitioners can appear online in procedural and interlocutory matters, and even General Division matters listed for Defence Callover (if the parties agree).⁶ In the Federal Court, an eCourtroom (which is like an online chatroom) is regularly used for case management activities, for example to settle bills of costs. This ability to appear remotely via videolink can enhance access for people in regional areas, or even within cities. You may be aware that in the family law context, the Sydney metropolitan area is serviced by only the Sydney CBD and Parramatta locations. This means it would take a minimum of over an hour to reach either location from, say, Campbelltown. Not only is this difficult for people to access, physically, but there often are safety concerns in the family law context. To have the capacity to facilitate video links makes the courtroom more accessible, financially and geographically, and can make the process of accessing the court more cognisant of the human element. In turn, this feeds into creating and maintaining public trust and confidence in the courts.

Related to digital hearings, although in a commercial law context, some matters have started adopting what is called e-trials. In e-trials, all documents are on an online system managed by a third party company. Some of the uploaded documents are confidential or internal, and are not shared. Some are court documents: shared with both the other parties and the judge. This is, admittedly, an expensive way to conduct a hearing. Yet it can prove more efficient in very large matters.

⁶ Local Court of New South Wales, Practice Note 1 of 2015 – Local Court Civil General Division – Online Court Protocol, 25 September 2015.

You may have noticed that I have, thus far, largely avoided use of the word “efficiency”. It can be both helpful and useful, but it has its weaknesses. Evaluation of the operation of a court as an institution exercising judicial power must be, as I noted earlier, humanly focused. Words such as “efficiency” can too easily enable reductive analysis of organisations, especially public institutions like courts and tribunals, which function not for purposes like wealth maximisation, but to facilitate, determine and enforce the effective, just and (as far as possible) accurate resolution of disputes. Courts embody the exercise of judicial power; the guardianship of the rule of law; the humanity of the individual.

It can also be counterproductive to pursue “efficiency” above all else. In trying to be efficient, it is possible to accidentally create systems which are unintuitive, or so cumbersome and unwieldy that they make that process less efficient in practice. This is especially so in an institution serving the public. In driving efficiency, it is possible to eliminate the interaction that give the court the flexibility and discretion it needs to deal with the myriad of situations it is asked to deal with on a daily basis, in a human way.

This is why the term “efficiency” is insufficient. Even if it could capture the holistic functioning of the court, which I am not persuaded it can, efficiency derives such measurement from the perspective of the *court*; it does not (and to an extent, cannot) consider usability, efficacy, or fairness of justice, whether perceived or actual. Perhaps a different term of evaluation is required that considers the court from the litigant, advocate and solicitor’s perspective; one encapsulating those and other alternative evaluative measurements, throughout the court journey.

Section III: Outcomes (and associated challenges)

There are three recurring themes throughout my discussion of the technologies which have been adopted by courts around the world: keeping up to date with the digital era, ease of access, and public trust and confidence. These should not be viewed as mutually exclusive. They are each interlinked; the first two particularly feed into the third. Importantly, these are the outcomes I see as key to the successful design and implementation of technology in courts; the outcomes courts should be striving for as they look at ways to integrate new technologies.

Why am I focusing on outcomes? Why not merely conceptualise technologies as back office and front of house, as supportive or disruptive? The answer is connected to my earlier discussion of the human in the court. It is not good enough to design and adopt technology viewing the court as a mechanical body of people stamping documents and hearing arguments. Keeping up with the digital age means courts are not left behind. Ease of access makes justice more accessible. Public trust and confidence is at the very core of the functioning of the courts. These outcomes are human, and approaching technological uptake through the lens of these outcomes is critical. I raise this because, after all, the product designer of the next ‘big thing’ in court technology could be sitting in this very lecture theatre. Take a step back, look at the three outcomes of ease of access, the digital technology, and public trust and confidence, and you will in fact be a step closer to designing a usable, functional, flexible system.

The three key challenges that I see as arising in this context are therefore geared towards these three outcomes. The first challenge is the practical implementation of technology. The second is ensuring that technology does not become a barrier to justice. The third relates to

maintaining public trust and confidence in the courts when there is considerable distrust of some technologies.

(a) Practical Obstacles to implementation

There is no one-size-fits-all approach to technology and the future of the courts. A number of factors can impact the usefulness or feasibility of adopting different technologies.

The type of court is relevant. Judging from the uptake of technology in different Australian courts, it may prove easier for self-administering courts such as the Federal Court to implement a wider variety of technological change in a faster, more flexible manner, because of the greater control they have over the allocation of their budget.

The type of matter is relevant. Is the matter civil or criminal, simple or complex? E-trials, which I mentioned earlier, can be worthwhile in very document-heavy matters, while they would definitely not be cost-effective in simpler matters. In family law matters where safety is a concern, technology can facilitate the safe, remote appearance of parties. Yet, in commercial matters where the credibility of a witness must be ascertained with reference to their responses to questions and documents put before them, appearance by videolink may prove inadequate.⁷ In matters where there is a self-represented litigant who wishes to hand up hard copy documents to the judge, appearance by videolink may again prove inadequate. So while there is great potential in the use of technology in courts, one must balance enthusiasm for new technologies with the recognition that the courts are faced with cases of varying natures; they vary in terms of appropriateness for certain technologies, and require varying

⁷ See e.g. *Campaign Master (UK) Ltd v Forty Two International Pty Ltd (No 3)* [2009] FCA 1306 at [78]; *Blackrock Asset Management Australia Services Limited v Waked (No 2)* [2017] FCA 479 at [46]; *Magi Enterprises Pty Ltd v Luvalot Clothing Pty Ltd (No 2)* [2017] FCA 1143 at [20]; *Vasiliades v Commissioner of Taxation (No 2)* [2017] FCA 185; and *Deputy Commissioner of Taxation v Binetter* [2017] FCA 69; 104 ATR 858 at [8].

levels of flexibility. This is not to say that the push to full digitisation is to be criticised; merely that it need be balanced and adopted at a rate that makes parties feel comfortable.

The willingness of those involved is relevant. That is, we need behavioural change; for judges, barristers, lawyers, and also clients and litigants to be willing to embrace technology in the courts. Digital documents are increasingly more reliable and user-friendly. One element of this behavioural change which might be hardest to come by is the trust (and distrust) of technology. I referred to the etrial systems earlier. But there may well be concerns about security, and documents being hacked. The risk is there, and creates a mental impasse that many will need to overcome before entrusting all of their documents (confidential, sensitive, personal) to a cloud-based database.

The available data is relevant. As mentioned earlier, in order for AI to provide sufficiently accurate information and guidance, it needs the input of a sufficiently large database of information and judgments.

The contracts are relevant. As courts enter into contracts for technological services or the creation of code for court-run apps, there needs to be an awareness of the need for contracts which do not bind the court into arrangements which are inflexible or prove, in practice, not to work.

The intellectual property is relevant. Leading on from the importance of the contracts is the question of who owns what intellectual property; the data in an app, the assessments and predictions it makes, the code. Can users access, or even be entitled to, an explanation of the process and logic of automated decision-making?

The risk of overly ambitious technological structures. There have been some calls for digitisation that strike me as potentially overambitious; blinded by what can be achieved

rather than what is reasonable and usable. For example, wholly virtual courts, at all stages of the pre-court and court process. There are definite benefits to a virtual approach in some circumstances, such as (but not necessarily limited to) urgent interlocutory and routine case management or directions hearings. Yet, there are also limitations. I would like to mention two such limitations.

The first is the inherent difficulty in creating a whole or over-arching technological structure, and the risk that courts and departments will be over-ambitious if attempting to do so. Institutions must avoid replicating (in a new form) structures that are rooted in the past and in past ideas – automating but not transforming, without the flexibility to incorporate not only shifts in thinking but also shifts in technology. One only needs to look at the changing variety of USB ports to recognise how quickly technology changes, and, in turn, how quickly technology becomes out of date. I say this because there have been disasters in this space. Do not underestimate the ease with which money can be spent in misconstrued attempts to integrate overly ambitious plans with a varied and ever-changing justice system. A sports car jumps from 0 to 100 in a number of seconds because it has few variables and a fixed mechanical and electrical environment. Courts are more closely a reflection of life, with the chaos and change that life brings. In a court, there is no fixed mechanically definable environment. So it is risky to design technological structures which cannot adapt to change, whether it be social, legal or technological. A plan for integration of technology is likelier to succeed if an approach of incremental growth is pursued. Such an approach is also likelier to address the needs and concerns of the individuals seeking redress through the court system; preventing a situation of isolation through technology.

This links to the second limitation: the need to retain and respect the human aspect of the courts. As I earlier mentioned, I am not persuaded that the formulation of courts as service or

place, which has been grasped by some commentators as the question to ask,⁸ does not have limitations. The court is a human institution; reducible to neither mere place nor service. This brings me to the next challenge, ensuring access to justice.

(b) Access (not a barrier) to Justice

If I may return here to Richard Susskind, this time to his 1998 book *The Future of the Law*. I think it important to note, as judicial officers have before me,⁹ the metaphor that Susskind aptly uses at the start of this book to remind readers, and the profession, of what we as lawyers, judges, and courts, are here for. There is a gathering of the leading manufacturers of electric drills. The executives are shown an image of the latest, biggest and best electric drill and asked whether this is the product the company sells. They answer “yes”. But then, they are shown a perfect hole in a wall, and reminded that the hole, the output of the drill, is the product they are selling. Consumers are passionate not about the drill but about what the drill can do; about the outcomes. While it is an oversimplification and generally inaccurate to compare a public institution to a profit-g geared company, this metaphor is a good reminder that courts and other institutions must keep in mind their real role, which I discussed earlier, not just the snazzy new technologies. This is particularly pertinent when it comes to access to justice, the second broad challenge faced in the context of technological change in the courts.

As is apparent through the earlier examples of technologies in courts, technology has increased access to justice in many ways. Further, parliamentary documents, statutes and case law are freely available on the internet. The impact is palpable. AustLII is a fantastic example. It receives over 600,000 hits each day. While technology has so much scope to enhance access, there are also legitimate concerns it can, in some circumstances, be a *barrier*

⁸ See e.g. Robert Size, ‘Taking advantage of advances in technology to enhance the rule of law’ (2017) 91 *Australian Law Journal* 575.

⁹ See e.g. Kirby, above n 4.

to justice. It is critical that this not become the case. Lawyers representing disabled clients have expressed worry that their clients would not have the devices necessary to read electronic documents or would have difficulty using such devices. Indeed, many Australians with a disability report a lack of confidence and knowledge as a reason for not accessing the internet.¹⁰ Even for those without disabilities, it would not be enough to rely a mere mobile phone. One would need a computer or iPad, even in matters which may appear more straightforward. For example, in migration appeals in the Federal Court, which generally take up to half a day in hearing, there are courtbooks hundreds of pages long. It would not be a pleasant or easy experience to wander through that information on a phone screen.

While some have suggested that the courts go fully digital, simply providing devices to those who are unable to afford them and training to those unable to use them,¹¹ this would be very costly and potentially unrealistic at this stage. In 2016-17, 14% of households did not have access to the internet at home.¹² The level of internet access from home for Indigenous Australian households is well below the national average, and diminishes further with remoteness. Age also plays a role: while the national average for Australians who are internet users is 87%,¹³ only 55% of people aged over 65 are internet users.¹⁴ So it is important that traditional methods of access to the courts are maintained until society is at a stage where full digitisation is more realistic.

Danger lies in making sweeping basal assumptions – literary and full comprehension of language are examples.

(c) Public Trust and Confidence

¹⁰ ABS, 4430.0 – Disability, Ageing and Carers, Australia 2015.

¹¹ See e.g. Robert Size, 'Taking advantage of advances in technology to enhance the rule of law' (2017) 91 *Australian Law Journal* 575, 25-26.

¹² ABS, 8146.0 – Household Use of Information Technology, Australia, 2016-17.

¹³ With 'internet user' defined to mean persons aged 15 years and over who accessed the internet in the last three months.

¹⁴ ABS, 8146.0 – Household Use of Information Technology, Australia, 2016-17.

Finally, interwoven throughout all of this discussion and action about technology and the future of the courts is the need to maintain (and enhance) public trust and confidence in the courts, as an institution.

A greater accessibility of legal material assists with ensuring a level of transparency and accountability in judicial decision-making, and can be further enhanced by perhaps publicly providing further information. For example, the United States federal courts publicly publish their reserved judgments lists. This openness of information is not to be feared, nor resented. It is necessary for the functioning of a trusted public institution; public trust that the courts should continuously strive to uphold.

Yet, while technology can make some things more accessible and smooth for the parties involved, the use of big data and AI can also make some processes *less* transparent and *less* understandable; not just to the general public but also to lawyers themselves. An example of a potential issue is the one of bias I noted earlier.

Where AI is used to come to conclusions based on a data set, it uses certain artificial neural lines of reasoning. There may be concerns over unconscious bias or outdated values being present in past decisions and thus being imported into the reasoning applied by the AI when determining present decisions. Now, the experts do say the AI would be able to recognise and counter such biases. This is good. But it does raise the question: who is deciding on the coding that removes or counters or prevents different biases from being imported? It is important that the public not perceive this as stemming from the executive. The courts must be independent – and be perceived as independent – from government and politics.

Decisions of courts and tribunals must also be – and be seen to be – capable of self-reflection and flexibility. For this reason, if AI were to be used to make decisions in small or simple matters, there would need to be scope for human judicial review of those decisions.

Otherwise, the development of case law would begin to stagnate. There is also the question of whether a judge-bot can be vested with Ch III judicial power, but I will leave that for another time.

I would just like to conclude my discussion of AI and public trust and confidence with a question, to highlight the difficulty of programming an algorithm.

How does one program a “fair” algorithm?

There are many ways of programming fairness into algorithms. Yet each targets a different kind of fairness.

There is wilful blindness, which treats subgroups the same regardless of their distinctions, like race or gender. Yet such an approach is merely creating an algorithm which is unaware, it does not create an awareness or consideration of fairness.

A second approach would be to ensure statistical parity in the outcomes, for example by selecting an equal share of people from protected and non-protected groups. However this would require someone to be constantly verifying and modifying the thresholds and groups. It also would not account for underlying difference in the subgroups; the nuance.

Predictive equality is possibly the most balanced approach to address fairness. Predictive equality does not force equality in the outcome, but in the algorithm’s performance or accuracy across different groups. That is, the algorithm is de-biased through a number of steps including:

- identification of the specific relevant subgroups;
- identification of the set of metrics that define fairness and the hierarchy within that set;

- training with a data set that is sufficiently large; and
- identification of features that can identify a protected subgroup (such as postcodes) and either removal or adaptation of those features.

Such programming of fairness could come at a cost of lower accuracy, because there may be simply less data (or less reliable data) for certain subsets of the population. It also reflects the set of metrics that define fairness; who determines this set? Is it flexible? Does it change with shifting social norms? Can it explain its reasoning?

These questions are still being answered. I would challenge the assumption that they can. I have grave reservations as to humanity and its emotional intuitive responses on perceptions being algorithmically reproduced.

Conclusion

It is impossible for this speech to cover all of the potential technological advancements and achievements that can play a role in the future of the courts. I have today tried to focus on a few key areas: what we have achieved, can achieve, and what we need to keep in mind. There are challenges created by the permeation of society by technology, but also great opportunity. The unexpected pitfalls may exist, hidden in plain site. Look at where social media is taking us. The courts have a substantial role to play in leading the way in the uptake of technology in the legal field, and we are very motivated and excited to play it.

Thank you again for having me commence this lecture series. I have no doubt that the discussions that follow – which range from text analytics and the law firms of the future, to digital legislation and demystifying AI – will contribute substantially and critically to the present impetus to weave technological developments into the heart of the courts, the profession, and the law.

26 March 2019