Danish philosopher Soren Kierkegaard wrote ‘Life can only be understood backwards; but it must be lived forwards’. The pace of life of the mid-19th century when this was written and the (comparatively) modest rate of technological change possibly allowed for a more considered reflection of past events towards moving ahead. However, the increasing rate of technological change over the past two decades and the predicted pace of technological change into the future have established ‘disruption’ as a catchword. The pace of justice reform is (generally) faster, the price is (often) less expensive, and society seeks unhindered access to justice — on a cheap and quick basis.

In the context of the legal landscape, this article begins by examining three levels of technological change that have impacted and will continue to impact on the operation of the civil justice system within a framework of objectives relating to expense, speed and justice. The authors argue that there appears to be a general consensus that the ‘quick and cheap’ resolution of civil disputes will be supported through technological developments, although whether this will meet objectives in respect of ‘just’ results and processes remains uncertain. The authors then explore the meaning of ‘justice’ and how technological innovation can bring advantages and pose challenges in terms of access to justice. This article also addresses concerns about technological change in the context of civil dispute resolution, focusing on the relationship between disruptive technologies and ‘just’ resolution. The readiness of the community for technological innovation is explored from the perspectives of the tech-savvy client, to the top tier firm utilising the latest artificial intelligent machinery, through to the courts striving towards satisfying ‘overriding objectives’ in terms of a ‘Just, Quick and Cheap’ civil justice system.

I INTRODUCTION

Clearly, newer technologies, mainly linked to computing developments, have impacted and will continue to impact on the way in which human society operates and people

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1 Referring to the overriding purpose as defined at Section 56 (1) of the Civil Procedure Act 2005 (NSW) which states that ‘the overriding purpose of this Act and of rules of court, in their application to civil proceedings, is to facilitate the just, quick and cheap resolution of the real issues in the proceedings’. The authors note that some authors have explored these objectives in the context of experts and other justice reforms; see, eg, Gary Edmond and Mehera San Roque, ‘Just(,) Quick and Cheap? Contemporary Approaches to the Management of Expert Evidence’ in Michael Legg (ed), The Future of Dispute Resolution (LexisNexis Butterworths Australia, 2016); See Michael Legg, ‘Reconciling the Goals of Minimising Cost and Delay with the Principle of a Fair Trial in the Australian Civil Justice System’ (2014) 33(2) Civil Justice Quarterly 157.
As a component of human society, the justice system and associated court processes have also inevitably undergone a range of changes made possible by recently developed technologies. One hope is that the use of technology will promote better access to justice, partly because it may reduce cost and delay. On the other hand, whilst the concept of justice and perceptions of justice can be linked to time and cost — ‘justice delayed is justice denied’, there is a critical question as to whether some technologies may result in the system becoming less ‘just’ and more focused on objectives related to the speed of disposition of disputes and cost reduction. In this regard, there may be a range of issues that arise where justice processes are ‘dehumanised’ or where the speed of processing disputes impacts on the extent to which justice is perceived to have been achieved. In particular, the following three questions are relevant: how technology should influence the justice system; how ‘justice’ should be conceptualised; and how the budgetary issue in the civil justice system with even sophisticated technology could undermine a ‘just’ resolution of disputes.

First, at present, technology has the potential to better support the ways in which people experience and access the court system. For example, in Australia, courts such as the Supreme Court of New South Wales have created a social media presence to disseminate matters of public interest. This type of combination of information and internet technology and legal knowledge helps laypersons understand how law works in their country and increases their possibilities to turn to law for help when they face a similar situation. The facilitation of courts in their trial work is another important advantage brought by technology to judicial processes. In some courts, these developments are more advanced than in others. For example, in 2018, the Hangzhou Internet Court became the first court in China to recognise blockchain technology as a means of storing evidence to assist in dealing with copyright infringement cases.

However, views may differ in terms of how and to what extent technology should (or could) influence the justice system. Richard Susskind has suggested that technology in the justice sector can be perceived and categorised as either sustaining or disruptive. He has suggested that the former supports and enhances the way that a business or a market currently operates, while the latter fundamentally challenges and changes the functioning of a firm or a sector. In this article, the authors suggest technologies influence justice in additional ways and that concerns relating to justice

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8 Ibid.
can also be linked to ‘replacement’ technologies that are directed at the replacement of humans. In this regard, it is suggested that there are three levels in which technology is already reshaping the justice system.

First, and at the most basic level, technology is assisting to inform, support and advise people involved in the justice system (supportive technology, such as online legal services in the form of legal applications (‘apps’)). Second, technology can replace functions and activities that were previously carried out by humans (replacement technologies, such as online mediation processes). Finally, at a third level, technology can change the way that judges and legal professionals work and provide for very different forms of justice (disruptive technology, such as artificial intelligence judges), particularly where processes change significantly, and predictive analytics may reshape the adjudicative role.\(^9\) In this regard, more concerns relating to technology may also be linked to the capacity that it has to disrupt the justice sector and the extent to which justice values may not be aligned with disruptive approaches. For example, justice concerns have been linked to issues relating to the transparency of decision making, algorithmic bias, and enforceability.\(^10\)

In relation to the second relevant question – how ‘justice’ should be conceptualised – the poorly defined objectives of the civil justice system complicate the assessment of technological impacts on the system. Although draft objectives have been promulgated at a federal level within Australia,\(^11\) and include a focus on wellbeing,\(^12\) in many courts there is little to indicate what is meant by justice. The legislation also provides limited guidance. For example, the *Civil Procedure Act 2005* (NSW) suggests that the objectives in NSW are that the system is ‘just, quick and cheap’, but there is little guidance in terms of evaluating whether such objectives have been met (and to what extent) and how ‘justice’ can be defined. Efforts to clarify this blurry definition of ‘justice’ have been demonstrated by the third wave of the access to justice movement, as the concept of justice has been linked to the exploration of access to justice notions.\(^13\) In this regard, as indicated by the former Chief Justice Murray Gleeson, access to justice has a much wider meaning than access to litigation.\(^14\) Therefore, it is suggested that justice can be achieved not only through litigation and the court system but with the facilitation of other additional approaches. Naturally, in some respects, the large volume of civil cases that have been shifted towards forms of Alternative Dispute Resolution (‘ADR’), has been partly driven by cost pressures. That is, the civil court system has been unable to cope with increased litigation loads without extensive additional funding and, as a result, forms of ADR and the bodies that may administer the systems that surround such processes, have been introduced to increasingly divert

\(^9\) See generally Sourdin, ‘Justice and Technological Innovation’ (n 3) 103.


\(^12\) Ibid. The Overarching Objective is stated to be ‘The Australian civil justice system contributes to the well-being of the Australian community by fostering social stability and economic growth and contributing to the maintenance of the rule of law’.


disputes away from the court system. It is, however, worth mentioning some of the concerns that ADR may not contribute to access to justice, as its outcome is not based on legal rights but rather on the problem-solving approach. According to Genn:

The mediator does not make a judgement about the quality of the settlement. Success in mediation is defined in the mediation literature and by mediators themselves as a settlement that parties ‘can live with’. The outcome of mediation, therefore, is not about just settlement, it is just about settlement.15

There are of course many other reasons that support the use of ADR that include supporting relationships, reducing adversarialism and promoting more effective outcomes. However, there is no doubt that one reason for adopting ADR has been to reduce the public cost of civil justice.16 In the context of technological change, which can be perceived as heralding a new wave in the access to justice movement, it seems probable that similar cost concerns will result in the adoption of technological changes if they are ‘cheap’ — at least from a public cost perspective. Under such circumstances, there are dangers that such changes will be adopted without regard to the quality of justice.

The third relevant question relates to budgetary aspects. In respect of all three levels of technological change as noted above (some of which are intertwined), there is potential for the limited funding arrangements that exist with the civil justice system to drive change (or the lack of change) in ways that may result in a less just system.17 In the context of Australia, as Morry Bailes, the past President of the Law Council of Australia, noted in May 2018, there is a ‘funding crisis’ in respect of the civil justice sector.18 It has also been observed that addressing the crisis requires the government to specifically deliver long-term investment in the legal assistance sector, as well as a long-term investment in the courts.19 Despite such calls for more financial resources, Australian governments appear to be relying on court system structural changes to reduce both waiting times and costs for litigants.20 Under these circumstances, there are concerns that technological supports will only be available if they are accessible at the lowest public cost. Further, although the original intention of introducing technology to the court system may be to facilitate the parties to settle disputes in a speedier manner, limited court funding could lead to court staff reductions as the price

16 Ibid 402.
19 Ibid.
for adopting online pleas and remote video hearings. This could cause the problem of a lack of technical support to users, leading to disputes with less ‘just’ outcomes. Unfortunately, the experience of the UK has suggested that this outcome is likely.

Centring around the theme of the ‘just’, ‘quick’ and ‘cheap’ resolution of civil disputes, this article explores the meaning of ‘justice’ and what advantages newer technologies have brought to the civil justice system. The authors also examine the possible challenges that technology has presented to civil justice processes. Further, the authors explore the status quo of acceptance of technology by using the legal profession, judges, and consumers as examples. The article concludes that although there are various issues that technology has caused to the civil justice landscape, and therefore more work needs to be done across the sector to address those challenges, it is undeniable that technology has facilitated the resolution of civil disputes in ways that can be just, quick and cheap.

II TECHNOLOGY AND ‘JUSTICE’

It has been noted that justice is an ‘elusive concept upon which it is possible for rational and informed observers to disagree’, even though it is ‘one of the core principles of every national legal system’, and that ‘access to justice’ is nebulous and ‘survive[s] in political and legal discourse because it is capable of meaning different things to different people’. These differences have meant that there is continuing disagreement amongst those who locate justice only in the court system and those who consider justice exists throughout the dispute resolution landscape. It might therefore be inferred that technological impacts on justice may be assessed in the same way in terms of where technological innovations take place. For example, innovation that occurs outside the court system (or the litigation system) may not be regarded as justice-related technological innovation.

The differences in terms of the ‘location’ of the justice system can be partly attributed to different philosophical understandings of what ‘justice’ means. Put simply, more traditional and perhaps litigation supporters may consider that justice can only take place within courts as it is only through the articulation by a judge of understandings about the rule of law that justice can be done. In contrast, those that inhabit the ADR landscape may consider that

while there is an important, significant and essential role played by the judiciary in the public adjudication of civil disputes, justice is also present in the

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22 See Hilborne (n 17).
24 Ibid.
relationships that exist between people and in their ethical values and that ADR supports this broader formulation of justice.\textsuperscript{28}

The ‘broader’ view of justice that is articulated in respect of the civil justice system in Australia supports this definition as it is assumed that justice may involve invoking a corrective principle. However, a corrective principle may also be supported by forms of ADR, that is by agreement and recognition, as well as through court-based decision making. Justice in this context can, therefore, be described as incorporating a ‘characteristic set of principles for assigning basic rights and duties and for determining what [is] the proper distribution of the benefits and burdens of social cooperation’.\textsuperscript{29}

This view of justice is relevant in relation to how technology can support justice and the extent to which it is related to the support that technology can provide, not only in the context of defining the ‘corrective principle’ but also in terms of how relationships and ethical understandings are supported. Considering how technology has impacted on justice in terms of a broader civil dispute resolution perspective enables a more systemic consideration of technology within the justice sector. For example, the significance of pre-action arrangements, whereby disputants seek to finalise a dispute prior to filing with the court (see Figure 1), can be considered in this context. Newer technologies have already had a significant impact in this area, and ‘boosted by online resources, these options are providing many disputants with accessible dispute resolution outside courts’.\textsuperscript{30} Such reforms are largely separated from courts and may function with the assistance of more advanced technologies that can be applied to processes such as internal review of disputes (eg complaints handling), and schemes that incorporate requirements to arbitrate, conciliate, mediate, or use ADR or external dispute resolution (‘EDR’).

\begin{figure}
\centering
\includegraphics[width=\textwidth]{figure1.png}
\caption{The Relationship Between the Number of Disputes and the Method of Resolution}
\end{figure}

\textsuperscript{28} Ibid.  
Other notions of justice are linked to perceptions of fairness. In this regard, perceptions of fairness can be linked to procedural fairness (i.e., whether procedures, participation, and the timeliness and cost of arrangements are viewed as ‘fair’), as well as the quality of the outcome, whether or not this is assessed by reference to objective or other standards. In the context of technological innovation, there may be particular concerns relating to participation as well as procedural understandings. At the same time, there are clearly opportunities to enhance participatory justice, partly because technologies can support the exchange of, and access to, information.

In terms of justice engagement, technology is already changing the way in which disputes progress through the justice system. For example, ‘cloud’ technology can enable all participants in a dispute to have instant access to all of the information relevant to a dispute. Disputants can provide instant links to websites where documents may be held via clusters of interested parties in secured groups on the internet. Newer technologies have the capacity to improve the time taken to deal with disputes by supporting the exchange of material, enabling prompt exchanges to take place, ensuring that data is relevant and produced in a way that encourages sophisticated planning responses, and by creating more innovative processes that enable people to access justice processes with greater ease.

However, a related fairness concept may be more relevant in some jurisdictions than in others and can be linked to the extent that the outcomes are perceived to be the result of an ‘even-handed’ process. This has been discussed in a number of reports in the context of pre-action requirements, and restricting access to justice, and in more detail in the literature particularly when considering ADR processes. In this regard, ‘even-handedness’ and related notions of transparency and natural justice may raise particular issues in online dispute resolution (ODR) processes where

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33 National Alternative Dispute Resolution Advisory Council, Maintaining and Enhancing the Integrity of ADR Processes: From Principles to Practice through People (Report, February 2011) 13–14. One salient feature of this recommendation is that it is proposed in relation to ‘mandatory’ ADR, which is an increasing feature of the Australian dispute resolution landscape (both within courts and tribunals and as a precondition to commencing litigation). It is possible that disputants who are required to attend an ADR process (rather than choosing to attend) may be less likely to attend and participate in good faith: at 34.
34 See Australian Law Reform Commission, Discovery in Federal Courts (Consultation Paper No 2, November 2010) 286 (‘Discovery in Federal Courts’). The Australian Law Reform Commission referred to the Victorian Law Reform Commission, Civil Justice Review (Report No 14, 2008) 109–110, and noted: The VLRC Report identified that the implementation of pre-action protocols may be challenged on the basis that such protocols are a barrier to accessing the courts, and therefore incompatible with the right to ‘have the charge heard or proceeding decided ... after a fair trial’ pursuant to s 24 of the Charter of Human Rights and Responsibilities Act 2006 (Vic). However, this concern was dismissed by the VLRC on the grounds that pre-action protocols: would not bar the commencement of proceedings; are triggered before the commencement of proceedings; and support the facilitation of a fair hearing.
technological innovations may reduce face to face contact and where the processes 
used to reach an outcome may be less visible.

This pursuit of justice utilising new technologies has been examined in the context of 
self-represented litigants (SRLs), being parties that are susceptible to not achieving a 
fair/just result, and intelligent negotiation support systems. Zeleznikow has noted:

[W]e have examined the issue as to whether potential litigants can receive useful 
support from intelligent online dispute resolutions. We have seen that such 
systems can be particularly useful for self-represented litigants. The SRLs benefit 
not only from obtaining useful advice, but also becoming better educated about 
the procedures and potential outcomes for issues in dispute. We note that most 
ODR systems provide exactly one of either BATNA [Best Alternative to 
Negotiated Advice] advice, support for trade-offs and facilitated communication. 
A truly useful Online Dispute Resolution system should be a hybrid of all three 
approaches.

In addition to the possibilities provided by a technology-assisted ADR system, British 
Columbia in 2016 established its Civil Resolution Tribunal — being the first full 
integration of ODR into a formal tribunal system. With numerous other jurisdictions 
(such as the European Union) incorporating ODR as a fundamental component of 
their dispute resolution processes, ODR may indeed be the most visible face of new 
technology in the civil justice sector: ‘Online dispute resolution could, therefore, be the 
future of ADR. As time goes on, the public will increasingly discover the benefits of 
alternative methods of dispute resolution when they encounter dispute resolution, for 
the first time, in online venues’.

In relation to satisfying the overriding purpose of just, cheap and quick justice, many 
commentators suggest that ODR has the potential to reduce delay and broaden the 
rage and reach of existing dispute resolution services: ‘Compared to the costs of 
litigation or even prolonged alternative dispute resolution, the investment in online 
technologies is potentially both value adding and cost saving’.

In Australia, the area of family law has seen widespread growth in the application of 
ODR in the telephone and internet-based conferencing technologies. In discussing 
the statistical trends of this growth, Bilinsky notes that

36 John Zeleznikow, ‘Can Artificial Intelligence and Online Dispute Resolution Enhance Efficiency 
and Effectiveness in Courts’ (2017) 8(2) International Journal for Court Administration 30, 
36.
37 Roger Fisher and William Ury, Getting to YES: Negotiating Agreement Without Giving In 
(Houghton Mifflin Harcourt, 1981) 104. Fisher and Ury introduced the idea of a BATNA as 
one’s best alternative to a negotiated agreement. The reason you negotiate with someone is to 
produce better results than would otherwise occur. If you are unaware of what results you could 
obtain if the negotiations are unsuccessful, you run the risk of entering into an agreement that 
you would be better off rejecting; or rejecting an agreement you would be better off entering 
into.
38 Zeleznikow (n 36) 43.
39 Noam Ebner and John Zeleznikow, ‘No Sheriff in Town: Governance for Online Dispute 
40 Emilia Bellucci, Deborah Macfarlane and John Zeleznikow, ‘How Information Technology Can 
Support Family Law and Mediation’ in Witold Abramowicz, Robert Tolksdorf and Krzysztof 
Węcel (eds), Business Information Systems Workshops (Springer International Publishing, 
2010) 243, 252.
most family/divorce/access/support issues take place in families where the age of the parties are often under 35. This demographic group is familiar with technology as well as having access to technology. Given the large geographic challenges faced in Australia, this factor alone is driving the use of this system.41

In the family area, many disputes are now dealt with through very simple technologically supported processes such as the Family Relationship Advisory Line (FRAL), Telephone and Online Dispute Resolution Service (TDRS) and, increasingly across Australia, through video conferencing (Zoom, Skype or purpose-built). These options are particularly suited to disputants who may be geographically isolated from services or one another and also in circumstances where family violence may be an issue. Some issues about the increased use of technology include concerns about factors that may impact on the ‘just’ result, such as privacy and confidentiality. In this regard, the Relationships Australia report actually found that there were very high rates of satisfaction with the Online Family Dispute Resolution (OFDR) services that were set up as part of the project in Queensland. Their research, therefore, suggests that online family dispute resolution processes meet objectives in terms of justice in addition to objectives relating to ‘quick’ and ‘cheap’ processes. Many factors support the continuing use of effective OFDR. The factors include:

i. the type of technology — ease of use, reliability, accessibility and staff assistance (help desk and like supports)
ii. the skills and experience of staff
iii. the training given to staff.42

Other technology that supports disputants in this area includes ‘supportive service technology’, such as that offered by Anglicare in Tasmania where e-counselling is provided to clients in the remote north-west of that state.43 Real-time counselling is provided online using software developed by that organisation. Partnerships have been developed with local community organisations that allow clients to use their computer facilities for counselling sessions.44

In consideration of the above, it is pertinent to recognise that both the location of technological innovations in the justice sector and the type of innovations may impact upon considerations relating to whether they meet justice objectives. For example, supportive technologies may not raise concerns across the justice sector. Replacement technologies may also be supported in the ADR sector and in respect of the management of disputes as discussed above in relation to OFDR. However, more disruptive technologies that may involve developed artificial intelligence (AI) may raise quite different and additional issues in terms of ‘justice’, particularly if they impact on perceptions relating to procedural justice as well as substantive justice, in part because both participation and transparency in terms of decision making may be reduced, which may be more relevant where evaluative and judicial adjudication processes are involved. In addition, it is also worth mentioning that no matter what

types of technologies are discussed, there could be work across the justice sector that is not appropriate for technology to play a part, such as the work of the oral advocate.\textsuperscript{45}

III CONCERNS ABOUT TECHNOLOGICAL CHANGE

As noted above, technological innovations have resulted in a number of positive changes to the landscape of justice system. For example, in terms of supportive technologies, access to justice can be made much easier with the application of online free legal services such as apps, including Penda\textsuperscript{46} and AskLOIS,\textsuperscript{47} which have been developed to empower victims of family violence with access to legal, financial and safety information, and to provide online training and resources to assist community support workers assisting women experiencing family and domestic violence.\textsuperscript{48}

As to replacement technologies, as noted above, online dispute resolution (which includes video conferencing) has at least saved travel times and disbursements whilst contributing to a faster finalisation of disputes compared with both traditional litigation processes and traditional forms of ADR that require face to face contact. Similarly, case management has been aided by replacement technologies that enable the easier exchange of material, timetabling and the insertion of advisory apps.\textsuperscript{49}

In terms of the more disruptive technologies, the benefits are less clear although it has been suggested that where computerised sentencing has been introduced into some criminal determinations, computers can make sentencing determinations more effectively and fairly than judges, and that there could be considerable fiscal savings flowing from reductions in the amount of time currently spent by judges in determining appropriate sentences.\textsuperscript{50} There are, of course, strong arguments to the contrary\textsuperscript{51} where the use of AI has generated concerns that arise from algorithmic bias issues to a lack of transparency, and even the encroachment by the executive upon the judicial function.\textsuperscript{52}

As noted above, there are, however, an additional range of concerns about technological change in the judicial sector. These may include scepticism about the extent to which technology can assist in dealing with the ‘current’ problems of the justice system.\textsuperscript{53} There are also responses to the possible ‘new’ problems caused by the

\textsuperscript{45} Chief Justice Thomas F Bathurst, ‘The Role of The Commercial Bar in the Mid-21st Century’ (Speech, Australian Bar Associate Conference, 16 November 2018) 7.
\textsuperscript{46} See Penda (Website) <https://penda-app.com>.
\textsuperscript{47} See Women’s Legal Service NSW (Website) <https://www.wlswnsw.org.au/training/ask-lois-website/>.
\textsuperscript{49} See Sourdin, ‘Justice and Technological Innovation’ (n 3) 99.
\textsuperscript{50} Mirko Bagaric and Gabrielle Wolf, ‘Sentencing by Computer: Enhancing Sentencing Transparency and Predictability, and (Possibly) Bridging the Gap between Sentencing Knowledge and Practice’ (2018) 25(4) George Mason Law Review (forthcoming). Although looking at the criminal jurisdiction, the principles stated in this article would apply equally to judgments in the civil jurisdiction: Sourdin, ‘Judge v Robot?’ (n 10) 1132–1133.
\textsuperscript{51} Bagaric and Wolf (n 50) 44.
\textsuperscript{52} Sourdin, ‘Judge v Robot?’ (n 10) 1126.
\textsuperscript{53} See Chief Justice Thomas F Bathurst, ‘ADR, ODR and AI-DR, or Do We Even Need Courts Anymore?’ (Speech, Australian Disputes Centre, Supreme Court of New South Wales, 20 September 2018) (‘ADR, ODR and AI-DR’).
use of technology in the sector, including how courts can preserve open justice in a technological era. Another issue relates to how newer technologies may be ‘taken up’ in the sector and the unevenness of any take-up. The challenge of ensuring that legal technical systems are kept up to date as technology develops quickly means that technological improvements are unlikely to occur in an ‘even’ manner. For example, ‘private’ parts of the system, which includes large law firms and funded ADR organisations (such as the Australian Financial Complaints Authority) are more likely to be able to afford investment than some parts of the court’s sector. In this regard, current developments already suggest that there is a lack of evenness in terms of developments. Through mining litigation data and applying big data analytical tools, Lex Machina, a company owned by legal publisher LexisNexis, is able to provide law firms and corporate clients with quantified insights into judicial behaviour, venues, opposing parties and opposing counsel to assist them to make better decisions about claim construction and case strategy. Thus, instead of seeking advice from a law firm regarding the costs and benefits of initiating or defending litigation, businesses can obtain that advice more quickly, inexpensively and, in some cases, more accurately from legal analytics firms like Lex Machina. However, access to such systems can be costly and therefore uneven, which raises questions about fairness (in terms of smaller law firms, legal aid, and courts) as well as whether an investment in technology could, to some extent, undermine the potential for the ‘cheap’ resolution of disputes. In this context, the question arises: is it possible that the legal landscape is on the cusp of a technology-driven paradigm shift of a quantum nature whereby ‘Just, Cheap and Quick’ are capable of truly coexisting?

In this regard, it seems likely that many technological changes will promote the just resolution of civil disputes, particularly in terms of diverse online free legal services supported by the relevant ‘supportive’ technologies, since the ‘weaker’ party with disadvantaged status in a dispute may now be able to receive appropriate legal information and advice, and power imbalances can be, at least, somehow addressed — thus increasing the possibility of obtaining a ‘just’ settlement (see further discussion below). There are, however, some additional challenges to the use of disruptive technologies in justice that may impact on the ‘just’ resolution of civil disputes, although some commentators suggest that such challenges can be dealt with appropriately and ‘justice’ can be achieved.

Another potential benefit concerns the extent to which technology can assist with the long-term operation of the justice system. Innovation in the use of technology across society and to a limited extent in the justice system has recently focused on finding ways of accessing what is known as ‘big data’. The inferential techniques being used on big data can offer great insight into many complicated issues, in many instances with remarkable accuracy and timeliness. The quality of business decision-making, government administration, scientific research and much else can potentially be

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57 Sourdin, ‘Judge v Robot?’ (n 10) 1126–1130.
improved by analysing data in better ways. These developments, in turn, have the potential to improve the quality of justice.58

Researchers at the Hague Institute for the Internationalisation of Law, studying big data’s impact on the justice environment, have noted that these benefits are generally not being realised:

For most justice systems, the goal of court information systems is to get accurate statistics about workloads, disposition times, sentence rates, appeal and reversal rates, etc. However, our research indicates that existing court IT and organisational tools and mechanisms have limited capacity to extract valuable knowledge and insights from massive data sets.59

Ingo Keilitz, an expert consulting with justice institutions throughout the world on measuring and improving their performance, offers the following example of how big data could affect court administration issues such as court consolidation:

For example, court location data could be compared against a number of public databases with information from inside and outside the justice system including Zip codes, populations, demographics of the population (race, age, disability), travel times between locations, numbers and types of cases heard by different courts, levels of courts, and availability of public transportation.60

The result of this analysis would allow advocates and opponents of various court consolidation models to consider the effect on distance and timeliness:

Results may allow advocates and opponents to compare various court consolidation models and say, for example, that the consolidation of courts from ten locations to three would increase the average distance and driving time to the nearest court from 3.1 miles and a ten minute commute to 4.5 miles and a fourteen minutes, where the overall average can be disaggregated by age of citizens, income levels, case type and so forth.61

However, whilst big data may assist in terms of making the ‘system’ work more effectively partly because it may enable better data to be gathered about the system, there are also concerns that the capacity to collect and explore data may have unforeseeable risks and issues. For example, in an effort to promote quick and cheap justice by way an alternative ‘naming and shaming’ strategy, a Chinese Court has mandated the use of a mini-program nicknamed ‘Deadbeat Map’ which allows users to pinpoint the location of those who have failed to pay their debts within a 500-metre radius.62

There are other concerns about the capacity to meet justice objectives that are linked to the potential for a large-scale job loss that may occur across the legal sector partly because similar systems that involve predictive and related technologies to work effectively will lead to significant job sector changes. For example, according to a 2018 report from British accounting firm PricewaterhouseCoopers (‘PwC’), the most affected employment segment by automation over the next 5 to 8 years will be administrative and white-collar office jobs. However, a study into the impact of AI on daily commoditised legal tasks recently conducted by American academics showed that AI can already work not only faster than lawyers on certain non-core legal tasks such as reviewing legal contracts, but also in a more accurate way. Despite this finding, one of the academics involved in the study insisted that automation was not synonymous with job losses, but rather AI could end up being a ‘lawyer’s best friend’. In this regard, a number of reports and commentators have stressed that technological innovation can provide more opportunities for lawyers, including completing some of the groundwork and then improving lawyers’ work efficiency.

At the same time, despite cost-saving benefits, technological developments have also led to new issues and increased costs in respect of some parts of the justice sector. For example, according to the Report of Discovery in Federal Courts released by Australian Law Reform Commission, many commentators, including Acting Justice Ronald Sackville of the New South Wales Supreme Court, have noted the distorting effect that technology has had on discovery costs associated with court proceedings. It was observed that it was here that extraordinary and disproportionate costs were frequently incurred by parties to the litigation. Again, this echoes the question above as to whether such new costs on discovery will still be in line with the ‘cheap’ resolution of disputes for parties.

Concerns about the judicial role in the context of more disruptive technological innovation have so far been the subject of limited commentary; however, there are also justice concerns in this arena. Some have suggested that in the judicial decision-making process, artificial intelligence cannot take over entirely because of the biases possessed by the automation systems, particularly when it comes to the sentencing

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65 Ibid.
68 Discovery in Federal Courts (n 34) 160.
69 Sourdin, ‘Judge v Robot?’ (n 10) 1133.
outcome in a criminal case. Others have noted that in the civil justice arena there is potential, in the longer term, for Judge AI to replace lower level tribunal and lower tier judicial decision making, and it seems likely that Judge AI will develop in a range of other ways. In some jurisdictions, such as China, Judge AI may play a more prominent role. In relation to the civil system, however, and as noted previously, in the absence of a clear focus on ‘justice’ and related objectives (including well-being), there is a risk that a focus on cost and delay will mean that there is a temptation to automate more decision making particularly at lower levels of the court system. In terms of the ADR system, a focus on ‘quick and cheap’ at the expense of a justice objective may result in automated non-human decision making which may not be perceived to be ‘just’.

Given the issues noted above, it is not surprising that the introduction of technology in the justice system has generated much discussion within the many different interest groups involved in the system about the capacity of technological reforms to meet justice objectives. An additional issue in this area relates to technological readiness which partly explains the variation in views above but also partly explains why there may be an ‘uneven’ capacity to meet justice objectives. Prior to considering whether effective measures can sustain the advantages while curbing the disadvantages of technological innovation, it is useful to consider how technological innovation may be received by end-users in the justice sector.

IV  INNOVATION READINESS

Historically, the justice system has been slow to adjust to change. As the new millennium approached, the then Justice Kirby wrote about the slow rate of change within the sector:

A lawyer from Dickens' time, walking out of Bleak House into a modern Australian court on an ordinary day, would see relatively few changes. Same wigs and robes. Same elevated Bench and sitting times. Very similar basic procedures of calling evidence and presenting argument. Longer judgments: but still the same structure of facts, law and conclusion. Contrast, if you will, the astonishment of a physician from Guy's Hospital in London, from the middle of the last century, wandering into the electronic world of bleepers and monitors, of CAT scans, genomic tests and automated diagnosis of a modern Australian hospital. We have made progress in the law and in the courts, including the past twenty-five years. But not as much as other professions. Will it stay this way?

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71 Sourdin, ‘Judge v Robot?’ (n 10) 1118. Other developments could include the creation of template decisions to assist judges in civil matters.
72 See, eg, Cao Yin, ‘Courts Embrace AI to Improve Efficiency’, China Daily (online, 16 November 2017) http://www.chinadaily.com.cn/china/2017-11/16/content_34595221.htm. By the end of 2017, over 100 courts in China have used robots to improve efficiency, although at this stage those robots seem to be only helpful in terms of answering disputing parties' questions regarding the legal procedure and the simple substantive legal inquiries, rather than making decisions in place of human judges.
Recently, Chief Justice James Allsop upheld the courts’ role in the adoption of technology in the law and in legal practice:

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.\(^74\)

This observation raises a question about whether the justice sector is ‘ready’ for technological innovation. The concept of readiness can be in itself a self-delusory enthusiastic willingness to participate. Many parents will attest that childhood races commencing with words of ‘Ready, Set, Go’ generally have the attention of most of the participants at ‘Ready’, though at that critical ‘Go’ moment, many more find themselves still on the back foot. The level of readiness is perhaps something that can only truly be measured post the event — failure at ‘Go’ suggests (irrespective of the efforts to be ‘ready’) that the readiness factor has shortcomings. Accordingly, legal innovation readiness is difficult to achieve and measure, particularly when the task is to prepare and adapt to technological innovations that are developing more rapidly than at any other time. The timeframe whereby the music marketplace prepared and adopted CD’s in place of Vinyl records, only to itself be replaced by online music, was for most involved an extremely fast transition — a disruption to the generally accepted rate of change accommodated by the market.

Much has been made of the concept of ‘disruption’ since its critique in ‘The Innovators Dilemma’,\(^75\) and recently Richard Susskind provided a succinct summation:

What Christensen highlights is that by the time market leaders react to the change, it’s often too late. A popular example of such a phenomenon is Kodak. They invented much of digital camera technology. Yet they didn’t themselves embrace it and by the time they recognized the market had shifted, other players had rapidly come to dominate. The point is that because the market can move quickly, leaders can find it very hard to adapt in time.\(^76\)

Newer technology is sweeping forward with a groundswell of new opportunities towards improving legal efficiencies — new processes whereby the ‘quick’ and ‘cheap’ resolution of civil disputes could indeed become the norm as opposed to the exception. However, there is also a risk that a lack of readiness will mean that technological reform will be led by tech giants and major commercial interests who may be less concerned with meeting ‘justice’ objectives (from a societal perspective). Readiness for disruption is perhaps a contradiction, however the ‘cart before the horse’ analogy would appear to apply for civil dispute resolution. The clients (and potential clients) are increasingly tech-savvy — their readiness to adapt to online legal services, the latest phone app, and online video communication is unquestionable — particularly in the

\(^74\) Chief Justice James Allsop, ‘Technology and the Future of the Courts’ (TC Beirne School of Law, University of Queensland, 26 March 2019) 1.


desire to obtain quick and cheap justice. Arguably, the cart is full and eager for the horse to come to the fore.

A The Profession

Considering the readiness of the legal profession in relation to technological advances is difficult (in accordance with the above critique of readiness), particularly given the significant differences that apply across the sector (for example, Judge v Tribunal Member, large firm v small, government lawyer v in-house). It appears clear, however, that technological advances have spawned a somewhat reluctant acceptance that the pyramid business model sustained by significant billable hours, which served to provide healthy remuneration packages for a select number of partners, is on its last legs. This, of course, applies mostly to the larger firm which, while being in the minority as to the number of firms, provide significant influence that trickles down through the mid and small law firms.77 Adopting new strategies and models so as to survive/accommodate the significant changes that the new technologies will bring is perhaps the only option towards a state of readiness.

The 2016 profile of solicitors in NSW highlights the significance of the sole practitioner, accounting for the second highest percentage of practising lawyers at 18.6% — second only to single principal firms (employing on average 2.2 Solicitors) at 26%. In light of the above, the readiness of the legal profession in relation to innovation (at least in NSW) would appear to have three discrete and markedly different journeys. Top tier and large firms with enviable budgetary resources are able to invest into incorporating and developing the latest technologies;78 small to mediums firms are attempting to keep up as best they can but generally with only administrative preparedness;79 while the new breed of sole practitioner is using technology towards what has been described as Uberisation within the legal profession.80

77 Law Society of New South Wales, NSW Profile Of Solicitors (Final Report, 2016) 20–21.
A survey of legal practitioners in Australia conducted by Macquarie Bank and released earlier this month uncovered a digital divide already existing in law firms; smaller firms invested in back office efficiency tools such as accounts automation, and only the larger firms spent up on data mining, predictive analytics and artificial intelligence. Almost a quarter of small law firms have no technology beyond the very basic administrative tools.
Fortunately, it would seem reasonable to infer that ‘quicker and cheaper’ legal services will be the by-product of innovation as adopted by all levels of the legal profession. Large firms are already making significant cost and time improvements by way of implementation of new technologies (although passing on cost savings will be potentially dictated by market forces), while sole practitioners are now providing ‘partner-level expertise at almost half the hourly rate’ with the additional benefit of a direct line of contact between solicitor and client ensuring time efficiencies in relation to correspondence.

B The Judges

Exploring the topic of technological readiness and Judges (including Magistrates and Tribunal Members/Commissioners) is an area of perhaps unparalleled complexity and uncertainty. The overriding purpose to deliver a just outcome quickly and cheaply promotes a stressful work setting for the judiciary, and recent commentary about judicial mistakes, procrastination, and the notion that judges are existing in a bubble highlights the current problematic environment.

Furthermore, perhaps no other area of the legal profession is more susceptible to the concept of inertia, as referenced earlier by Michael Kirby. In relation to the United Kingdom and internationally in general, it has been noted:

Although it is sine qua non that courts ought to reflect advances in society, historically in the United Kingdom and elsewhere, the courts and to a lesser extent, the legal profession, have been amongst the most conservative professional domains in terms of technology adoption and in harnessing advances in technology to improve practice.

Offering further Judicial commentary in the area, the Hon T F Bathurst AC provided the following:

Nevertheless, the influence of technology on dispute resolution has already been significant. Those disappointed with the slow uptake, particularly in the Courts, should take heed of Amara’s law — that we tend to overestimate the effect of technology in the short run and underestimate its effect in the long run. In any event, supportive technology is used in the Courts as a matter of course — we now have e-filing, e-discovery, real time transcription services, electronic courtrooms,

81 An Industry in Transition (n 79) 31. See the case study ‘Transforming legal practice with artificial intelligence (AI) — we’ve got happier real estate lawyers, the work product is much more consistent ... [and] we’ve achieved time and cost savings of around 30%’.
85 Ibid.
the use of video links and ‘safe rooms’ for vulnerable witnesses and the use of
devices on the bench and at the bar table. In NCAT, some hearings are conducted
via telephone where it is the most timely and effective way to hear the matter.87

Noteworthy in the above extract is the reference to numerous supportive technologies,
yet replacement and disruptive technologies remain elusive in terms of judicial input,
as perhaps does the ‘readiness’ quotient.

Independent of perceptions of inherent reluctance on the part of (some) judges to
disrupt ‘their’ well-established procedures for the facilitation of quick and cheap
justice, even the most innovation-ready judge remains reliant on the Executive to
provide the funding package sufficient for the implementation of the latest
technologies.88 As legal minds (on the shop floor) within the legal profession are
supplemented with ‘big data AI sourced answers’ to intricate legal questions, the
position whereby ‘your Honour’ is considered the brightest legal mind in the Court
may turn on not only the innovative readiness of the judge, but access (by way of
sufficient funding) to the latest technologies.

There are also other issues about how technology can be integrated and used
effectively in courts and tribunals, which often operate ‘legacy’ systems with content
management features that make it difficult to add and support more sophisticated
systems. Court filing systems remain paper based in many areas, and there are
cultures operating within the litigation system that may find it difficult to adapt to
newer technologies.

Conceivably no other area of the legal profession has a greater need to strive towards
a sophisticated understanding that will in turn support readiness to embrace many of
the new technologies available. Considerations of Judge AI, whereby there will be ‘an
increasing emphasis on artificial intelligence to deal with smaller civil disputes and the
more routine use of related technologies in more complex disputes’, highlight that the
process of change is indeed underway89 – so far, however, with little judicial input as
changes take place in the External Dispute Resolution (‘EDR’) and tribunal area. The
ethical issues that emerge in terms of the judicial role and Judge AI, and developments
in this area so far, assume that the ‘human touch’ will remain central to the judicial
role. Incorporating technology will not remove ‘the importance of responsive judging
and a need to better understand and explore the impact that people experience when
a human judge deals with their concerns’.90

C The Consumers

The consumers (the clients and the litigants) are arguably more ready to adopt new
technologies in the interests of just, quick and cheap dispute finalisation. However,
again there is an ‘uneven’ readiness that can be linked to geographical location, age,
economic circumstances as well as other factors that can be linked to vulnerability.
The challenge likely to emerge will be ‘how consumers will be able to discriminate
effectively between the plethora of different service providers that are likely to

87 Bathurst, ‘ADR, ODR and AI-DR’ (n 52) 4.
89 Sourdin, ‘Judge v Robot?’ (n 10) 1114.
90 Ibid 1133.
emerge’. This has prompted the development of websites such as Law Choice Australia, and the inference may be that modes of advertising (and strategies to receive high priorities in the Google searches) will be key determiners as to the services being used.

In addition, consumers are always ready (with perhaps some sceptical caution) for ‘free’ services. Apart from the introduction of free online legal consultation by many law firms, the Legal Services Commission of South Australia as well as some apps supported by the public sector that provide free legal services to clients, there is little available to those with complex problems. In this regard some issues that people face may even be linked to confusion or even technological uncertainty (eg Robo debt). However, such services may enable people with legal problems to have access to a legal chat line and obtain information and/or links to relevant sources of law without having to wait on a telephone line to talk with a lawyer. Not only is such a process quicker and more effective, but it may promote greater accessibility and confidentiality.

The ‘tech-savvy’ consumer (as referred to previously) is already armed (and proficient) with the latest smartphone capable of providing ‘24 hours a day, 7 days a week’ access to whatever can be downloaded or linked to. In conjunction with the widespread community rhetoric (and general reality) that dispute resolution by way of the legal process is currently too expensive and too slow, this innovative readiness of the consumer is perhaps the latent driving force that will catalyse the legal disruption. Many clients will no longer tolerate expensive slowness — particularly where aspects such as the ‘billable hour’ has hindered the motivation of legal representatives towards a timely resolution. To this end, those companies, including the United Kingdom’s Robot Lisa — whereby costs are upfront and the matter is essentially conducted (as far as possible) utilising Chatbot technology without the intervention of a legal practitioner, could become the legal service provider model of an innovative ready consumer. The scope to which this unbundling of legal services may become available in the Australian jurisdiction may (at least in the short term) be more limited than the UK on account of legal regulatory differences. However, as recently highlighted by Michael Legg: ‘The confluence of concerns about the affordability of legal services and the greater use of technology to provide legal information and related services means that more potential clients are likely to seek limited scope services’.

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91 Waye (n 56) 222.
93 Waye (n 56) 230.
95 Heidi Pett and Colin Cosier, ‘We’re all talking about the Centrelink debt controversy, but what is ‘robodebt’ anyway?’, ABC News (online, 3 March 2017) <https://www.abc.net.au/news/2017-03-03/centrelink-debt-controversy-what-is-robodebt/8317764>.
96 See Robot Lawyer LISA (Website) <http://robotlawyerlisa.com/>. LISA is an acronym for Legal Intelligence Support Assistant. The company’s website provides the following as their mission: Focus on making access to legal services cost effective, time saving, insightful and transparent for consumers and businesses to acquire their legal needs by using technology wherever possible in the first instance before moving on to garner human lawyer support, if at all necessary or desired.
V CONCLUSION

This article has focused on the relationship between civil dispute resolution and technology, and the ever-increasing complexities that are being realised by way of supportive, replacement and disruptive technologies. In this regard, no matter how technology has impacted on justice, it is undeniable that there are many tangible advantages that technology has brought and will bring to the justice system. The authors argue that in the context of Australian civil justice, technology will often assist to achieve the objectives of the civil justice sector in terms of the quick and cheap resolution of civil issues.98

In terms of objectives relating to justice, there are many considerable advantages that the technological revolution can provide. Given the geographical limitations and remote access issues that can arise in a vast and relatively sparsely populated country such as Australia, and the reality that disputes can include international, national and local interaction, supported technological solutions are likely to exert a significant influence on the justice system into the future. In addition, the ‘digital divide’ issues that existed in the past are decreasing because simpler technologies have evolved and internet access has increased across communities. Each of these factors, coupled with growing technological competencies and preferences, means that technological approaches are likely to be extended into the future.

Those within the litigation system have noted that technology changes have the potential to dramatically transform the way in which dispute resolution is carried out.99 Within the court system, e-callovers,100 e-filing,101 video conferencing and applications102 are now commonplace in many jurisdictions. Technology courts, virtual courts or cyber courts now exist in many jurisdictions,103 and the presence of such initiatives may produce more participatory court processes, and enhance ‘participatory’ justice as well as better communication and document management. Other changes have occurred in the handling, collation, and storage of information and in the way that research occurs. The information available online increases access to court systems and can assist parties to better observe and understand what takes place within the court system.

Newer communication approaches have the potential to overtake the limitations of e-mail and offer new collaborative styles and processes. Together with online meeting facilities, the interactions that have traditionally slowed down capacity to respond ‘on time’ can now be instantaneous. In addition, parties constantly communicating in groups can develop more sophisticated and timely solutions to process issues as well as the final outcome of the case. Creating rules around these interactions to ensure that due process is followed will be the new challenge for justice agencies. Many Australian ADR environments now use Facebook, Twitter and YouTube to engage with business, consumers, and stakeholders about dispute

98 Civil Procedure Act 2005 (NSW) s 56.
99 See Bathurst, ‘ADR, ODR and AI-DR’ (n 52).
100 For example, New South Wales Land and Environment Court.
101 For example, Federal Court of Australia.
102 Bail applications are commonly carried out by video in the Supreme Court of New South Wales.
resolution and to support dispute avoidance and self-managed negotiation strategies.\textsuperscript{104}

Newer technologies present a range of challenges for court legislators and are giving rise to new litigation industries that provide forensic oversight of data analysis processes, encryption and ‘cloud’ collaborative processes between litigation participants. All of these technologies might support timeliness. In light of this, there may be a challenge posed by this new technology and industry — that of ensuring that courts and tribunals adapt in order to remain relevant and that courts and tribunals have additional input in respect of justice objectives.

The potential for technological innovations to pave a supportive, replacement and disruptive path to facilitate a tripartite union of the overriding principles as defined under the \textit{Civil Procedure Act 2005} (NSW) and similar legislation is unquestionable.\textsuperscript{105} And yet the difficulty of certainty arises on account of the complex diversity of the legal landscape which requires consideration of almost polar opposite extremes, such as:

\begin{itemize}
  \item[i.] bush courts (run over two days incorporating 44 matters and utilising two lawyers) to Supreme Court matters that may involve teams of lawyers and a senior counsel\textsuperscript{106}
  \item[ii.] top tier firms with multi-million-dollar budgets to office-less sole practitioners
  \item[iii.] litigants represented by teams of lawyers and senior counsel, through to self-represented litigants.
\end{itemize}

All sectors will be impacted by the latest technologies. To the extent that ‘cheaper’ and ‘quicker’ justice will be obtained (albeit with challenges) appears likely, perhaps certain. And yet the illusiveness of truly satisfying the ‘just’ component remains the most significant challenge. Greater awareness and access to information of the consumer is significant in this disruptive environment, and while measurements of speed and expense may be noteworthy, it will perhaps be the consumer’s critique of a process to deliver a ‘just’ outcome that may be of ultimate importance. As established at a time not conflicted by today’s complex technological challenges — ‘Not only must justice be done; it must also be seen to be done’.\textsuperscript{107} Justice may also require some component of human creativity that cannot, for example, be readily replicated by AI which may, in any event, fail to provide litigants with ‘human’ experience.\textsuperscript{108} In addition, the clear articulation of what is meant by ‘justice’ is critical in ensuring that future developments are measured and considered in terms of clear benchmarks.

There is, however, undeniably a strong relationship between ‘quick’ and cheap objectives and the attainment of justice. Although the complexities that have been

\begin{footnotes}
\item[105] See, eg, \textit{Civil Procedure Act 2010} (Vic).
\item[107] \textit{R v Sussex Justices; Ex parte McCarthy} [1923] All ER Rep 233, [1924] 1 KB 256.
\item[108] Sourdin, ‘Judge v Robot?’ (n 10) 1124.
\end{footnotes}
outlined in this article cannot be condensed to a single sentence, NSW Barrister Philippe Doyle Gray provided a brief summation (albeit in relation to costs, but applicable to the three overriding purpose elements of just, quick and cheap justice) ‘You can repeat slogans, like just, quick and cheap, which is s 56 of the Civil Procedure Act 2005, but the only way that $11,000 became $990 [for my client] is because somebody embraced technology’.109
