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Judicial analytics and Australian courts: A call for national ethical guidelines

Alternative Law Journal
0(0) 1–6
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Abstract

Judicial analytics is the use of data to monitor, understand and predict judicial behaviour. This is a global phenomenon and a cause for both celebration and concern. Given the unique role of courts and the potential for judicial analytics to undermine the rule of law, there is a need to review and revise the current inertia in the Australian regulatory approach to this issue. This article calls for the development of professional ethical guidelines for law and other disciplines, to assist and guide the creation and dissemination of predictive judicial analytics.

Keywords

Courts, rule of law, regulation, open justice, judiciary, judges, data

There is a global divergence in regulatory approach to the use of 'judicial analytics'. The term 'judicial analytics' describes the analysis of data (including judgments and other public records of the work of judges) using artificial intelligence (AI) and machine learning to monitor, understand or predict judicial behaviour. In 2019, in a global first, France criminalised the publication of judicial analytics with penalties of up to five years in prison.¹ The new Article 33 of the French *Justice Reform Act* reads: 'No personally identifiable data concerning judges or court clerks may be subject to any reuse with the purpose or result of evaluating, analyzing or predicting their actual or supposed professional practices'.²

In contrast, the Australian approach to the use of data analytics to measure judicial performance and even to

predict judicial behaviour (predictive analytics) is one of regulatory silence. This silence is noteworthy given the emerging use of judicial analytics in Australia by courts, academics, media and other commentators across public fora.

This article outlines this use of judicial analytics in Australia before discussing the benefit and disadvantage of such use. Importantly, our focus is not upon the responsible use of data to measure past judicial efficiency or the use of metadata in civil proceedings or analysis of types and volumes of cases heard as presented in Courts' Annual Reports. Instead, we are most concerned with the use of data to predict judicial behaviour and case outcomes. In conclusion, we advocate the development of professional ethical guidelines, for law

¹Michael Livermore and Dan Rockmore, 'France Kicks Data Scientists out of its Courts' (*Slate*, 21 June 2019, 7:30 AM) <https://slate.com/technology/2019/06/france-has-banned-judicial-analytics-to-analyze-the-courts.html>.

²Jason Tashea, 'France Bans Publishing of Judicial Analytics and Prompts Criminal Penalty' *ABA Journal* (online, 7 June 2019) <http://www.abajournal.com/news/article/france-bans-and-creates-criminal-penalty-for-judicial-analytics>.

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and other disciplines, to assist and guide the creation and dissemination of predictive judicial analytics.

Use of judicial analytics by courts, academics, commercial publishers and commentators: Australia and the US

The use of quantitative methods to 'predict' judicial behaviour is well established in legal research, especially in the United States (US). In 1922, Haines, a political scientist, published an article in the *Illinois Law Review*³ reviewing 15,000 decisions about public intoxication and linking outcomes to the personal traits of the New York magistrates. In the 1940s, Pritchett, again a political scientist, published a book charting dissent in the US Supreme Court.⁴ From these humble beginnings, the research-scape concerning judicial behaviour in the US is today dominated by three principal commercial providers of legal analytics services: LexisNexis (owning Lex Machina and Ravel Law), Bloomberg Litigation Analytics and Premonition Analytics. All facilitate research about the behaviour of judges assigned to cases. They claim to provide analysis of individual judges' past rulings in specific types of cases, comparisons between judges and the arguments that particular judges find persuasive. American companies such as Gavelytics use AI across very large databases to ascertain whether judges will make 'favourable' rulings based upon data about 'past rulings, judicial workload, and biographical information'.⁵ In 2017, a generalised model was claimed to predict the behaviour of the US Supreme Court with up to 71.9 per cent accuracy.⁶

The Australian development of judicial analytics and in particular predictive analytics lags behind other jurisdictions, especially the US. There is nevertheless a wide and growing spectrum of studies of Australian courts which use data to draw conclusions about court and individual judicial performance.⁷ Australian scholarship also discusses the use of legal data analytics in diverse areas including: the use of big data in policing,⁸ automation across administrative law decision making,⁹ data collection and privacy,¹⁰ outcomes in defamation cases¹¹ and criminal sentencing.¹² Judicial analytics is currently only inhibited in Australia by the manner in which legal records are made available by the courts. They are not conducive to efficient data collation and analysis or to AI machine learning.¹³ However, the capacity to undertake judicial analytics scholarship is growing. Commercial legal publishers such as LexisNexis now provide legal analytics platforms. International publishers such as Premonition have already produced a report on both judges' and lawyers' success rates in Australia based upon scraping publicly available records.¹⁴ Toby Unwin, the Premonition CIO and co-founder, observed that '[o]ur data has proven that a client's choice of firm or barrister has a 30.7% impact on whether they win their cases'.¹⁵ Learning from the US experience, an escalation of Australian predictive judicial analytics, is now certain to follow.

The use of data to measure past judicial performance: A cause for celebration and concern

Data analytics is already the subject of ongoing criticism in terms of its application to the past performance of the

³Charles Grove Haines, 'General Observations on the Effects of Personal, Political, and Economic Influences in the Decisions of Judges' (1922) 17 *Illinois Law Review* 96.

⁴C Herman Pritchett, *The Roosevelt Court: A Study in Judicial Politics and Values, 1937-1947* (Macmillan, 1948).

⁵Agnieszka McPeak, 'Disruptive Technology and the Ethical Lawyer' (2019) 50 *University of Toledo Law Review* 457, 464.

⁶Daniel Martin Katz, Michael J Bommarito and Josh Blackman, 'A General Approach for Predicting the Behaviour of the Supreme Court of the United States' (2017) 12(4) *PLoS One* e0174698: 1-18.

⁷Natasha Robinson, 'Federal Circuit Court Judge Alexander Street Accused of Bias after Rejecting Hundreds of Migration Cases' ABC News (Australian Broadcasting Corporation, 10 September 2015) <https://www.abc.net.au/news/2015-09-10/federal-court-judge-alexander-street-accused-of-bias/6764704>; Sydney Tilmouth, 'The Wrong Direction: A case study and anatomy of successful Australian criminal appeals' (2015) 40(1) *Australian Bar Review* 18; Nigel Stobbs and Geraldine Mackenzie, 'Evaluating the Performance of Indigenous Sentencing Courts' (2009) 13(2) *Australian Indigenous Law Review* 90; Russell Smythe, 'What Do Intermediate Appellate Courts Cite? A Quantitative Study of the Citation Practice of Australian State Supreme Courts' (1999) 21 *Adelaide Law Review* 51; KPMG, *Evaluation of the Drug Court of Victoria* (Final Report, Magistrates' Court of Victoria, 18 December 2014); Anne Wallace, Sharyn Roach Anleu and Kathy Mack, 'Evaluating Judicial Performance for Caseload Allocation' (2015) 41(2) *Monash University Law Review* 447; Brian Opeskin, 'The State of the Judicature: A Statistical profile of Australian Courts and Judges' (2013) 35 *Sydney Law Review* 489; Andrew Lynch, 'The Gleeson Court on Constitutional Law: An Empirical Analysis of its First Five Years' (2003) 26(1) *University of NSW Law Journal* 32; David Carter, James Brown and Adel Rahmani, 'Reading the High Court at a Distance: Topic Modelling the Legal Subject Matter and Judicial Activity of the High Court of Australia, 1903-2015' (2016) 39(4) *University of NSW Law Journal* 1300; Matthew Groves and Russell Smyth, 'A Century of Judicial Style: Changing Patterns in Judgment Writing on the High Court 1903-2001' (2004) 32(2) *Federal Law Review* 255.

⁸Lyrria Bennett Moses and Janet Chan, 'Using Big Data for Legal and Law Enforcement Decisions: Testing the New Tools' (2014) 37(2) *University of NSW Law Journal* 643.

⁹Yee-Fui Ng and Maria O'Sullivan, 'Deliberation and Automation: When is a decision a "decision"?' (2019) 26(1) *Australian Journal of Administrative Law* 21.

¹⁰Melissa de Zwart, Sal Humphreys and Beatrix van Dissel, 'Surveillance, Big Data and Democracy: Lessons for Australia from the US and UK' (2014) 37(2) *University of NSW Law Journal* 13.

¹¹Judith Gibson, 'Identifying Defamation Law Reform Issues: A "snapshot" view of defamation judgment data' (2019) 23(1) *Media and Arts Law Review* 4.

¹²Nigel Stobbs, Dan Hunter and Mirko Bagaric 'Can Sentencing Be Enhanced by the Use of Artificial Intelligence?' (2017) 41(5) *Criminal Law Journal* 261.

¹³Pam Stewart and Anita Stuhmcke, 'High Court Negligence Cases 2000-10' (2014) 36(4) *Sydney Law Review* 585.

¹⁴Premonition (Web Page) <https://www.premonition.ai/reports/>.

¹⁵Legal Analytics Firm, Premonition, Publishes Statistical Ranking of Australia's Top Law Firms and Barristers', Premonition News (Web page, 6 September 2017). <https://premonition.ai/legal-analytics-firm-premonition-publishes-statistical-ranking-australias-top-law-firms-barristers/>.

judiciary. Here, there are fundamental attitudinal differences between Australia and the US. As Robinson observes:

The American preoccupation with explaining judicial decision making with statistics has long been antithetical to Westminster scholars...The notion that decisions can be explained in quantitative terms by an empirical analysis of the statistical patterning of judicial votes is foreign to Westminster sensibilities.¹⁶

Robinson's assertion is borne out by Australian public debate about the use of data to measure judicial performance. In October 2018, Aaron Patrick wrote a series of articles in the *Australian Financial Review* (AFR) criticising the speed of the Federal Court.¹⁷ In one article, he revealed that 39 out of 69 judges had taken more than a year to write a judgment.¹⁸ The judges were named although Patrick conceded, '[m] any of the details of 11,000 cases "scraped" from the internet are one-day procedural hearings'.¹⁹ Patrick also reported that a 'court spokesman' (sic) had challenged the validity of the data analysis, saying it 'was "fundamentally flawed"' and that '[t]he AFR's approach is a simplistic and limited numerical analysis that fails to provide any meaningful insight into the quantitative and qualitative breadth and nature of the work of the court as an institution'.²⁰

This debate between the Federal Court and the AFR illustrates both the usefulness of data for judicial accountability and performance measurement as well as the fundamental problem of data analysis.

A central tenet of this debate is data utility versus data accuracy. In terms of utility, public confidence in the administration of justice is integral to the rule of law. The public has an interest in the efficient and fair operation of state institutions. The use of predictive analytics can help litigants decide whether to bring cases, decide strategies and tactics. Moreover, data analysis of judicial performance 'disrupts' the legal profession, shining light onto performance and success. In this sense, the use of judicial analytics is a cause for celebration even though it has been criticised as a blunt instrument for judicial performance management. On the other hand, concern about the inaccuracy of data analysis is aptly captured by judicial officers themselves.

For example, former Chief Justice Gleeson observed in 2004:

Because the High Court deals with a relatively small number of cases, major statistical variations can result from random causes. I have pointed out to the other Justices that we could make large productivity gains by arranging that special leave applications or appeals that are now listed and heard together be listed and counted separately.²¹

This observation highlights the danger in simply counting judgments, the point being that the science of counting can itself be influenced by changing what is counted.

Predictive analytics and litigation outcomes: Promoting the rule of law

Measuring past judicial performance and court efficiency is just one aspect of legal analytics. Formal predictive analysis of litigation outcomes enabled by AI using large legal databases goes much further. It seeks to enable lawyers to predict how cases will be decided by particular courts or judges.

It might be argued that this is simply a more reliable evidence-based way of doing what has always been done. Within a legal community, there will always be a kind of informal predictive analysis of litigation outcomes, especially in areas of legal practice where there is a specialist bar operating. There, the members of the profession know by virtue of their experience, the litigation tactics and arguments that will be most persuasive and they know the idiosyncrasies of individual judges and their views about particular legal doctrines. They know the broad approaches of individual judges to development of the law. Judicial analytics has the advantage of formalising knowledge that was previously anecdotal. Moreover, data analytics is undoubtedly a growing part of the future of the legal profession: data literacy is now seen as an essential skill for new lawyers.²²

Judicial analytics can also be viewed as important for upholding and applying the rule of law. The rule of law is part of the Australian *Constitution*²³ and requires that all members of a society are equally subject to publicly available legal codes and processes.²⁴ The transparency that data analysis offers across judicial decision making

¹⁶Zoe Robinson, 'Comparative Judicial Attitudinalism: A Preliminary Study of Judicial Choices in Westminster Legal Systems' (2011) 1 *The University of Chicago Legal Forum* 209.

¹⁷See especially, Aaron Patrick, 'Federal Court Speed of Justice can be a Lottery', *Australian Financial Review* (Sydney, 26 October 2018) 32; Aaron Patrick, 'Public Servants Need to Face Scrutiny, but Who Judges the Judges?', *Australian Financial Review* (Sydney, 26 October 2018) 32.

¹⁸Aaron Patrick, 'Frustration over Federal Court Judgment Delays', *Australian Financial Review* (Sydney, 27 October 2018) 6.

¹⁹Aaron Patrick, 'Public Servants Need to Face Scrutiny, but Who Judges the Judges?', *Australian Financial Review* (Sydney, 26 October 2018) 32.

²⁰Aaron Patrick, 'In Federal Court, Wheels of Justice Turn Slowly: Exclusive', *Australian Financial Review* (Sydney, 26 October 2018) 3.

²¹Murray Gleeson CJ, 'The High Court of Australia: Challenges for its New Century' (Speech, Constitutional Law Conference, 20 February 2004) http://www.hcourt.gov.au/assets/publications/speeches/former-justices/gleeson/cj_20feb04.html.

²²The Law Society of NSW, *flip: The Future of Law in the Profession*, Commission of Inquiry (Web Page, 2017) <https://www.lawsociety.com.au/sites/default/files/2018-03/1272952.pdf>.

²³*South Australia v Totani* (2010) 242 CLR 1 (French CJ) [42].

²⁴Geoffrey de Q Walker, *The Rule of Law: Foundation of Constitutional Democracy* (Melbourne University Press, 1988).

arguably promotes the rule of law, ensuring judges are subject to open and transparent processes of accountability for their decision making. The benefit of data analytics is that it will to serve the two 'publics' of the judiciary: society in general and the individuals who interact with courts, from litigants to lawyers. It will benefit the former by enhancing public confidence in the judicial process and the latter by clarifying and making available for scrutiny an important component of the Court's work.

But there are some fundamental problems with predictive analytics. Not only is the use of data to measure judicial performance and predict litigation outcomes never as nuanced as the conclusions drawn from the collective experience of a specialist bar, such use of legal information may also undermine the rule of law.

Predictive analytics: Undermining the rule of law

Any technology that has the capacity to influence the work of the courts and the corpus of the law must be approached with caution. There is a distinction between using data analytics to improve the system of administration of justice and the use of predictive analytics that may shape and influence the outcomes of cases and even the development of the law itself.

Perhaps the most disturbing aspect of prediction models applied to the fundamental functions of the judicial system, is that core rule of law values may be endangered. Predictive analysis uses data and patterns that ignore legal precedent and the specifics of individual cases. Analytics codes legal information into separate machine readable parts which can then be analysed, reducing the normative framework of the justice system and law into patterns and numbers.²⁵ With respect to judicial and predictive analytics, the data is created from the legal process itself, from the corpus of the law, and it is this which generates new knowledge. The organic development of law through precedent is transformed into algorithms rather than being recognised as a judicially refined body of legal regulation developed on a case-by-case basis.

In this sense, analytics is more than a reporter or analyser of legal information. Predictive analytics uses the law as a form of legal information to engage with and shape the law and the legal system itself. This use of data, or legal information as data, has the potential to

determine litigation and courtroom tactics, the legal arguments advanced by counsel and may influence lawyers' approaches to legal doctrine. The prediction of judicial outcomes will influence final litigation results, as litigants withdraw or settle claims on the basis of predictions. Ultimately over time, these subtle influences can shape legal principle.

This shaping is inevitable as data is now relied upon to assert truths. Presented as 'science', AI-generated predictive analysis takes on the attributes and biases of the society in which it operates in two main ways. Firstly, predictive data is only as good as its input and outcomes will reflect the bias or limitations of a human coder or those inherent in the judgments and documents from which data is extracted. Secondly, predictive judicial analytics will likely become a tool used by the most seasoned and advantaged litigants who have access to sophisticated data analytics systems. Access to justice inequalities in the Australian system is well known²⁶ and predictive analytics may become yet another factor advantaging the most capable litigants over others.

Further, the intangibles of the legal system are not yet measured by analytics meaning that the 'truth' of the data itself is open to question. Courts are unique. Courts are accountable through the rule of law and the principle of open justice, and the need to avoid 'counting' the judiciary has been elegantly and forcefully made by the judiciary themselves. As Chief Justice Bathurst of NSW states, the judiciary is already accountable as: 'Judges have 'explanatory' accountability in their obligation to provide open, public justice and reasons explaining their decisions, 'content' accountability in terms of the appellate process and 'probity' accountability in terms of their use of public resources'.²⁷

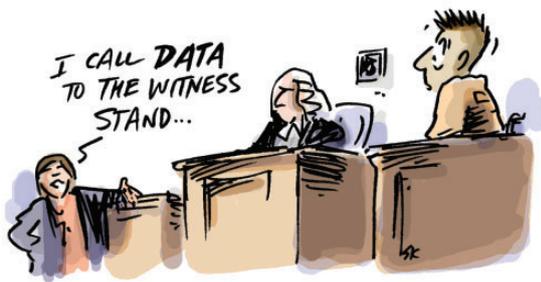
While this observation was made in the context of retrospective analysis of judicial decision making, the observation becomes more forceful when applied to predictive analytics. Predictive analytics reduces the law to numbers rather than focusing on the intangible concepts of justice. As His Honour further observes, 'in judging the judges, the qualitative factors inherent in the administration of justice, including the quality of judgments and fairness of process, are taken into account'.²⁸ Fairness is neither quantifiable nor predictable meaning that the use of predictive analysis in law should be approached with caution and care.

²⁵Mireille Hildebrandt, 'Law as Information in the Era of Data-Driven Agency' (2016) 79(1) *The Modern Law Review* 1.

²⁶Pamela Stewart and Anita Stuhmcke, 'Litigants and Legal Representatives: A Study of Special Leave Applications in the High Court of Australia' (2019) 41(1) *Sydney Law Review* 35; Law Council of Australia, *The Justice Project* (Final Report, August 2018) 48; Community Law Australia, *Unaffordable and Out of Reach: The problem of access to the Australian legal system* (Report, July 2012) http://www.communitylawaustralia.org.au/wp-content/uploads/2012/07/CLA_Report_Final.pdf; Senate Standing Committees on Legal and Constitutional Affairs, Parliament of Australia, *Inquiry into Legal Aid and Access to Justice* (Report, June 2004).

²⁷Thomas Bathurst, 'Who Judges the Judges, and how Should They be Judged?' (Speech delivered at Law Society Opening of Law Term Dinner, Parliament House, Sydney, 30 January 2019) 8 [24].

²⁸Ibid 21 [64].



Of course, these concerns do not mean that all statistical analyses of patterns in judicial decision making should be rejected. The debate between the AFR and the Federal Court discussed above demonstrates that such analysis can bring to public consciousness patterns of behaviour and efficiency. However, debate about court performance is delicate and it should at least acknowledge that it is the system that is subject to discussion rather than the performance of individual judges. Judicial conduct is circumscribed by budgets, society and the law. While judges will properly resist being influenced by predictive analysis, given the requirements of judicial independence and the basic tenets of our legal system, data can be used to evaluate on a narrow range of efficiency of process and outcomes.

The need for ethical guidelines

The French legislative response to judicial analytics is at the extreme end of the regulatory spectrum. Given that data analytics is a useful tool and in terms of the open justice principle, upholds the rule of law,²⁹ we do not advocate prohibition of judicial predictive analytics or any other legislative response. Indeed, given the data scraping of publicly available documents by international companies such as Premonition, to advocate this position would be futile. Rather, we suggest the development of ethical guidelines, promulgated by the courts, to set standards for the creation, development and use of judicial predictive analytics by academics, publishers, legal commentators and government. We advocate the creation of guidelines to heighten awareness of the use of data analytics and the responsibility that accompanies it in law as much as in any other discipline or area of social interaction.

Ethical guidelines should replicate the format of ethical guidelines common in areas such as the regulation of health and medical services. Similar to the *National Statement on Ethical Conduct in Human Research*,³⁰ the use of ethical guidelines for judicial and predictive analytics should be seen in the broader context of the overall governance of this area of research. Ethical guidelines will not only provide a framework for all researchers, legal or not, but also will guide the responsibility for the ethical acceptability of any research undertaken for private companies and public institutions. While a disadvantage of ethical guidelines is a lack of formal sanction, the advantage is that they set a code of behaviour and a recognition of ethical obligations and standards. Ethical conduct is more than maintaining a minimum standard. It involves conducting research with respect for the law and concern for fundamental principles such as the rule of law.

A minimum aim of the ethical guidelines is to ensure that judicial predictive analytics does not provide predictive or opinion-based inferences that have 'low verifiability' and that any inferences provided are 'justified' by the data controller to establish their reasonableness. This means that guidelines should proscribe the use of extraneous personal information about judges (eg, schools/university attended; political and social associations; interests). We consider this type of research to be part of 'fairness research' in data science which has three basic concepts: lack of bias, non-discrimination and transparency.³¹

This is an approach recommended by Wachter and Mittelstadt in relation to big data analytics generally.³² Wachter and Mittelstadt state that this justification process would require disclosure of *why* the data used is a normatively acceptable basis for inferences to be drawn; why inferences drawn are relevant to the purpose for which they are to be used and 'whether the data and methods used to draw the inferences are accurate and statistically reliable.'³³ Such an ethical obligation on the providers of judicial and predictive analytics will discourage the provision of highly unreliable material or at the very least set standards to allow for specific disclosure of the limitations of analysis provided.

Conclusion

The open court principle, which supports the rule of law, is not an end in itself. Openness 'may yield where the

²⁹Pam Stewart and Anita Stuhmcke, 'Open Justice, Efficient Justice and the Rule of Law: The increasing invisibility of special leave to appeal applications in the High Court of Australia', *Federal Law Review* (forthcoming).

³⁰NHMR, *National Statement on Ethical Conduct in Human Research* (2007) (Web Page, 2018) www.nhmrc.gov.au/guidelines/publications/e72. See also CSIRO, *Artificial Intelligence: Australia's Ethics Framework Discussion Paper* (Web Page, 2019) https://consult.industry.gov.au/strategic-policy/artificial-intelligence-ethics-framework/supporting_documents/ArtificialIntelligenceethicsframeworkdiscussionpaper.pdf.

³¹Julia Stoyanovich, Serge Abiteboul and Gerome Miklau, 'Data, Responsibly: Fairness, Neutrality and Transparency in Data Analysis' (Conference Paper, 19th International Conference on Extending Database Technology, 15–18 March 2016) <https://openproceedings.org/2016/conf/edbt/paper-c.pdf>.

³²Sandra Wachter and Brent Mittelstadt, 'A Right to Reasonable Inferences: Re-Thinking Data Protection Law in the Age of Big Data and AI' (2019) *Columbia Business Law Review* 1.

³³*ibid* 90.

paramount object that it serves – preserving the integrity of the administration of justice – so requires'.³⁴ While this statement is a reflection upon the open court rule, the notion of limits which it entails is prescient. We suggest that minimum expectations should be set for the ethical use of judicial analytics in Australia. Serious consideration must be given to whether the profession and the discipline of law should develop principles to meet sophisticated technological advances – to be proactive and not reactive.

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³⁴Beverley McLachlin, 'Courts, Transparency and Public Confidence – To the Better Administration of Justice' (2003) 8(1) *Deakin Law Review* 1 <http://www5.austlii.edu.au/au/journals/DeakinLawRw/2003/1.html>.