DECISION-MAKING AND ARTIFICIAL INTELLIGENCE

Justice David M. Masuhara

Supreme Court of British Columbia

Canadian Institute for the Administration of Justice

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RULE OF LAW

A highly textured expression: Re: Resolution to amend the Constitution [1981] 1 SCR 753

Canadian Charter of Rights and Freedoms

Social Contract Theory

Formal, Procedural and Substantive: Aristotle, Locke, Montesquieu, Dicey, Hayek, Fuller, Raz.
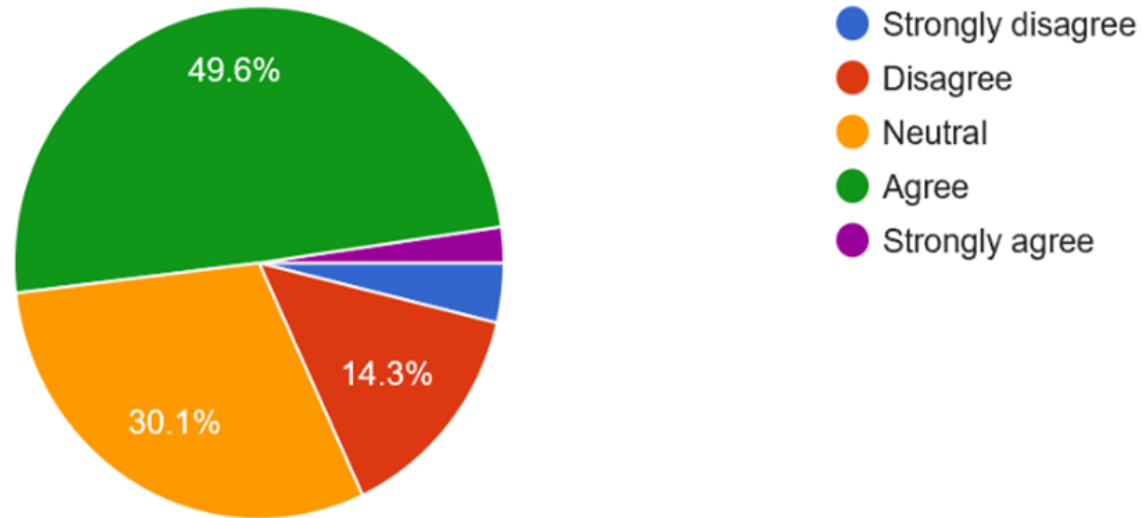
Prospective; predictive, non-arbitrary, independent judiciary, equal application; public; coherent; clear; and practicable.
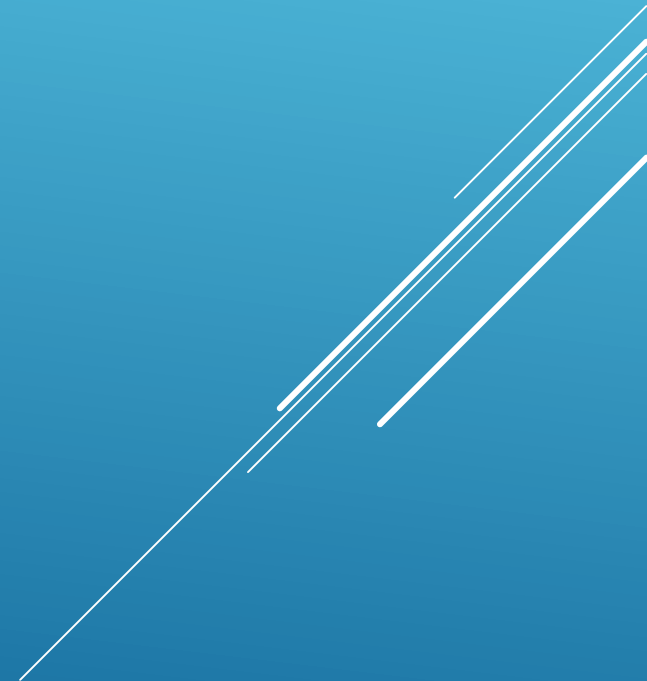
B.C. DIGITAL INITIATIVES CON'T

31. Do you think at some point, judicial decision making by AI will occur at some level?

133 responses

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

49.6%
30.1%
14.3%

PROBLEMS WITH AI

Lack of due process

Lack of transparency and bias in coding

Lack of legal knowledge of programmers

Lack of knowledge of as to how program reached its conclusion

Lack of confidence in completeness of data

Interference with judicial independence

No system can find facts

No system can assess credibility – so are we left to profiling

A system does not actually think

PROBLEMS WITH AI CON'T

Lack of humanity in decision-making
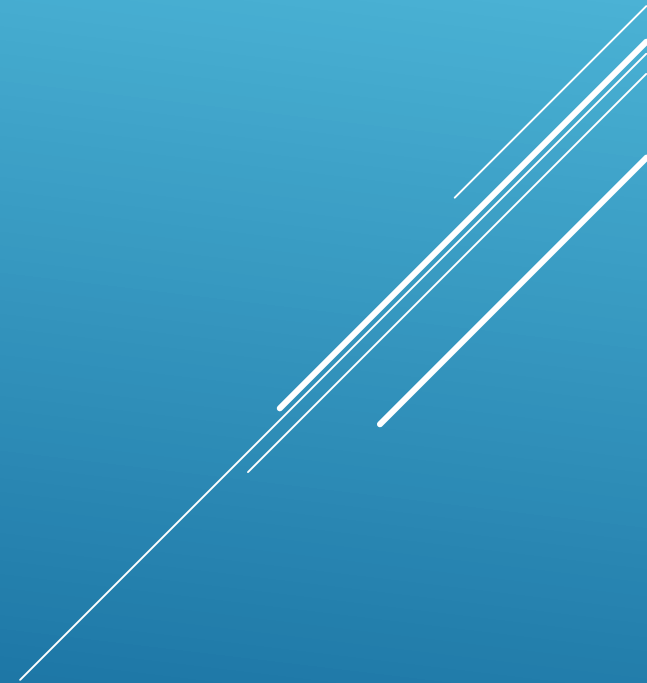
Incompatible with constitutional rights

Data driven decisions are historic only

Data driven systems should cannot or should not advance the law

No system can properly interpret statutes and regulations – too nuanced/contextual

Intrusion into privacy rights

Ex ante v. ex post reversal fear

EXISTENTIAL CHARACTERISTICS OF OUTSOURCING

Passivity: spectators rather than participants

Decreased Agency: less participation in the process. Less effort results in reduction of our experience of our actions

Decreased Responsibility: by abdicating control over process lessens culpability for consequences negative or positive

Increased Ignorance: delegation of tasks can limit our understanding of how a process works

Detachment: diminished participation leads to disengagement

Decreased Independence: dependency can result in deskilling. We can forget how to perform a task or become less capable of doing it. We can lose our motivation to increase our knowledge and skill.

Re-Engineering Humanity – Frischmann and Selinger

BENEFITS OF AI

There is a large layer of the public who do not have access to the legal services because of the inability to afford the service.

There are limited judicial resources. Priorities are set by the seriousness of offences and seriousness of dispute.

There is an expectation for the courts to address the problem – not just government.

There are technologies that have been developed that utilize natural language processing and predictive methodologies which can be used to find answers to legal problems.

A business case can be developed to invest in the development of such a system for the courts.

BENEFITS OF AI CON'T

Allows for the optimization of judicial resources and can reduce costs.

Cost of stress on judicial resources can be reduced.

There areas of law, both procedural and substantive which can be prescribed in a rules based system.

There are already rules and prescriptions used by the courts which simply stipulate a result based on fixed conditions e.g. child and spousal support, arrears cancellation; contract formation; damages for a claim in tort.

Legal analysis is not necessarily the only route to a proper or just result.

How a judge reached a decision is not fully understood in any event.

AI can potentially remove various externalities found in the work of Kahneman and Tversky: heuristic, optimism bias, confirmation bias, illusion of validity and frequency illusion.

HUMAN HEURISTICS & BIASES KAHNEMAN & TVERSKY

Affect Heuristic – we intuitively think that if the decision feels good, it's the right decision (basing decisions on emotional reaction rather than a calculation of risks and benefits)

Anchoring Heuristic – we intuitively think that recently acquired information is relevant when making a decision – even when it is not

Availability Heuristic – we intuitively think the things we remember are more likely to happen again and that they are more important

Representativeness Heuristic – we intuitively think that different events that seem similar to us have a similar likelihood of occurrence – when often they don't

Commitment Heuristic – we intuitively think that if we've already invested in a decision, we should continue to do so.

Belief Bias – our thinking is biased by how believable we personally find a conclusion

Confirmation Bias – our thinking is biased towards interpreting information in a way that confirms preconceptions

Optimism Bias – our thinking is biased towards being over-optimistic, overestimating favorable and pleasing outcomes

Hindsight Bias – our thinking is biased by the illusion that past events were as predictable at the time they happened as they are now.

Framing Effect – our thinking is biased by how information is presented (90% fat-free feels better than 10% fat)

Loss Aversion – our thinking is biased by an aversion to loss – eliminating the risk of losing is preferable to increasing the risk of winning (prospect theory).

Narrative Fallacy – our thinking is biased by the assumption that good stories are true stories

Regression Fallacy – our thinking is biased by not taking into account the chance component of events

Planning Fallacy – our thinking tends to overestimate benefits and underestimate costs, making us more likely to engage in risky behaviour

Halo Effect – our thinking is biased by existing judgements about a person – if we judge them positively in one respect, we're likely to assume they'll be positive in another

The Law of Small Numbers – our thinking is biased by generalising from the particular – we make the assumption that a small sample is representative of a much larger population.

WYSIATI – our thinking is biased by the assumption that – What You See Is All There Is – so we discount or ignore what we don't know

JUDICIAL BIAS

20. Do you think there may be unconscious biases or tendencies in your decisions?

133 responses

- Yes
- No
- Not sure

37.6%
9.8%
52.6%
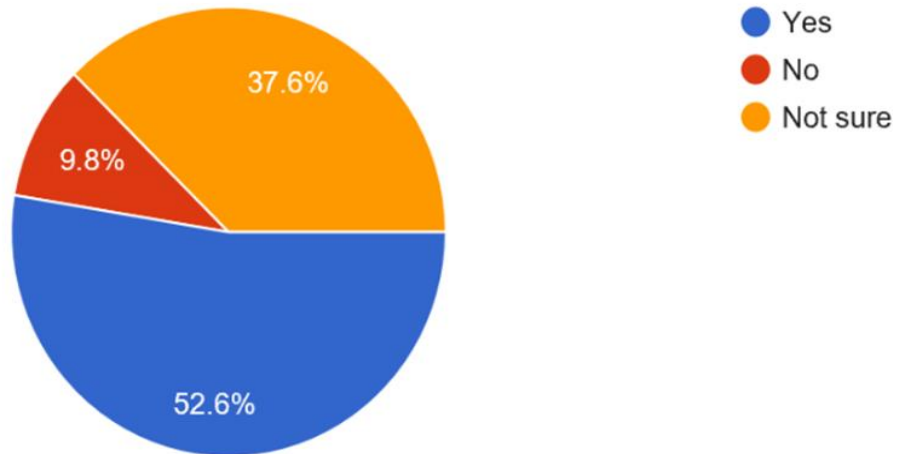
NEED FOR NEW APPROACHES

The civil and family justice system is too complex, too slow and too expensive. It is too often incapable of producing just outcomes that are proportional to the problems brought to it or reflective of the needs of the people it is meant to serve.

ACCESS TO CIVIL & FAMILY JUSTICE A Roadmap for Change Action Committee on Access to Justice in Civil and Family Matters October 2013

Increasingly, there is recognition that a culture shift is required in order to create an environment promoting timely and affordable access to the civil justice system. This shift entails simplifying pre-trial procedures and moving the emphasis away from the conventional trial in favour of proportional procedures tailored to the needs of the particular case. The balance between procedure and access struck by our justice system must come to reflect modern reality and recognize that new models of adjudication can be fair and just.

Hryniak v. Maudlin [2014] 1 S.C.R. 87

ACCESS TO JUSTICE

h) AI could enhance access to justice?

133 responses

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

51.9%

36.8%
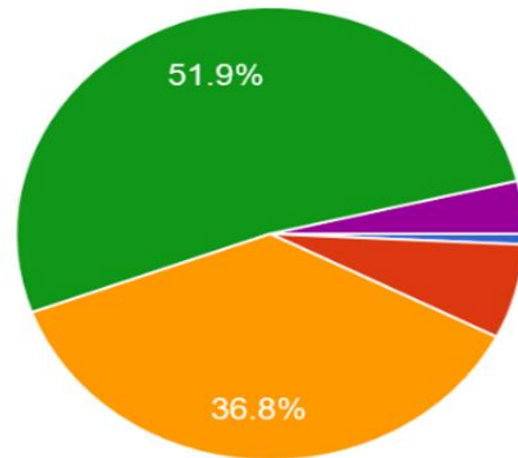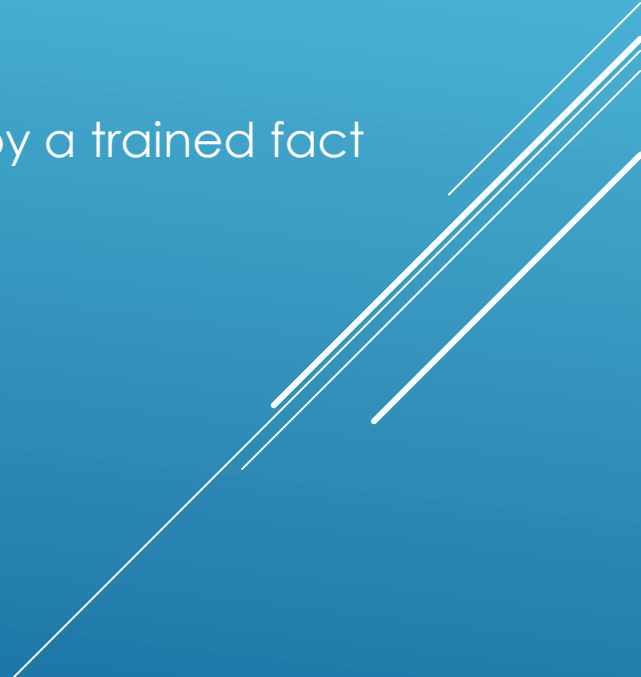
ACCESS TO JUSTICE

Figure I: Percentage of People Experiencing One or More Legal Problems within Problem Types

Cost of Justice: Canadian Forum on Civil Justice

ACCESS TO JUSTICE

Judiciary

Federal Cost $550 million per year

Provincial (B.C.) Cost $115 million per year (excluding   facilities)

Societal Costs

$800 million per year

Cost of Justice: Canadian Forum on Civil Justice
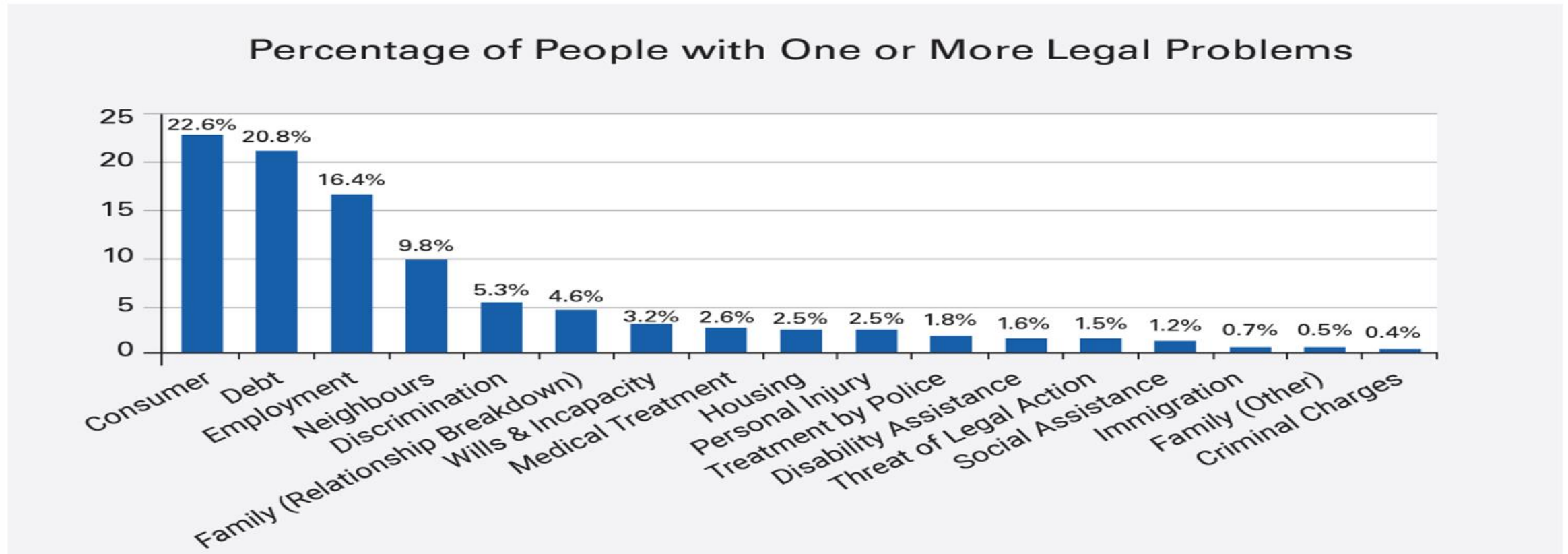
POTENTIAL FRAMEWORK FOR AI DECISION-MAKING [CONDITIONAL ON FULL PUBLIC POLICY CONSULTATION]

- Online dispute resolution only or adjudication
- Deals with common everyday problems that had a good body of settled law
- Design a rules-based or ML/NLP system – through programmers and subject matter experts in law, lawyers, academics, and judges
- System is open and transparent, tested and verified continuously
- System would be inquiry based
- Fact finding outside the scope of the fact finding function would be done by a trained fact finder
- Process could be non-synchronous
- Process could involve mediation
- System would produce result with an explanation
- There would be a right of appeal to a human tribunal
- System would be under the authority of the court

B.C. DIGITAL INITIATIVES

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Smart Online Guide: joint divorce w/o and with children, family protection, probate/administration, chatbot navigation through guided pathways in multiple languages – French, Chinese, Punjabi, Tagalog now. Evaluation of solutions. Natural language processing.

Smart Court Inquirer: optical recognition of court documents providing calendarizing, SMS text reminders of court appearances, navigation to courthouse, navigation within courthouse, navigation post court e.g. jury summons and traffic tickets. Machine learning in recognition of documents.

Intelligent Auto Transcriber: speech to text: court audio into court transcripts – cloud based.