



Data – The New Electricity, or The Next Regulatory Nightmare?

Dr Mark Staples

1 August 2019

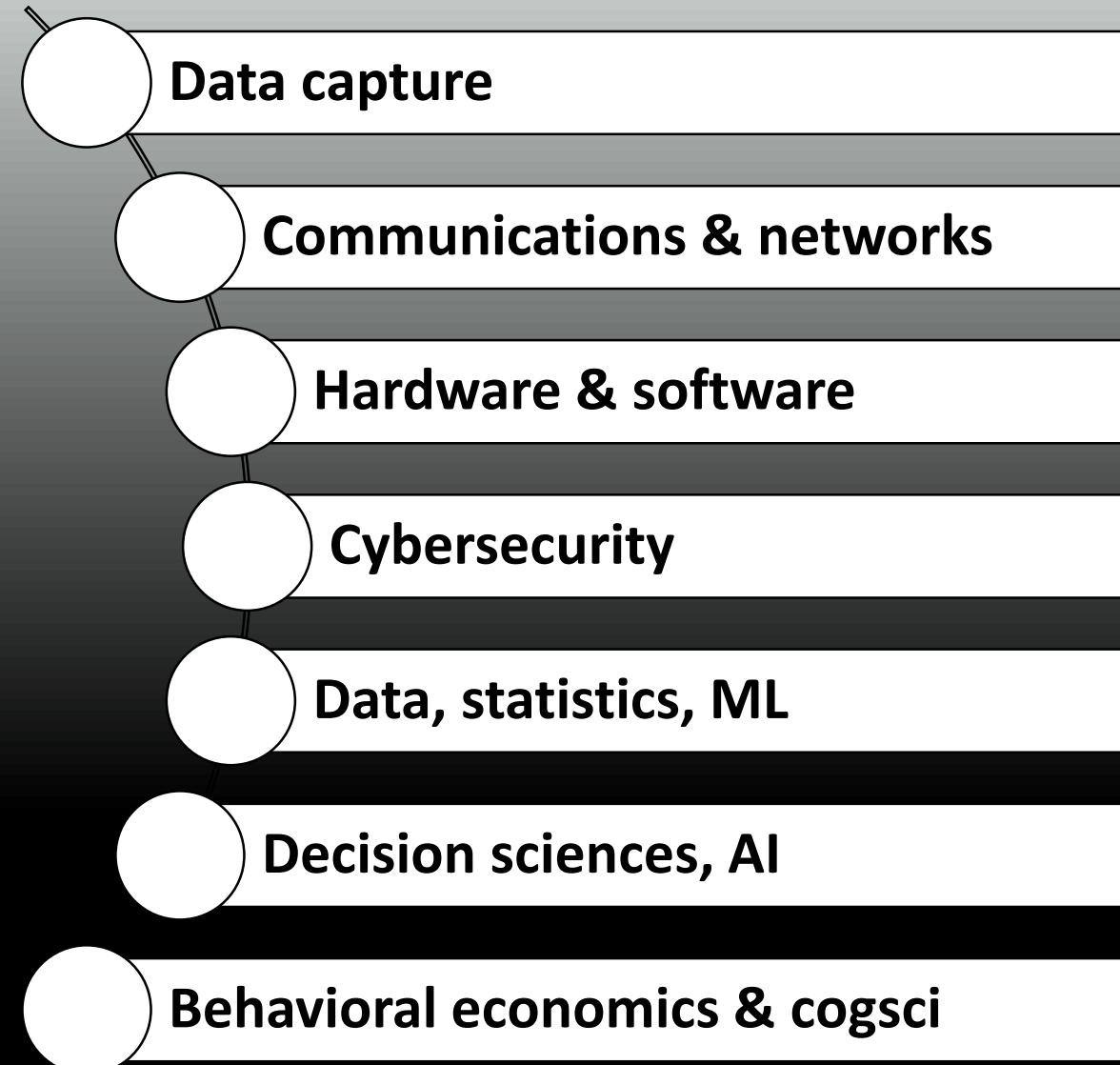
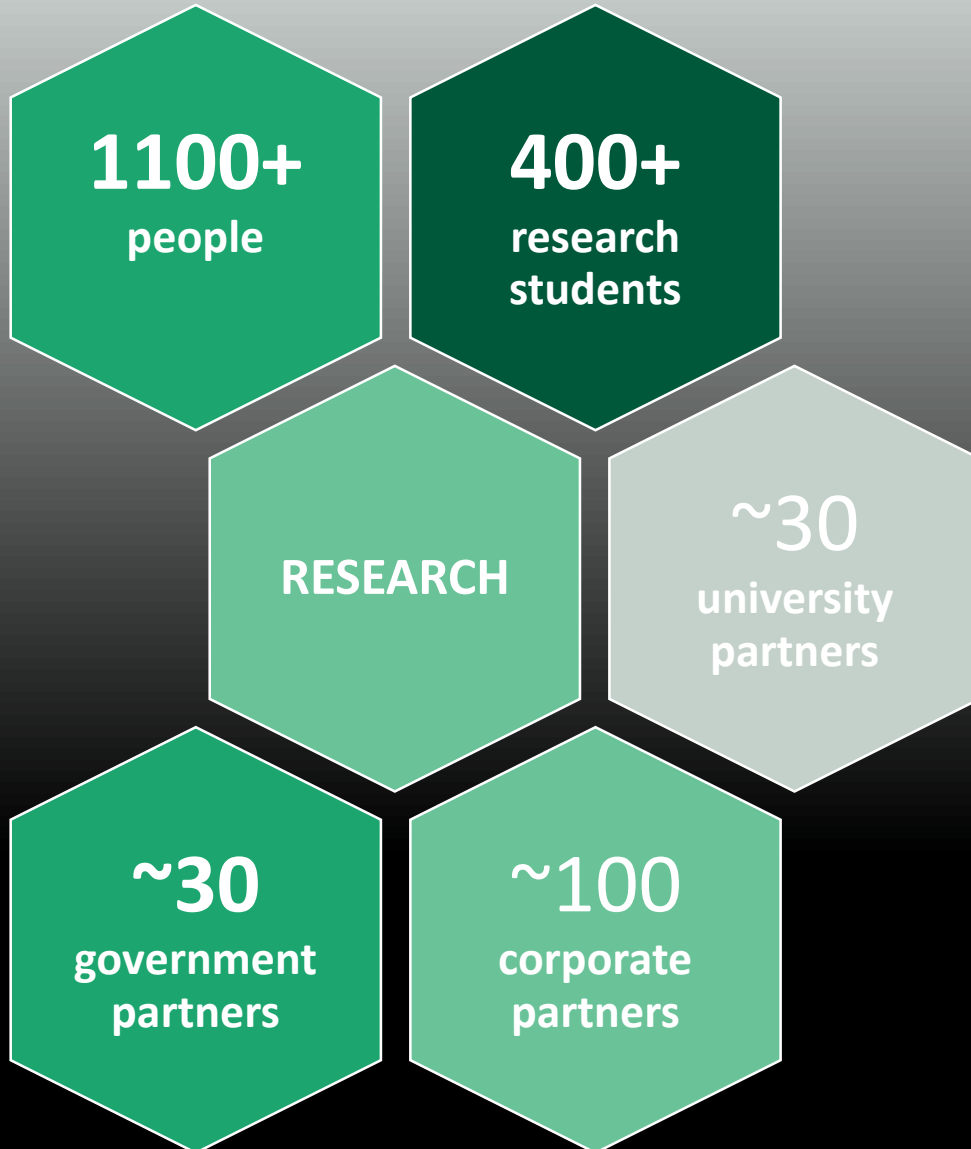
www.data61.csiro.au

Dr Mark Staples

- Undergrad here @UQ! PhD @Cambridge (Computer Science)
- Industry Experience in Software and Systems Engineering
- Senior Principal Researcher at Data61 (CSIRO)
 - Research into Software Engineering & Software Architecture
- Blockchain technologist
 - Co-author of NISA reports (Treasury) in 2017, Textbook in 2019
 - Member Standards Australia/ISO Blockchain and DLT standards committee
 - Led research projects including on *Smart Money* with Commonwealth Bank
 - Leads Data61's involvement in *Australian National Blockchain*
- Leads Data61's "regtech" technology program
- Internal advisory in Data61's standards work for Consumer Data Right



Data61 – Australia Digital Innovation

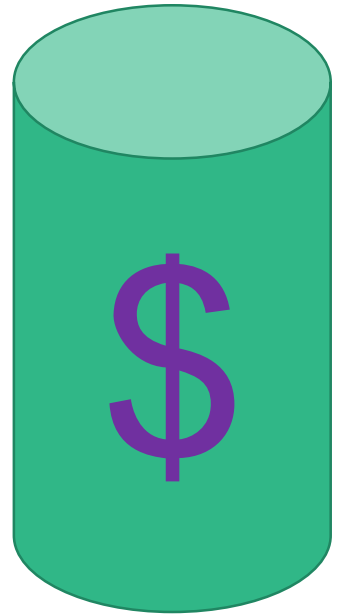


Data, Analytics, & Business Value

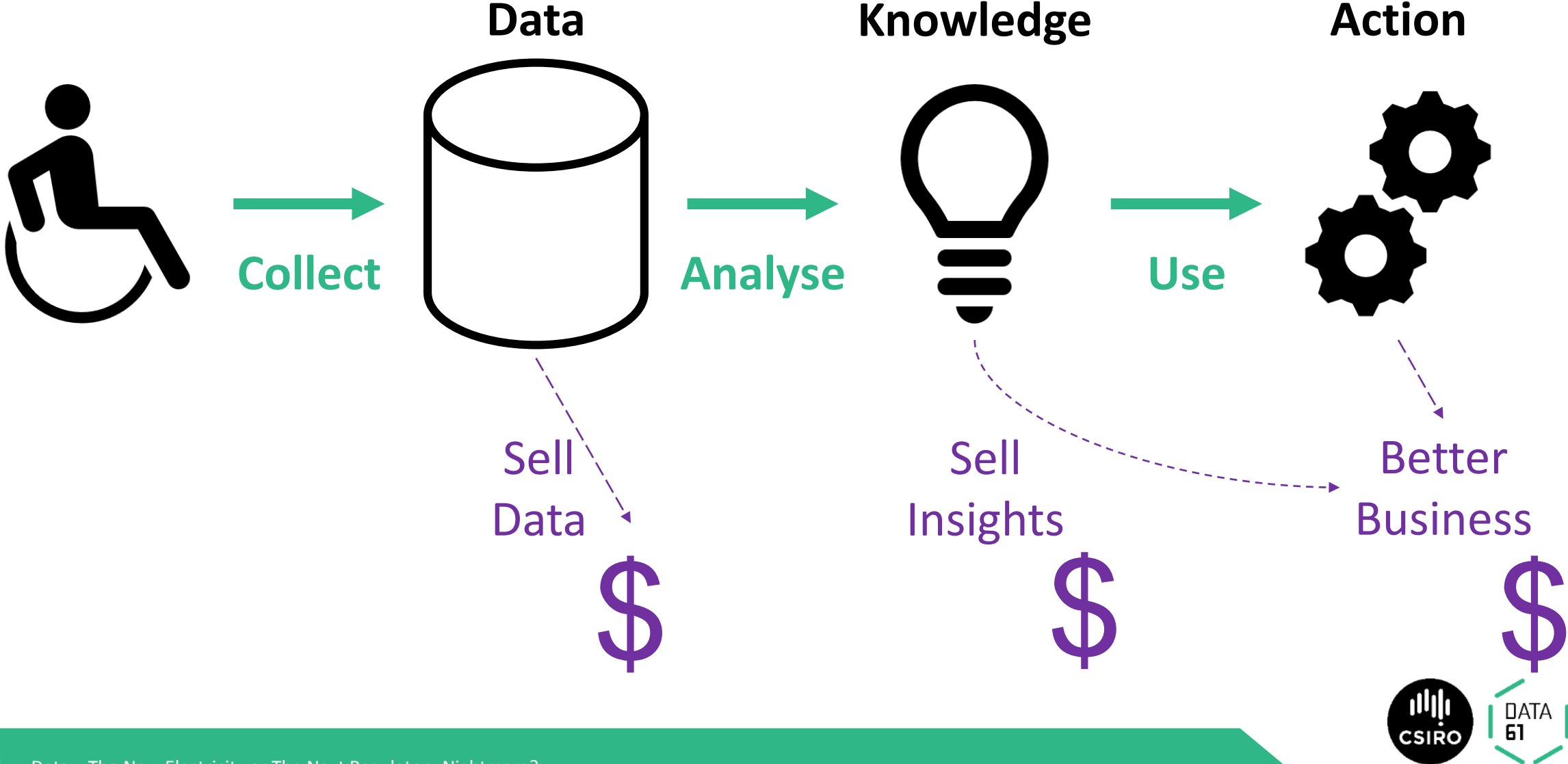


Data as an Asset

- Data is an asset! (i.e., “a useful or valuable thing”)
- But data is not like a “normal” physical asset
 - Not exclusive: I don’t lose it when I give it to you
 - Not depletable: is not reduced when it is used
 - No one “owns” data
 - Except copyright, only for some data
 - e.g. records even if not “of literary quality” *Breen v Williams (1996) 186 CLR 71*
 - but not if automatically compiled *Telstra Corp. Ltd. v Phone Directories Co. (2010) FCAFC 149*
 - Privacy law regulates personal data
 - ...
- Data has value because it lets you make better decisions
 - *Information Economics*

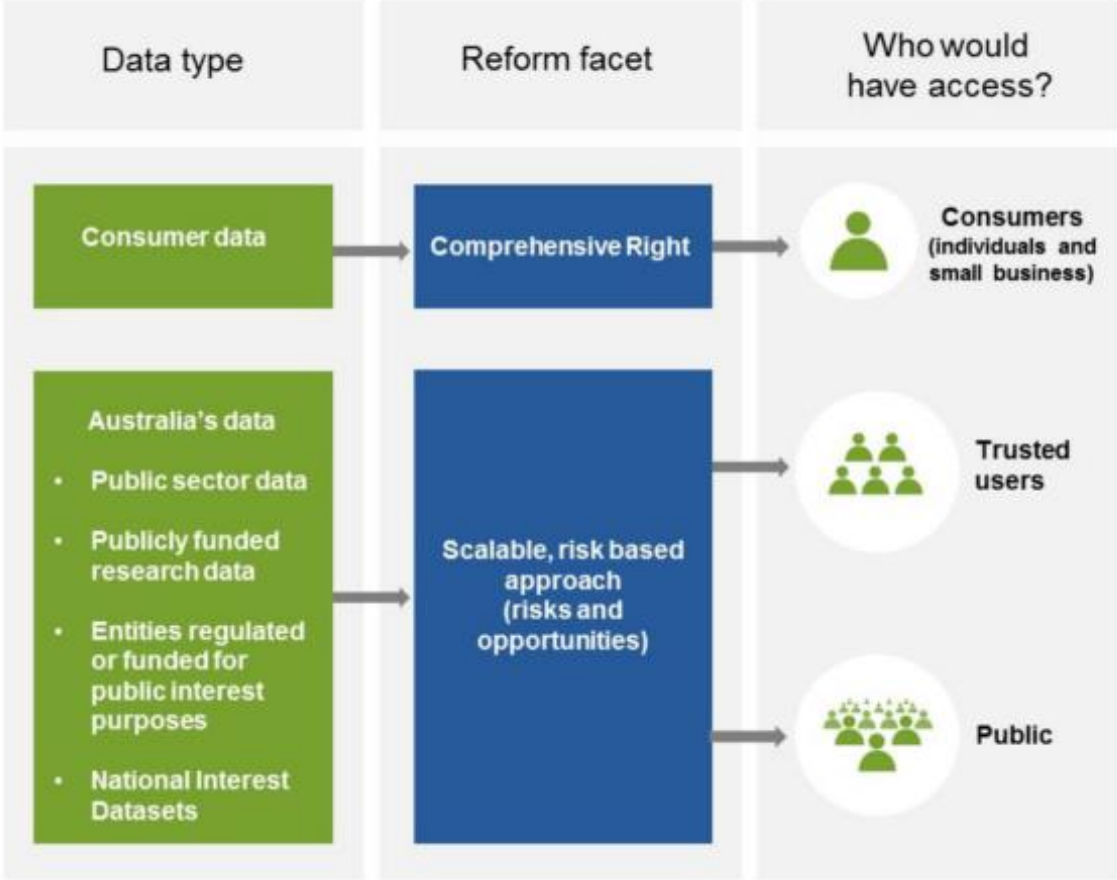


Value of Data – Not Just Better Decisions?!



Productivity Commission Report

Figure 3 Framework of the recommended approach



Data Availability and Use

Productivity Commission
Inquiry Report

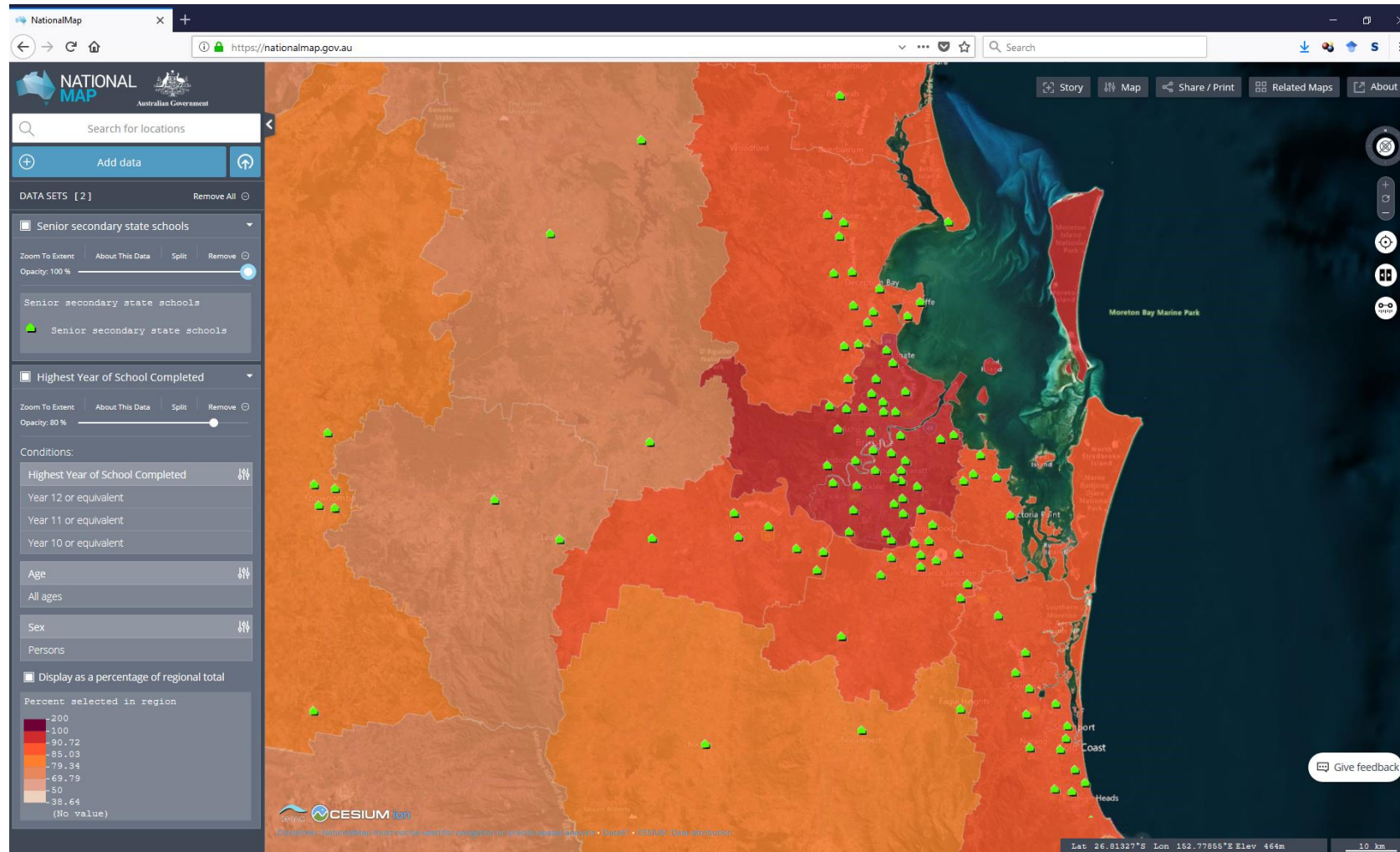
No. 82, 31 March 2017

Open Data

- Data published under a licence permitting its use for any purpose
 - Usually restrictions e.g. on attribution, redistribution under the same licence
- Some examples
 - <https://data.gov.au> – collation of open data from government
 - <https://nationalmap.gov.au> – viewing geographic open data
 - <https://data.csiro.au/dap/> – science data
 - <https://www.pasma.com.au/products/g-naf> – address data; powers many web services!
- There are many data release challenges
 - Assessment & approval: What security classification? Is it useful? Good quality? ...
 - If about individual people or business: privacy reidentification risk!
 - Management of structure & interpretation of the data
 - Management of data updates and of access services



Viewing Open Data in nationalmap.gov.au



Consumer Data Right: Open Banking

- Following Scott Farrell's report
 - Learn from Open Banking in UK and Europe
 - But in Australia, only data sharing ("read")
 - Payments ("write") via New Payments Platform
- Interesting! e.g. analogy between data and money
- Data about money less valuable than money
 - Authority to spend should be authority to share data?
 - Use existing approaches from financial services
- Consumers direct banks to transfer "their" money
- Consumers could direct banks to share "their" data



Australian Government

**OPEN
BANKING**
customers
choice
convenience
confidence

December 2017



Data as the New Electricity?

- Consumer Data Right is not just Open Banking!
- Legislation allows minister to designate industry sectors
- Electricity is the new data!
 - Banking, Electricity, ... then? Telecoms? Superannuation? ...?
 - Social media platforms? (*ACCC Digital Platforms Inquiry report*)
- Same general principles, but need to accommodate industry-specific norms
 - e.g. In banking, how to deal with joint accounts?
 - e.g. In electricity, no online logins to authorise sharing?



Data, Analytics & Business Value in the Legal Profession



Data and Legal Practice: the Business of Law

- Technology is starting to change legal practice
 - “Better business” will mean substantive productivity improvements
 - Fewer (billable?) hours!
 - Greater business value for clients
- Legal practice has lots of data!
 - Most of it is text-based (legislation, regulation, contracts, ...)
 - Also, schedules in contracts often have tables of data
- Many areas of high-cost work
 - Discovery
 - Contract management
 - regtech – tracking requirements and change for regulatory compliance

Data about Law, for Business

- The data in legal text is about business!
- Emerging opportunities for law to work better with business
 - Take contracts out of the filing cabinet
- Integrate legal data with business data
 - Integrate contract performance with business performance
 - Use contracts as a lens for conditions, obligations, permissions
 - Make contracts themselves part of the automation of business
 - Improve business analysis, e.g. assessments of legal risk

Challenges for Legal Data

- Challenges for AI and Ethics become pointed for legal analytics
 - Legal texts are not created for machines to read
 - Even resolving cross-references in legal texts is hard!
 - Capturing deeper interpretation of legal texts is harder, and an active research area: digital-legislation.net/
 - Biases in training data
 - Limited ability to *explain* how AI/ML reaches a decision
- Data access is harder for legal practice
 - Legal privilege, Chinese walls, Commercial confidentiality, ...
 - Legal texts are copyright!
- Interesting and active area
 - Legal technology and future of the profession
 - lawsociety.com.au/sites/default/files/2018-03/1272952.pdf
 - Recent French prohibition on using judgements for data analytics of judges
 - artificiallawyer.com/2019/06/04/france-bans-judge-analytics-5-years-in-prison-for-rule-breakers/
 - AI in criminal justice system?
 - lawsociety.org.uk/support-services/research-trends/algorithm-use-in-the-criminal-justice-system-report/



Data Regulation Challenges



“Data is the New Uranium”

- Scott Farrell

- Data does not come just with value from options in use
- Data also comes with risks, and costs from compliance burden
- Bruce Schneier – “Data is a Toxic Asset”
 - Data is highly personal
 - Many other actors want it (including competitors, nations, ...)
 - Data is hard to secure
 - Failing to secure data is damaging

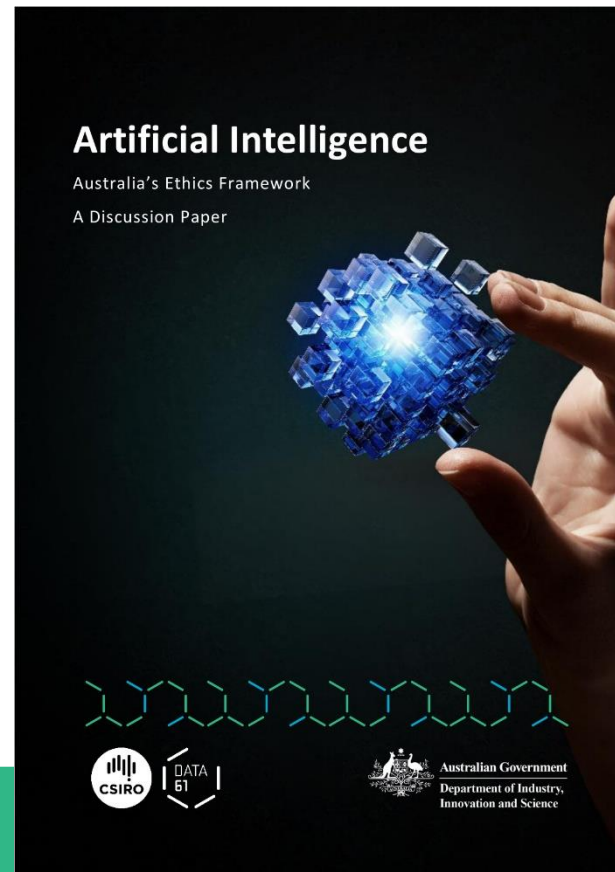


Risks noted in Productivity Commission Report

- Lists some risks from identifying people/businesses within datasets
 - discrimination
 - loss of control over the boundaries around the ‘you’ that the world sees
 - reputational damage or embarrassment
 - identity fraud
 - other criminal misuse of the data
 - commercial harm
- “most risks of data misuse arise not through controlled sharing of data or the public release of robustly de-identified data, but rather from dataset hacking made possible by poor or outdated data collection, storage and management practices”

Some General Data Challenges

- “Security” – what is it? what policies should apply?
 - Confidentiality vs. Integrity vs. Availability
 - plus Privacy, Anonymity, Non-repudiation, ...
- Importance of consent for data access & sharing
 - Do you understand implications? Is consent informed?
 - Consent granted for a narrow purpose? Can consent be revoked?
- Privacy Law, including possible new tort from ACCC report?
- Competition Law, e.g. for natural monopolies
- Ethics!
 - Data61 discussion paper on AI Ethics Frameworks



Other Regulatory Challenges

- Different Regulations in Different Jurisdictions!
 - e.g. EU GDPR; Nazi memorabilia in Germany; French ban on AI about judges
- How should multinational companies share data across borders?
- How to navigate and integrate response to all the different regulation?
- Investigation & Enforcement
 - Data can be dangerous! And the “better business” it supports might be illegal
 - Can authorities have access without introducing systematic weaknesses?
 - Can data be trustworthy if there are back doors that might change it?
 - How can investigators deal with this massive amount & sources of data?





THANK YOU

Mark Staples

Senior Principal Researcher

e firstname.surname@data61.csiro.au

w <https://people.csiro.au/S/M/Mark-Staples>

www.data61.csiro.au



Panel



Mark Staples

- Researcher

Data61 (CSIRO)



Jemima Harris

- Director

LOD



Chris Maher

- Legal Counsel (IP)

Telstra



Angus Murray

- Partner & Trademark Attorney

Irish Bentley Lawyers

Q&A

