

Responsible Data Analytics

Introduction

Trust is an essential requirement between governments and citizens. Without trust governments cannot function effectively. The maintenance of trust is achieved through the behaviours and actions of individuals and government agencies.

In particular the use of data analytics is supporting an increasing range of activities related to public administration including informing policy, administrative design and direct support for administrative decision making.

Because big data projects often use information about individuals and, almost always, decisions and actions resulting from these findings may affect individuals, public sector agencies need to ensure that they maintain trust and operate within acceptable bounds as they increase their use of new technologies such as data analytics.

This guide aims to introduce the relevant existing administrative and ethical frameworks that support the use of responsible data analytics.

Primarily data analytics in government agencies is undertaken in the context of administrative frameworks such as the Australian Public Service Act, its accompanying values and code of conduct, government regulations and specific legislation.

The specific application of policy frameworks directly related to the data analytics capability such as information management, data integration, privacy and security are specifically covered in the better practice guide. The observance of these policy frameworks is critical to responsible data analytics.

In addition to these frameworks there are specific principles, values for officers with specific responsibilities in data analytics need to observe, and these are outlined in three parts –

1. Responsibilities of government agencies
2. Responsibilities of analytics practitioners
3. Responsibilities of decision makers

Responsibilities of Government Agencies

- Ensure data analytics projects are in the general interest of the community.
- Identify and apply relevant ethical guidelines.

For example big data research projects generally do not require active participation from individuals; they may however access personal information and data. Because of this characteristic big data research projects can fall under the auspices of the National Statement on conduct on Human Research 2007 (updated 2014)¹

Where this is the case, government agencies should put in place management arrangements to ensure guidelines are observed during the conduct of the project. Including identifying and responding to circumstances where the risks to participants (ie individuals to whom the data relates) is present big data projects should be referred to a Human Research Ethics Committee or equivalent body.²

- For administrative solutions that apply data analytics, ensure the design is compliant with the values of the administrative law system:
 - Lawfulness
 - Fairness
 - Rationality
 - Openness and Transparency
 - Efficiency
- Make government information available for access and reuse where privacy or other legitimate concerns do not prevent release.
- Enforce policies, practices and procedures reflect current information privacy and security principles.
- Ensure that scope of assurance programs include management and use of data.
- Investigate breaches and oversights to determine causes and corrective action.

¹ National Statement on Ethical Conduct in Human Research 2007 (Updated March 2014). The National Health and Medical Research Council, the Australian Research Council and the Australian Vice-Chancellors' Committee. Commonwealth of Australia, Canberra.

² Where government agencies partners with research institutions, they may consider making use of existing Human Research Ethics Committees available to that institution.

Responsibilities of Analytics Practitioners

The Australian Public Service Values³ outline the values and code of conduct expected from public servants. For analytics professionals there are specific practices that apply within these values including⁴:

- Uphold intellectual honesty and integrity.
- Apply scholarly and scientific rigour, ensure appropriate methods are used to achieve research objectives, results are peer reviewed where relevant.
- Report research responsibly, ensure the results and conclusions derived from data are presented in a balanced, accurate and objective manner, including null findings and estimates of uncertainty.
- Maintain adequate records of research objectives and methods.
- Ensure appropriate attribution to collaborators and sources.
- Respect research participants and their information.
- Be open and transparent about what data is collected and how data is used.
- Adhere to policies, practices and procedures that are compliant with legal, security and privacy requirements.

³ <http://www.apsc.gov.au/aps-employment-policy-and-advice/aps-values-and-code-of-conduct/aps-values>

⁴ Adapted from Australian Code for the Responsible Conduct of Research, National Health and Medical Research Council, Australian Research Council and Universities Australia. 2007

Responsibilities of Decision Makers

Similarly to the responsibilities of researchers, the APS Values and relevant administrative laws apply to the conduct of officials acting in the capacity of a decision maker.

- a) Decision makers in respect of policy advice and administration design
 - i. Report research responsibly, ensure the results and conclusions derived from data are presented in a balanced, accurate and objective manner, including null findings.
 - ii. Declare conflicts of interest.
- b) Decision makers in respect of administrative decision making⁵
 - i. Ensure procedural fairness is maintained in the act of the decision including the transparency of administrative processes and decisions.
 - ii. Ensure appropriate authorities are in place to make a decision or to delegate decision making power to an expert system.
 - iii. Decisions comply with administrative law disclosure requirements including Freedom of Information and Statements of Reasons.

⁵ Adapted from Automated Assistance in Decision Making - Administrative Review Council, 2004:

Responsible Data Analytics – Resources

- Attorney General's Department
 - Administrative Review Council – Automated Assistance in Administrative Decision Making
<http://www.arc.ag.gov.au/Documents/AAADMreportPDF.pdf>
 - Protective Security Policy Framework
<http://www.protectivesecurity.gov.au/pspf/Pages/default.aspx>
- Australian National Data Service
 - Ethics Consent and Data Sharing
<http://www.ands.org.au/guides/ethics-working-level.html>
- Australian Public Service Commission
 - Australian Public Service Act
<http://www.comlaw.gov.au/Current/C2014C00044>
 - Australian Public Service Values and Code of Conduct
<http://www.apsc.gov.au/aps-employment-policy-and-advice/aps-values-and-code-of-conduct/aps-values>
- National Health and Medical Research Council
 - Australian Code for the Responsible Conduct of Research
<https://www.nhmrc.gov.au/guidelines/publications/r39>
 - National Statement on Ethical Conduct in Human Research
<http://www.nhmrc.gov.au/guidelines/publications/e72>
- National Statistical Service
 - High level Principles for Data Integration Involving Commonwealth Data for Statistical and Research Purposes
<http://www.nss.gov.au/nss/home.NSF/pages/High+Level+Principles+for+Data+Integration+-+Content?OpenDocument>
 - Statistical Spatial Framework
<http://www.nss.gov.au/nss/home.NSF/pages/Statistical%20Spatial%20Framework>
- Office of the Australian Information Commission
 - Australian Privacy Principles
<http://www.oaic.gov.au/privacy/privacy-act/australian-privacy-principles>
 - De-Identification agency Resource
<http://www.oaic.gov.au/freedom-of-information/freedom-of-information>
 - Freedom of Information
<http://www.oaic.gov.au/freedom-of-information/freedom-of-information>
 - Guide to Information Security
<http://www.oaic.gov.au/privacy/privacy-resources/privacy-guides/guide-to-information-security>
 - Principles on open Public Sector information
<http://www.oaic.gov.au/information-policy/information-policy-resources/information-policy-reports/open-public-sector-information-from-principles-to-practice>
 - Privacy Impact Assessment Guide
<http://www.oaic.gov.au/privacy/privacy-engaging-with-you/previous-privacy-consultations/guide-to-undertaking-privacy-impact-assessments/guide-to-undertaking-privacy-impact-assessments>