

Unleashing the power of the world's most valuable resource

11 May 2017

Liz MacPherson, Government Statistician

🐦 @GovStatistician

@Stats_NZ



**“When we find a purpose
that is bigger than
ourselves, we become more
powerful in our ability to
create.”**

Jack Delosa

Jack Delosa, author, investor, and CEO of The Entourage, Australia’s most disruptive education institution for entrepreneurs, is also known as Richard Branson’s curriculum development go-to.

Unleashing the power of data to change

lives

Provider

Provide independent
and trusted data

Enabler

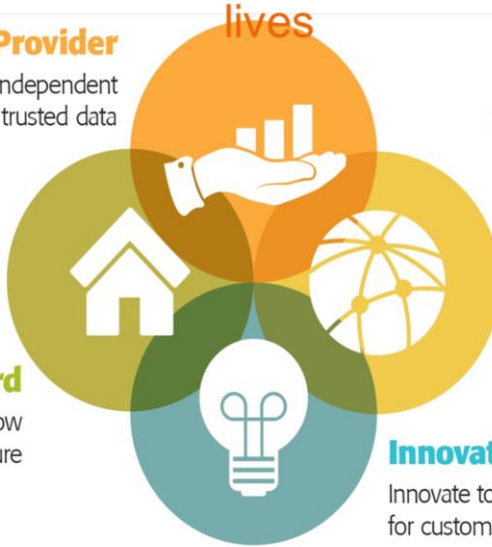
Enable New Zealand
decision makers

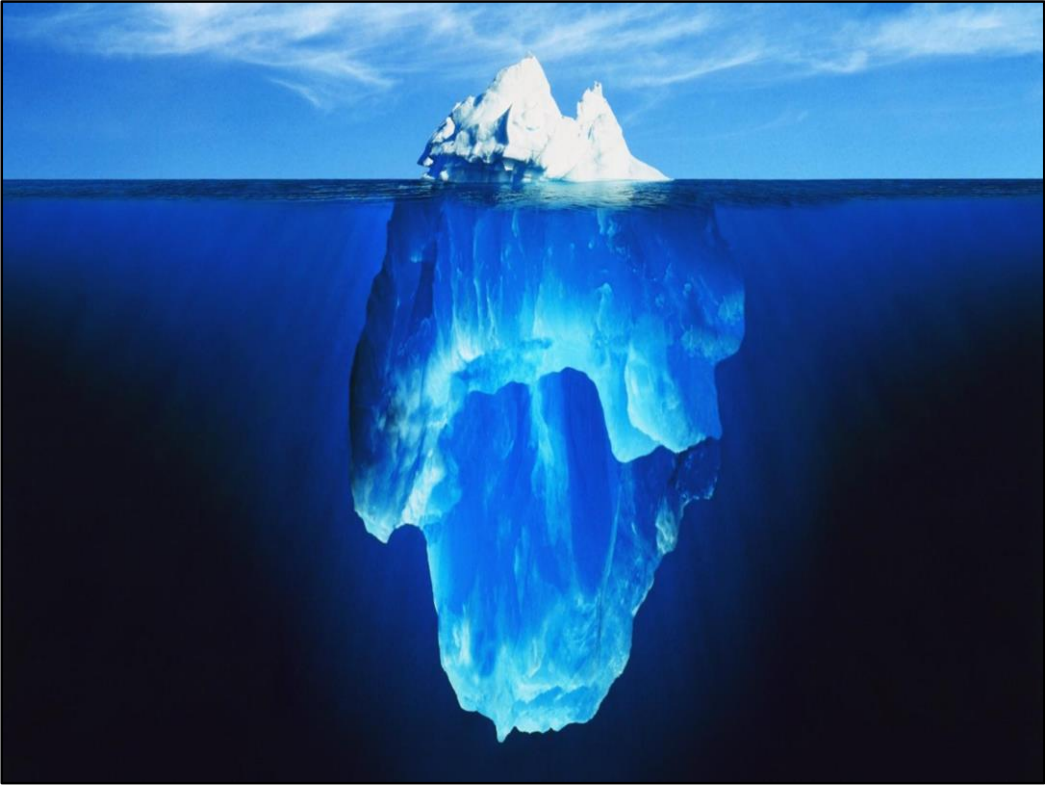
Steward

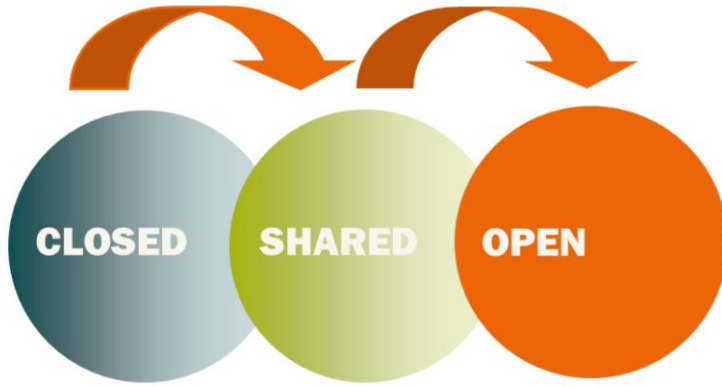
Steward data now
and for the future

Innovator

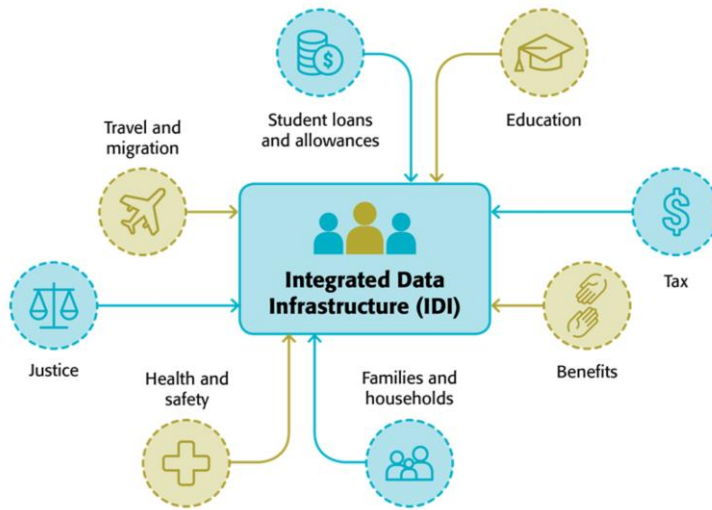
Innovate to drive value
for customers







Person-centred Integrated Data



MODERN DATA SCIENTIST

Data Scientist, the sexiest job of the 21st century, requires a mixture of multidisciplinary skills ranging from an intersection of mathematics, statistics, computer science, communications and business. Finding a data scientist is hard. Finding people who understand who a data scientist is, is equally hard. So here is a little cheat sheet on who the modern data scientist really is.

MATH & STATISTICS

- ✦ Machine learning
- ✦ Statistical modeling
- ✦ Experimental design
- ✦ Bayesian inference
- ✦ Supervised learning: decision trees, random forests, logistic regression
- ✦ Unsupervised learning: clustering, dimensionality reduction
- ✦ Optimization: gradient descent and variants

DOMAIN KNOWLEDGE & SOFT SKILLS

- ✦ Passionate about the business
- ✦ Curious about data
- ✦ Influence without authority
- ✦ Hacker mindset
- ✦ Problem solver
- ✦ Strategic, proactive, creative, innovative and collaborative

PROGRAMMING & DATABASE

- ✦ Computer science fundamentals
- ✦ Scripting language e.g. Python
- ✦ Statistical computing packages, e.g. R
- ✦ Databases: SQL and NoSQL
- ✦ Relational algebra
- ✦ Parallel databases and parallel query processing
- ✦ MapReduce concepts
- ✦ Hadoop and Hive/Pig
- ✦ Custom reducers
- ✦ Experience with AWS like AWS







Thank you

Liz MacPherson, Government Statistician
@GovStatistician
@Stats_NZ