



# DATA READINESS

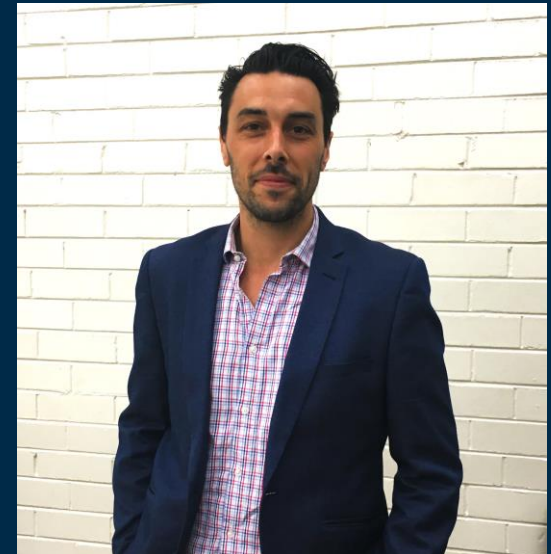
Sam Headberry, Senior Consultant April 2018

# WHO AM I

**SAM HEADBERRY**

**SENIOR CONSULTANT, INFOXCHANGE**

- » 12 years in the NFP sector
- » Focus on housing and homelessness
- » Data geek
- » Believes Business Intelligence will drive better results for service users
- » Wants a Harley Davidson



# Agenda

- » Barriers in the community sector
- » Data Foundations
  - Understand your data
  - Organise your data
  - Explore your data
- » Basic tips and tricks
- » Data capability assessment



**WHY ARE WE HERE?**



# Data. Data. Data



Tech / #BigData  
Big Data And AI: 30 Amazing (And Free) Public Data Sources For 2018

Machine learning, artificial intelligence, blockchains, predictive analytics – all amazing technologies which have promised to revolutionize business and society.



What the Data Says About Women in Management Between 1980 and 2010

by William Scarborough



DIY genetic testing kits raise data security concerns

our data

ek, contemplating what to make for dinner, and as you idle



g, or pleasantly persuaded? Telenor, a



Big Companies Are Embracing Analytics, But Most Still Don't Have a Data-Driven Culture

## Encrypted smartphones secure your identity, not just your data

February 26, 2018 10:05pm AEST



Preparing for Data Age 2025

RoZetta Technology chief data scientist Ian Friedman speaks with Seagate Technology about how businesses can unlock the value of their data sets.

14 February, 2018 10:32



## Data breach will not be

ation Commissioner will not investigate a data breach at the University of

ment a spreadsheet containing the names, salary details, classification and

iversity employee on Thursday and Friday last week.



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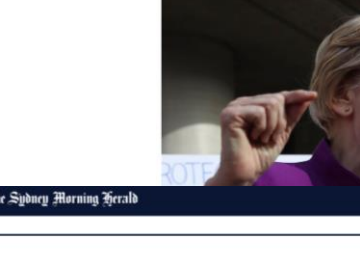
REVIEW NEWS VIDEO HOW TO SMART HOME CARS DEALS DOWNLOAD

SECURITY

## Equifax possibly profiting off data breach, Sen. Warren says

After introducing legislation targeting credit bureaus' bottom lines, the Massachusetts senator says, "Equifax is still making money off their own breach."

BY DARA KERN / FEBRUARY 26, 2018 12:18 PM PST



The Sydney Morning Herald

BUSINESS SMALL BUSINESS MARKETING

## Mandatory data breach reporting starts for small business

By Nina Hendy

20 February 2018 - 6:11pm

More than half of Australian small business owners are blissfully unaware that new laws around

mandatory reporting of data breaches that come into play on Thursday could attract crippling fines,

research shows.

The Notifiable Data Breaches (NDBI) scheme of the Privacy Act establishes new reporting require-

ments that mandate that small business covered by the Australian Privacy Act 1988 must report eli-

gible data breaches to authorities and also members of the public if it believes or is aware that data

has been compromised.

TRY THE APP FREE FOR ONE MONTH

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NEWS WEBSITE OF THE YEAR

Home Technology

Feb 23 2018 at 6:00 PM

Updated Feb 23 2018 at 6:00 PM

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NEW mandatory data breach notifications laws to drag Australia into cyber age

Feb 23 2018 at 6:00 PM

Updated Feb 23 2018 at 6:00 PM

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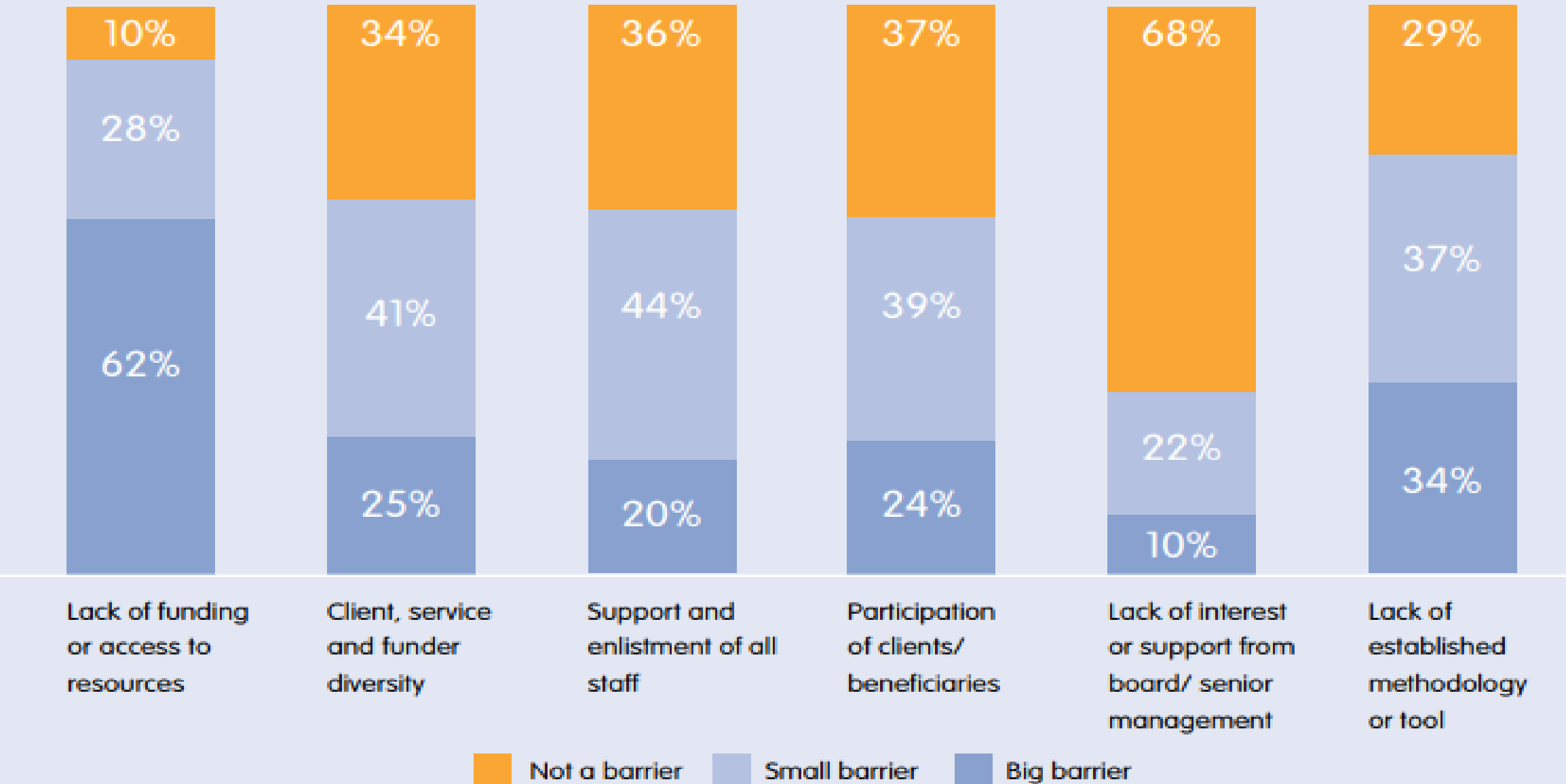
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# **Barriers for the community sector**

Figure 3: Perceived barriers to outcomes measurement



Source: Centre for Social Impact, UWA Outcomes Measurement in the Western Australian Community Sector Survey.



# Survey respondents report that strategic, leadership, and organizational hurdles often determine the degree to which they can use data and analytics effectively

Which of these have been among the TOP 3 most significant challenges to your organization's pursuit of its data and analytics objectives?

● High
 ● Moderate
 ● Low

	Barriers	Overall %	High tech and telecom	Retail	Manufacturing	Public sector	Health care
Strategy, leadership, and talent	Constructing a strategy	30	<span style="color: #005596;">●</span>	<span style="color: #00AEEF;">●</span>	<span style="color: #00AEEF;">●</span>	<span style="color: #99D9EA;">●</span>	<span style="color: #00AEEF;">●</span>
	Ensuring senior management involvement	42	<span style="color: #99D9EA;">●</span>	<span style="color: #005596;">●</span>	<span style="color: #005596;">●</span>	<span style="color: #005596;">●</span>	<span style="color: #005596;">●</span>
	Securing internal leadership for data and analytics projects	33	<span style="color: #005596;">●</span>	<span style="color: #005596;">●</span>	<span style="color: #99D9EA;">●</span>	<span style="color: #99D9EA;">●</span>	<span style="color: #99D9EA;">●</span>
	Attracting and/or retaining appropriate talent (both functional and technical)	21	<span style="color: #00AEEF;">●</span>	<span style="color: #00AEEF;">●</span>	<span style="color: #00AEEF;">●</span>	<span style="color: #99D9EA;">●</span>	<span style="color: #99D9EA;">●</span>
Organizational structure and processes	Tracking the business impact of data and analytics activities	23	<span style="color: #99D9EA;">●</span>	<span style="color: #99D9EA;">●</span>	<span style="color: #00AEEF;">●</span>	<span style="color: #005596;">●</span>	<span style="color: #00AEEF;">●</span>
	Designing an appropriate organizational structure to support data and analytics activities	45	<span style="color: #00AEEF;">●</span>	<span style="color: #99D9EA;">●</span>	<span style="color: #005596;">●</span>	<span style="color: #005596;">●</span>	<span style="color: #005596;">●</span>
	Creating flexibility in existing processes to take advantage of data-driven insights	13	<span style="color: #99D9EA;">●</span>	<span style="color: #99D9EA;">●</span>	<span style="color: #00AEEF;">●</span>	<span style="color: #99D9EA;">●</span>	<span style="color: #99D9EA;">●</span>
	Providing business functions with access to support	14	<span style="color: #99D9EA;">●</span>	<span style="color: #00AEEF;">●</span>	<span style="color: #99D9EA;">●</span>	<span style="color: #99D9EA;">●</span>	<span style="color: #99D9EA;">●</span>
IT infrastructure	Investing at scale	17	<span style="color: #00AEEF;">●</span>	<span style="color: #005596;">●</span>	<span style="color: #99D9EA;">●</span>	<span style="color: #99D9EA;">●</span>	<span style="color: #00AEEF;">●</span>
	Designing effective data architecture and technology infrastructure	36	<span style="color: #99D9EA;">●</span>	<span style="color: #00AEEF;">●</span>	<span style="color: #005596;">●</span>	<span style="color: #005596;">●</span>	<span style="color: #005596;">●</span>



**“Good data in. Great insights out”**

Source: PWC, 2018, ‘Build your data foundation’

# **DATA FOUNDATION**

**STEP 1) UNDERSTAND YOUR DATA**

**STEP 2) ORGANISE YOUR DATA**

**STEP 3) EXPLORE YOUR DATA**

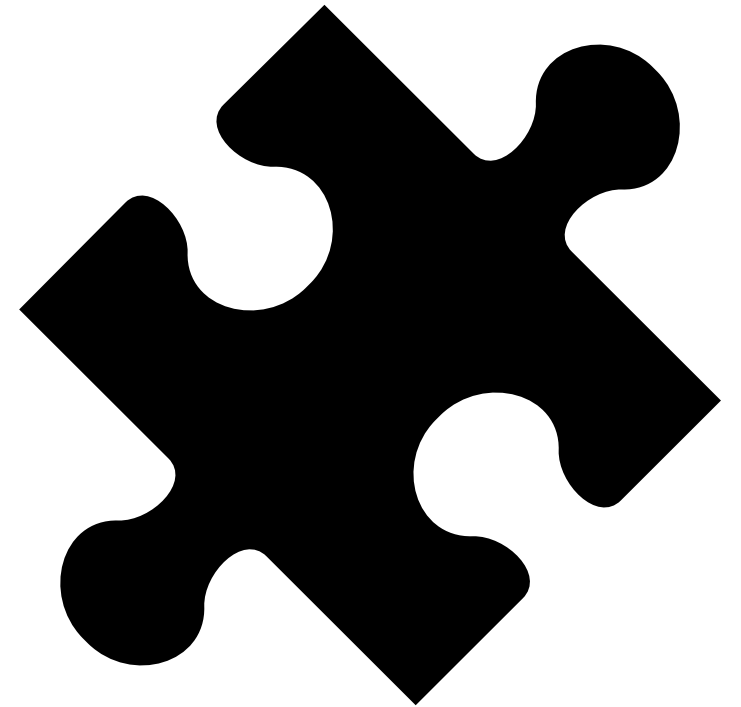
# DATA FOUNDATIONS

UNDERSTAND YOUR DATA

# Information architecture

“ (is) a holistic view on the flow of information in an enterprise, including the effects of the processes that act upon the data.”

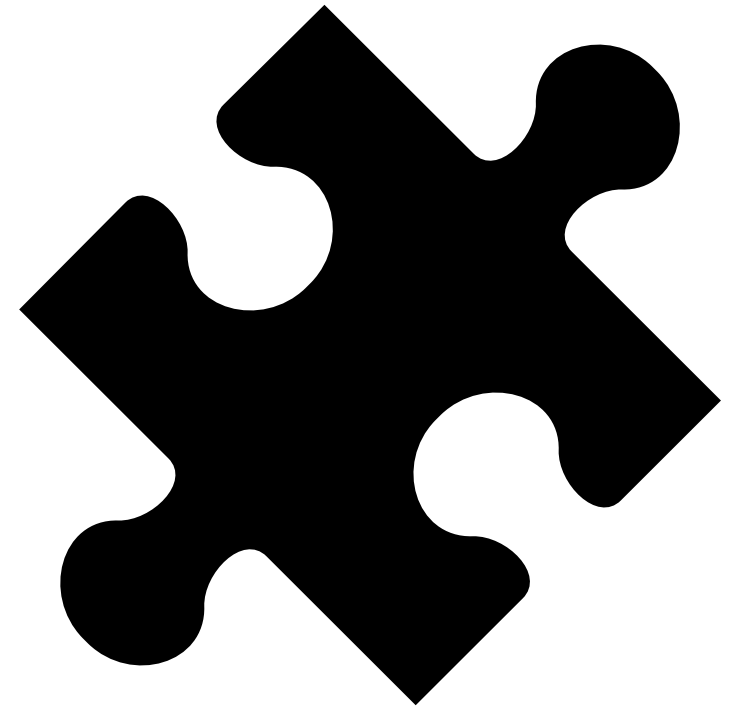
Source: DataVersity, 2018



# Data architecture

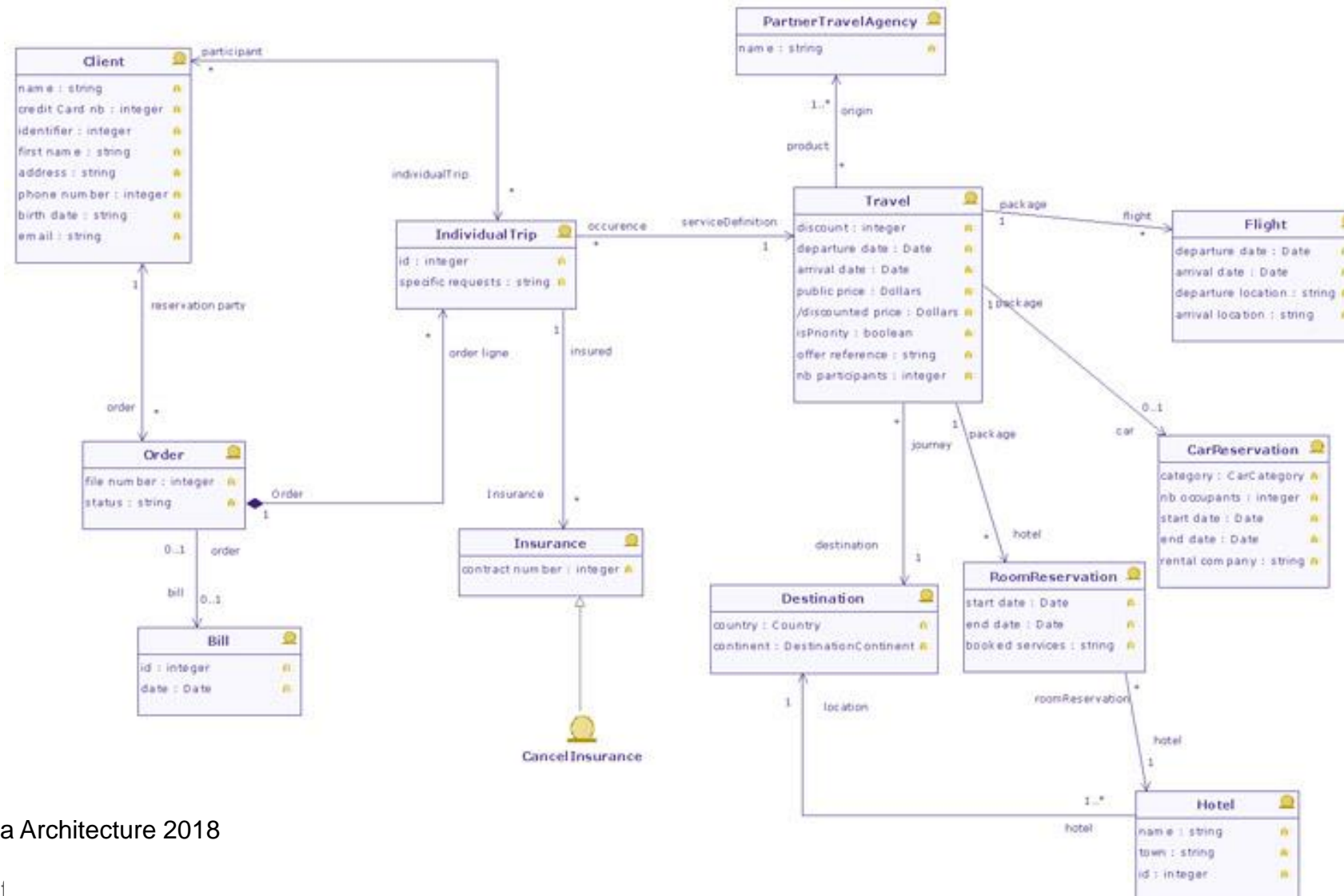
Data (in) context. Without context, data is meaningless; we create meaningful information by interpreting the context around data... The resulting information then guides our decisions.”

Source: DAMA, 2016





# Mapping relationships



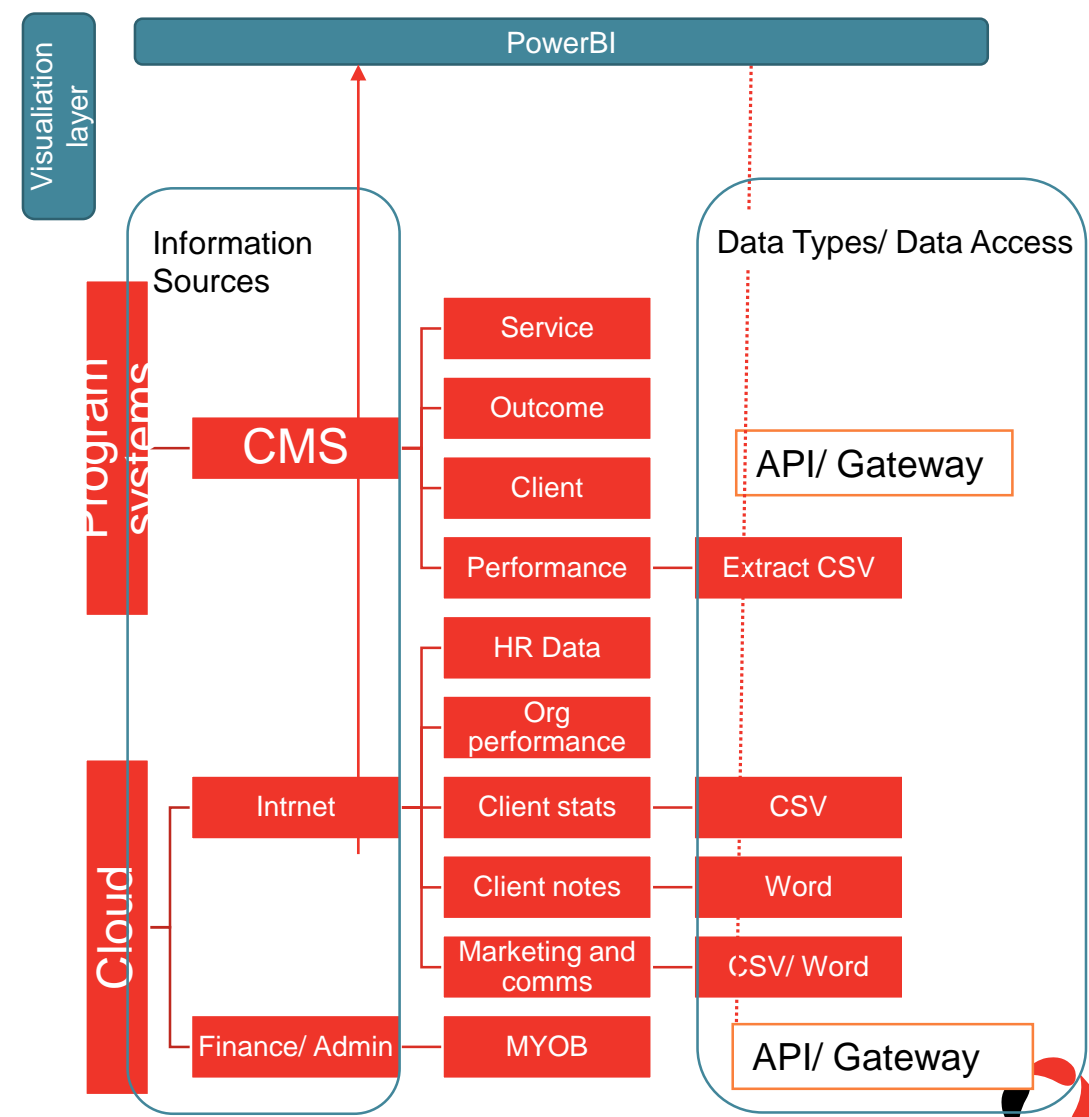
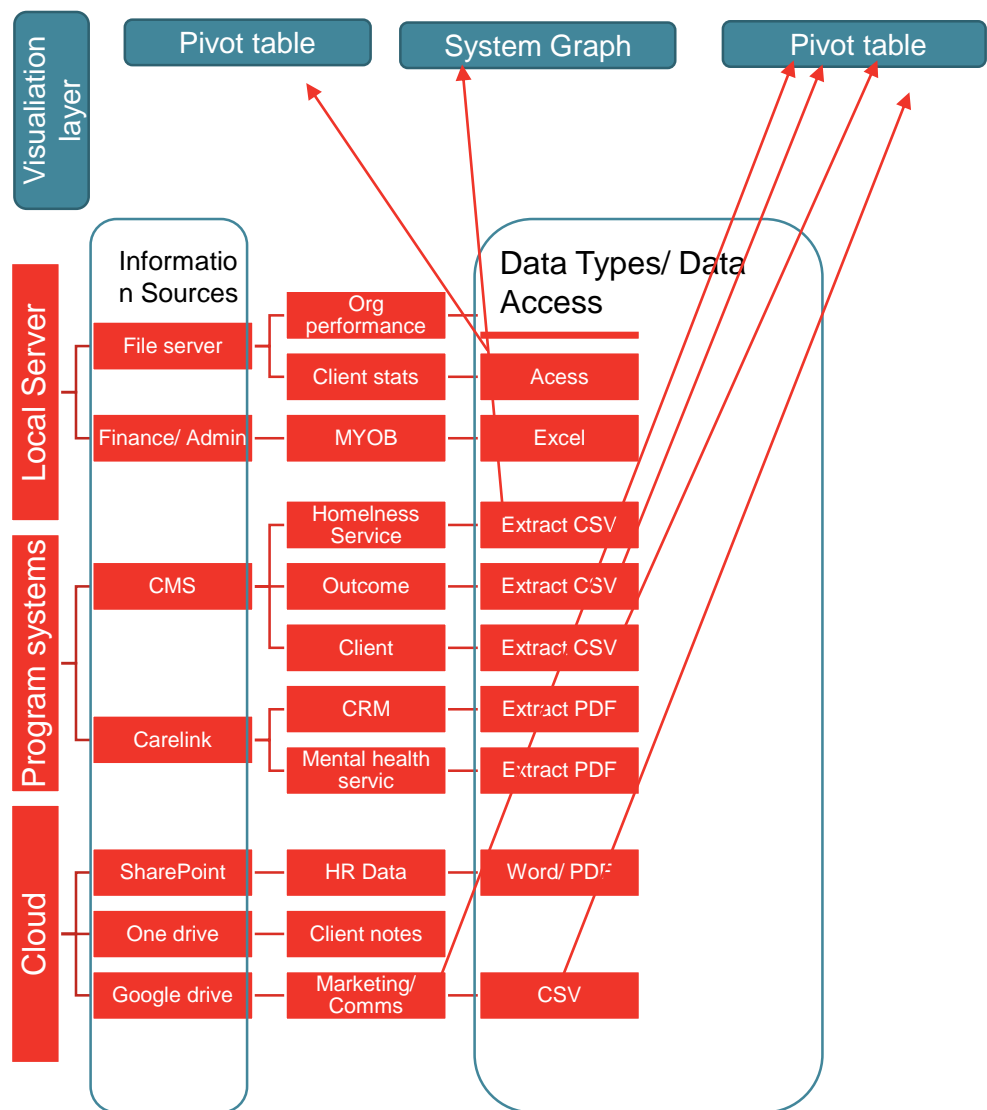
Source: TOGAF, Data Architecture 2018



# Data Mapping

Current state

Future state



# DATA FOUNDATIONS

**ORGANISE YOUR DATA**

# System Selection



# Choosing the right system to you

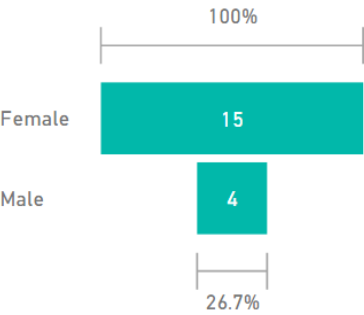


# DATA FOUNDATIONS

EXPLORE YOUR DATA

Client Demographics

Open Plan by Sex

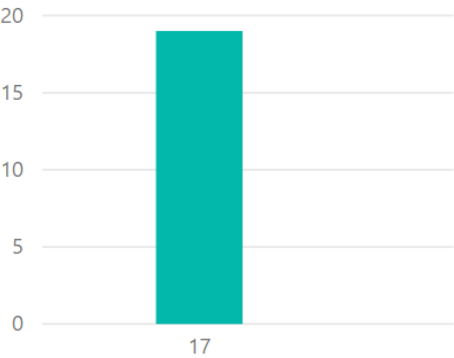


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Person ID

Neither Aboriginal or T...

11  
Person ID

Count of Contact Time by Age



Person ID by Age

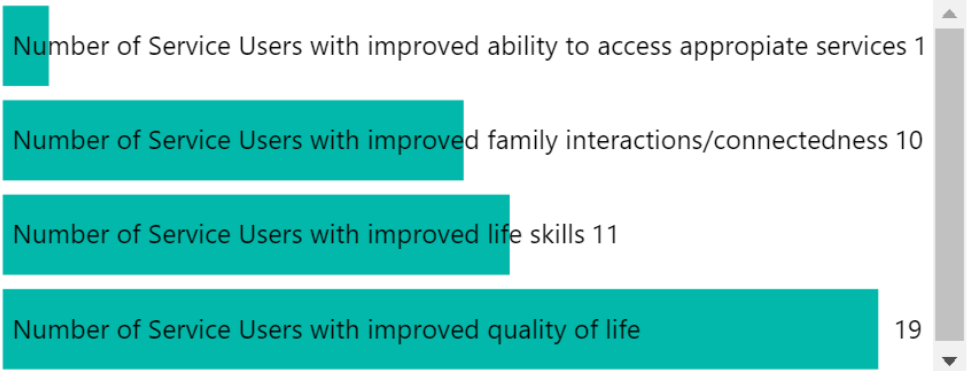


Person ID by Sex

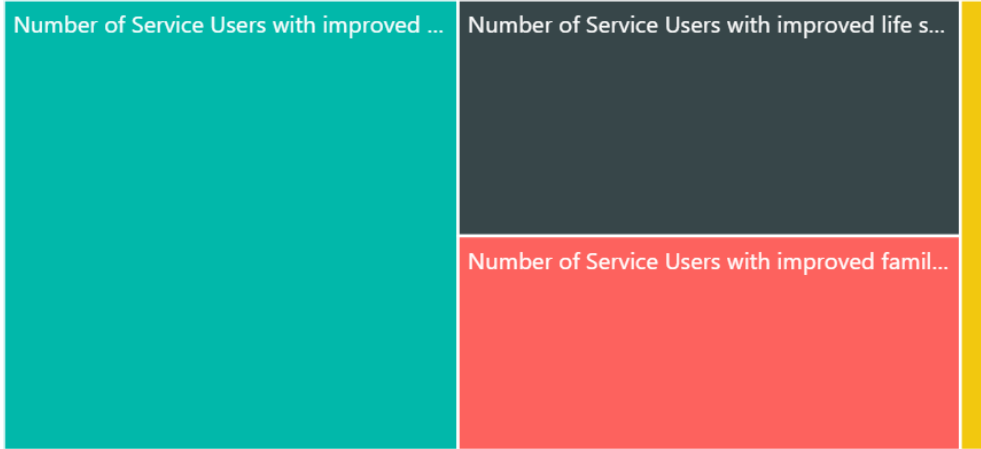


Client Outcomes

Response by Measure Name



Response by Measure Name



Number of hours provided during the reporting period  
912.27  
Response

Number of Service Users who received a service during ...  
58.00  
Response

Person ID by Country of Birth



Filter

- Age
- ☐ (Blank)
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  - ☐ 20
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  - ☐ Male

- Code
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  - ORORI
  - OPENL
  - OLRAY
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  - ATHIL
  - ADIMT
  - ACAYO

# BASIC TIPS AND TRICKS



# Basic tips and tricks to improve your data management

## Focus on data quality:

- Develop data entry standards
- Determine what is your key data
- Avoid duplication

## Utilise data analysis

- Use a visualisation tool
- Challenge your assumptions
- Determine your story, and evidence it

## Embrace a data culture

- Embed strong data practices across your team
- Reinforce the value of data
- Provide opportunity for key staff to develop insights



# DATA CAPABILITY ASSESSMENT

# Data Capability Matrix

	Starting Out	Beginner	Intermediate	Advanced
Data foundations	<p>We don't know where our data is stored</p> <p>We'll be fine, we're not vulnerable to data breaches</p>	<p>Our data lives in a variety of sources</p> <p>We use data to comply with funding requirements, but that's it.</p> <p>Data security is discussed informally</p> <p>No formal plan to manage security needs exist.</p>	<p>Our data is consolidated in two or three key areas</p> <p>A data security plan has been developed, and partially implemented but is not regularly reviewed</p>	<p>Our data is consolidated and linked across programs</p> <p>A data security strategy is emplaced and regularly updated.</p>
Data Governance and planning	<p>The use of data within the organisation is not considered</p> <p>Data is not important to our organisation</p>	<p>Organisational data is considered by senior level, but no plan to leverage data exists</p> <p>We think data could help us, but are slightly confused about where to start</p>	<p>An organisational wide data plan is developed, but needs implementation and review</p> <p>We use data to inform our practice once or twice a year</p> <p>We provide more insights with our data than our funders needs</p>	<p>A comprehensive data governance framework exists, is understood by all staff and implemented</p> <p>We use our internal data for content marketing</p> <p>Data constantly informs our practice with access to real time insights.</p> <p>We use BI tools to provide insights in real time</p>
Data management	<p>Staff do not know where data is stored</p> <p>Policies and processes on data do not exist</p>	<p>Staff see value in data</p> <p>There is one or two people in the organisation who know where our data is kept</p>	<p>Key organisation data is accessible and regularly updated</p> <p>Data management practices exist, but are not reviewed regularly</p>	<p>We can generate insights with data easily</p> <p>Our data is stored in a central location</p> <p>We have data management practices which are reviewed regularly</p>
Data Visualisation	<p>Data is not used for decision making.</p>	<p>Some teams/ staff use charts on their own services but these are not shared across the organisation</p>	<p>Teams have access to graphs and charts on organisational performance, but data is often outdated or incorrect</p> <p>We use a BI tool when needed for strategy, but it is not always available</p>	<p>Staff and executive have dashboards on organisational performance in real time available to them</p>

**WHY?**



**Improved insights**  
**Improved outcomes**  
**Improved efficiencies**  
**Improved management**  
**Improved service delivery**  
**Improved access to funding**

**“Data can provide the community services sector with the tools it needs to improve services in order to deliver long-term outcomes for vulnerable and at-risk groups within our community. Without the necessary enabling environment created by government, the sector risks being left behind by private for-profit organisations that are able to use that data in ways that do not necessarily provide the greatest benefit to the community as a whole. Through better data linkage between Federal and State governments and with the not-forprofit sector, it is possible to deliver wrap-around services that will reduce long-term costs and drive better community outcomes.**

**“**

**Source: ACOSS, 2016**

**THANK YOU**

**PLEASE GET IN TOUCH**



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