

# Domain Analytics

Jay Daley, .nz Registrar Conference, 2015

# Domain Analytics Explained

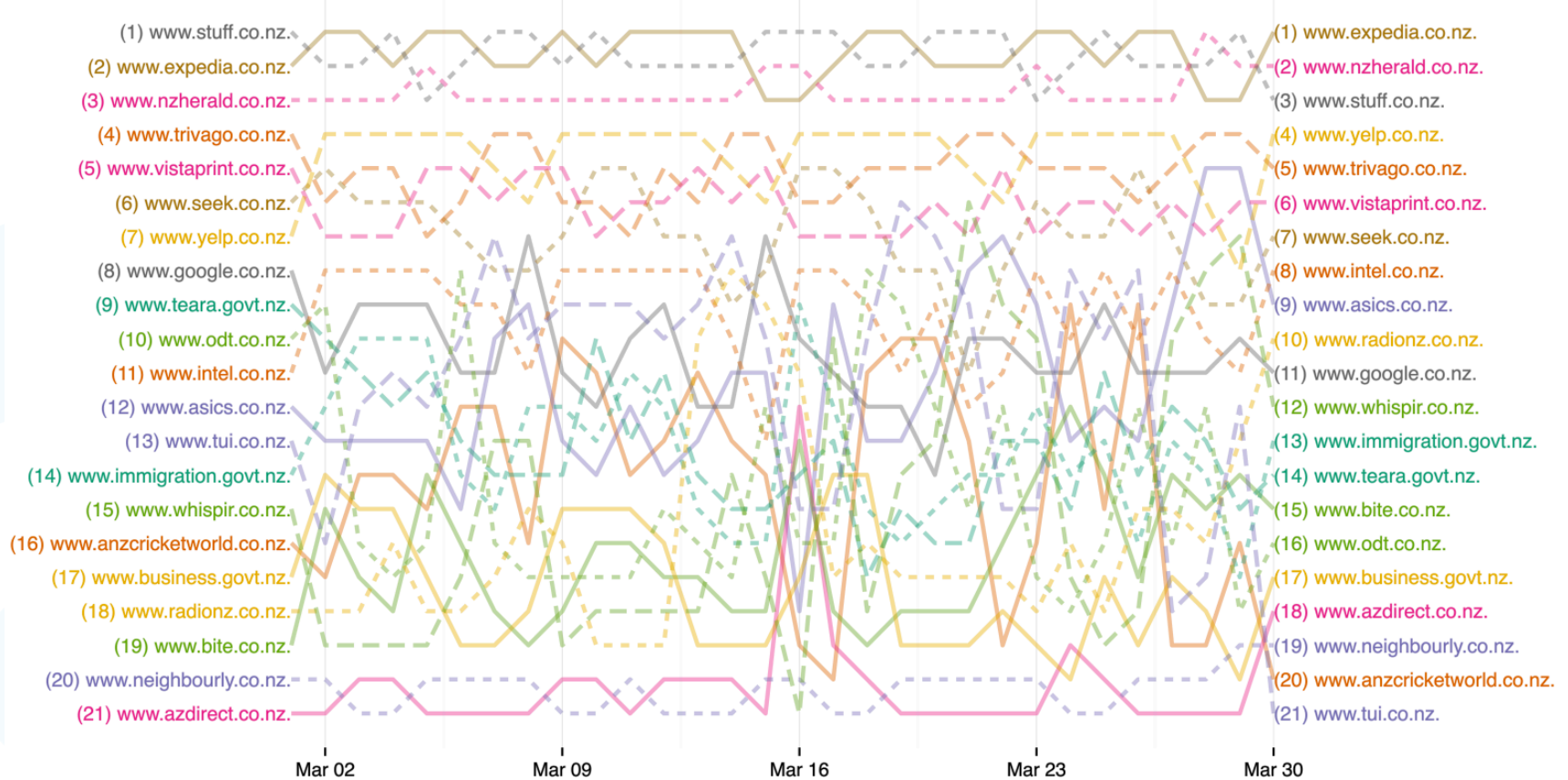
- Using data science to provide insight into domain name usage
  - Value for registrars – understanding customers
  - Value for registrants – understanding competition
- Two key techniques
  - Algorithmic popularity ranking from DNS traffic
  - Industry coding of domains by machine learning
- Two key outputs
  - New functionality on registrar portal
  - New product for registrars to sell

# Popularity Ranking

- We see and capture a huge amount of DNS traffic.  
Caching resolvers answer most queries before they get to us.
- Standard algorithm that ranks importance of words in a corpus of documents  
Tf-idf (term frequency-inverse document frequency)  
Adapted to domain names  
Further work needed to refine
- Calculated every day

# Top 20 - March 2015

Relative domain ranking (Popular)



# Top Banks - March 2015

Relative domain ranking (Banks)



# Industry Coding

- ANZSIC – Australia/New Zealand Standard Industry Code (2006)

- 19 broad divisions:

A – Agriculture, forestry, fishing and hunting    B – Mining    C – Manufacturing    D – Electricity, gas and water supply    E – Construction    F – Wholesale trade    G – Retail trade    H – Accommodation, Food Services    I – Transport and storage    J – Information Media and Telecommunications    K – Finance and insurance    L – Rental, Hiring and Real Estate Services    M – Professional, Scientific and Technical Services    N – Administrative and Support Services    O – Public Administration and Safety    P – Education and Training    Q – Health Care and Social Assistance    R – Arts and Recreation Services    S – Other Services

- 96 sub-divisions, 200+ group, 500+ classes

L    Rental, Hiring and Real Estate Services

66            Rental and Hiring Services (except Real Estate)

661            Motor Vehicle and Transport Equipment Rental and Hiring

6611           Passenger Car Rental and Hiring

6619           Other Motor Vehicle and Transport Equipment Rental

# ANZSIC for the Register

- Bought two hand-curated marketing databases.

Bought two fields - Domain Name, ANZSIC  
106k in one, 15k in the other

- Used these as training set for machine learning

- Now at stable point

Overall accuracy of 50% using strict matching and  
76% using fuzzy matching

- Looking for ways to improve this.

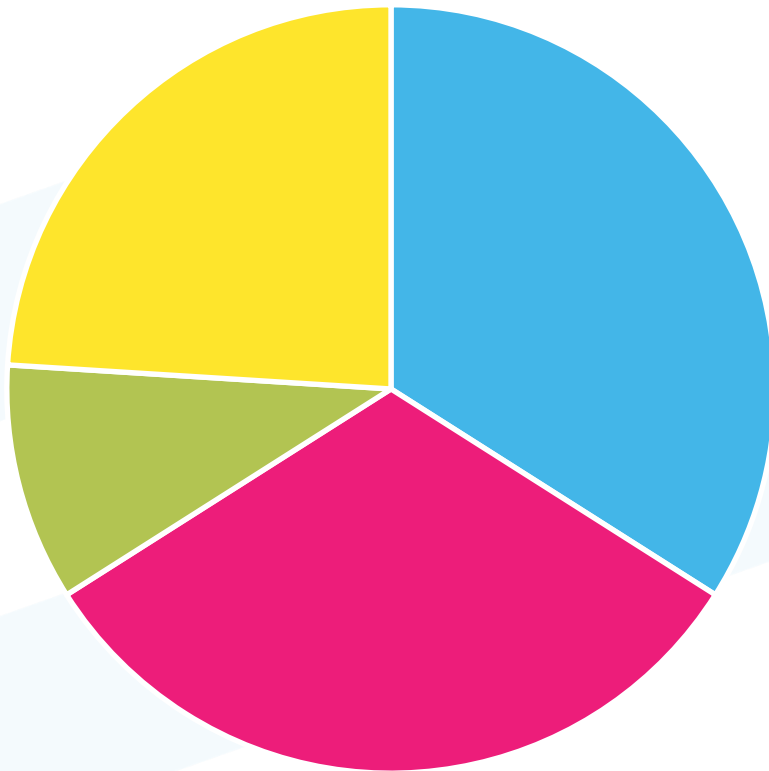
# Value for Registrars

- Penetration by vertical
  - Specialise in specific verticals (accidentally)?
  - Repeat business in same vertical?
- Potential of verticals
  - How does overall registry penetration compare to industry size?
  - Has a vertical been fully mined?
  - What are the most untapped verticals?
- Value of verticals
  - Do some verticals bring more repeat business?
  - Buy more add-on products?



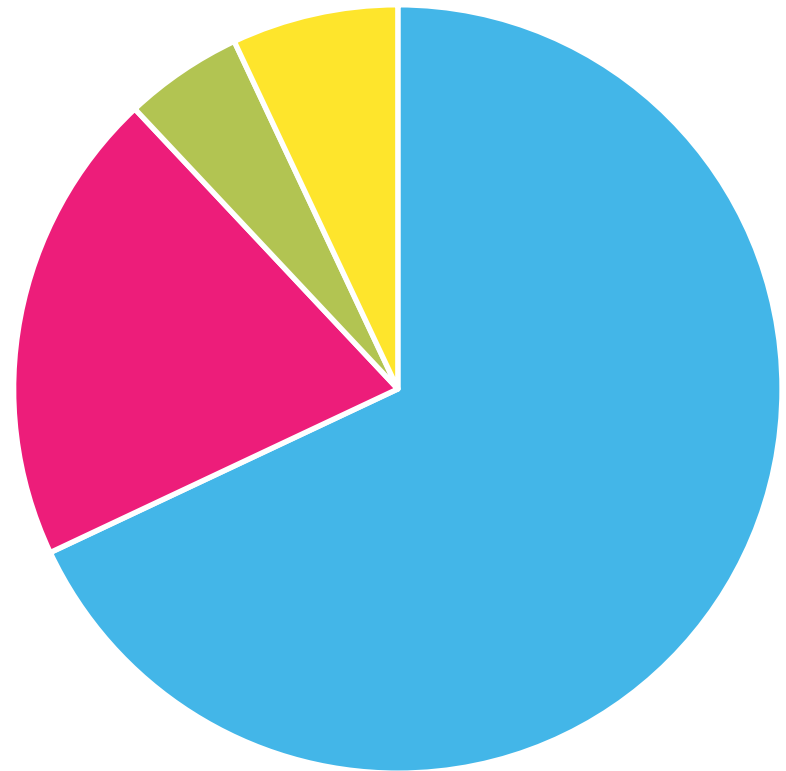
# Value for Registrars

Registrar



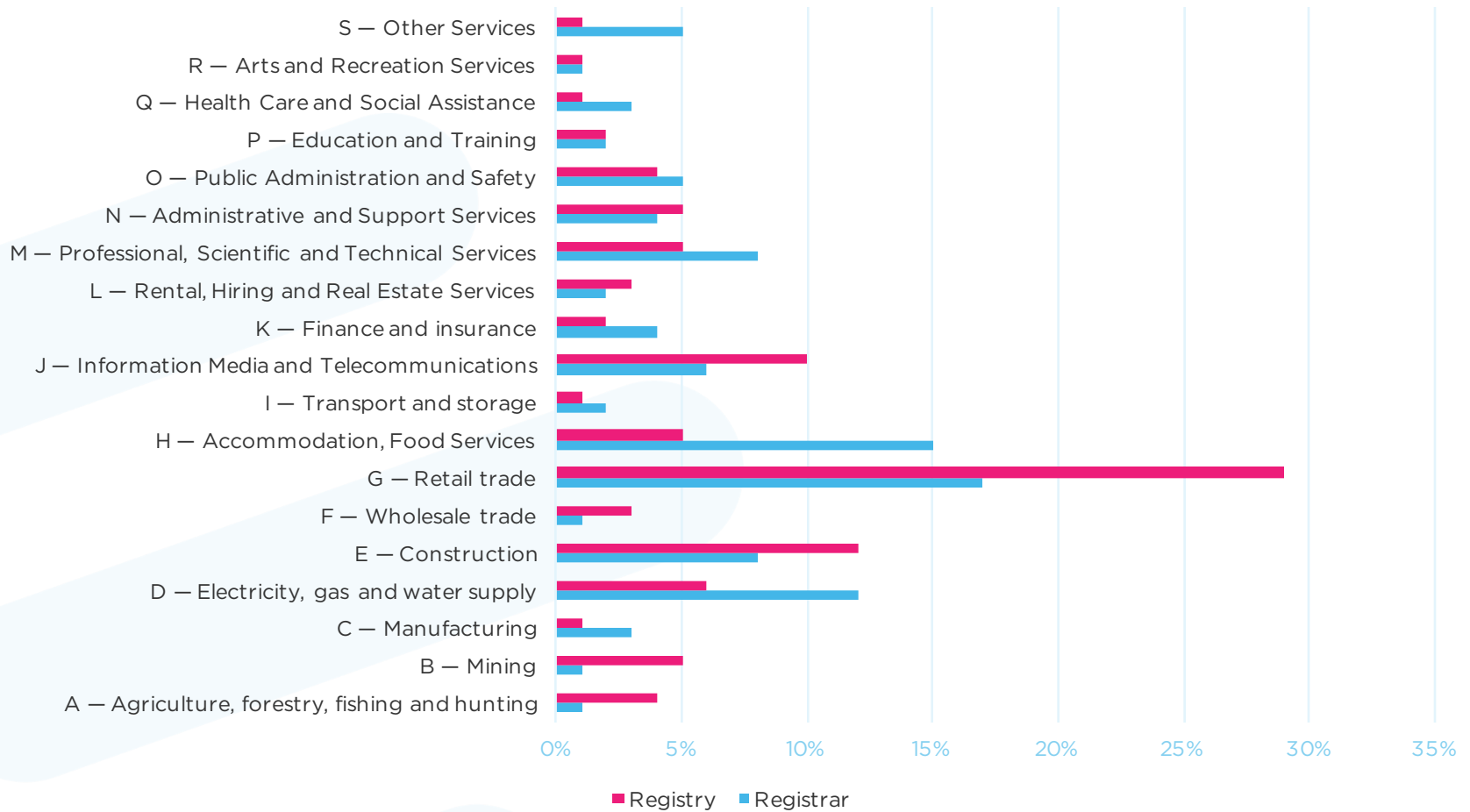
■ ANZSIC ■ Personal ■ Parked ■ Unknown

Registry



■ ANZSIC ■ Personal ■ Parked ■ Unknown

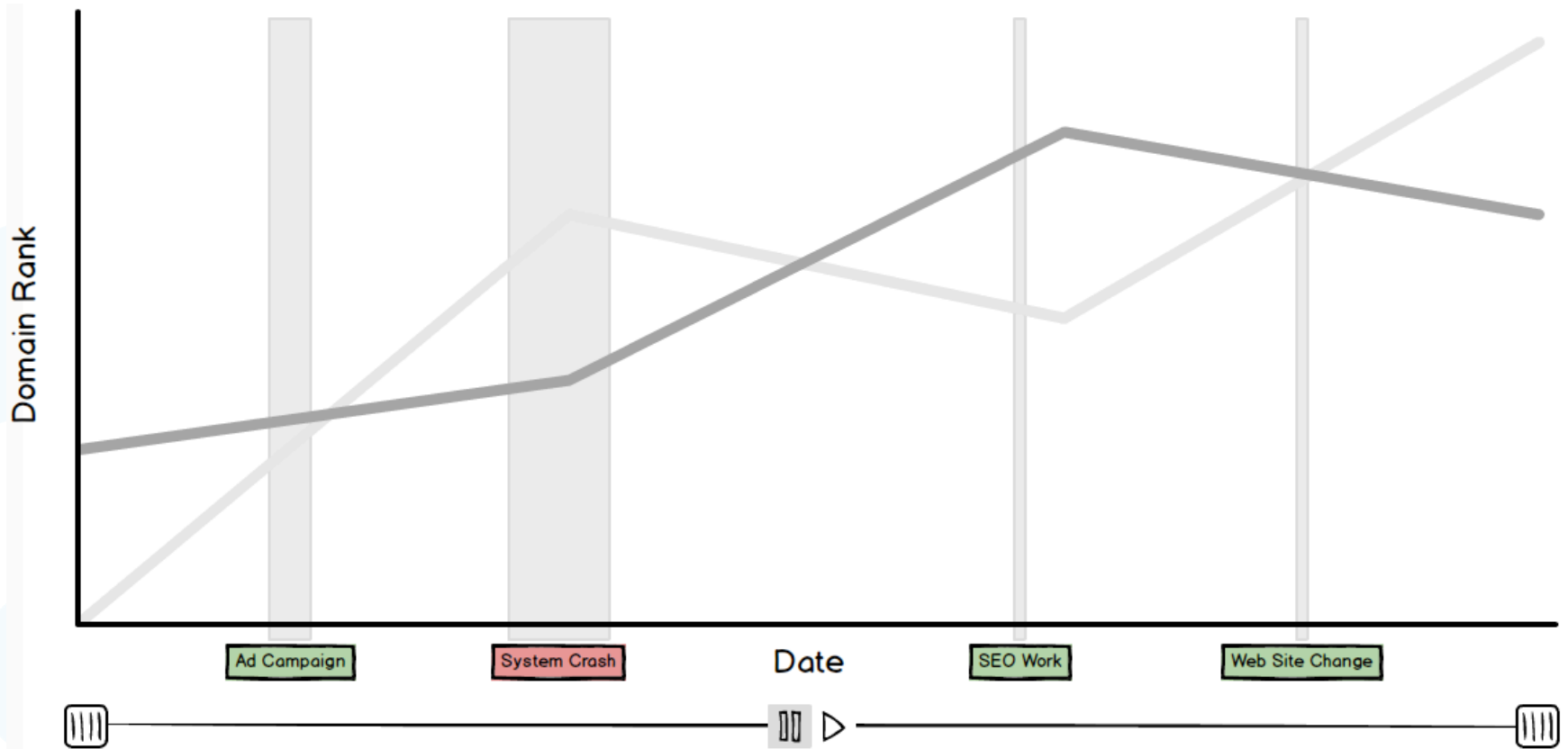
# Value for Registrars



# Value for Registrants

- The online advertising dilemma  
Imagine you're an online flower shop  
You advertise in the lead up to Mothers' Day  
You get 50% rise in online traffic, 10% rise in sales
- BUT ....  
How do you know how your competitors did?  
What if they got 50% rise without advertising?  
How much of this was just Mothers' Day uplift?
- Not even Google Analytics can tell you!
- We can.

# Value for Registrants



# Value for Registrants


Choose Service to Display — [edit services](#)

<input checked="" type="radio"/> Main web site	Web
<input type="radio"/> Company blog	Web
<input type="radio"/> Mail servers	Mail
<input type="radio"/> Nameservers (technical)	DNS


Compare by Industry — [change industry](#)

Road Transport 


Compare by Company Size — [change size](#)

Very Large (>1000 employees) 

Compare by City — [change city](#)

Wellington 

Compare by Age of Domain



# Value for Registrants

Choose Service to Display — [edit services](#)

<input checked="" type="radio"/> Main web site	Web
<input type="radio"/> Company blog	Web
<input type="radio"/> Mail servers	Mail
<input type="radio"/> Nameservers (technical)	DNS

Compare by City (Enterprise)

New Zealand

- Auckland
- Christchurch
- Dunderdin
- Hamilton
- Hastings
- Wellington

Afghanistan

Aland Islands

Albania

Algeria

American Samoa

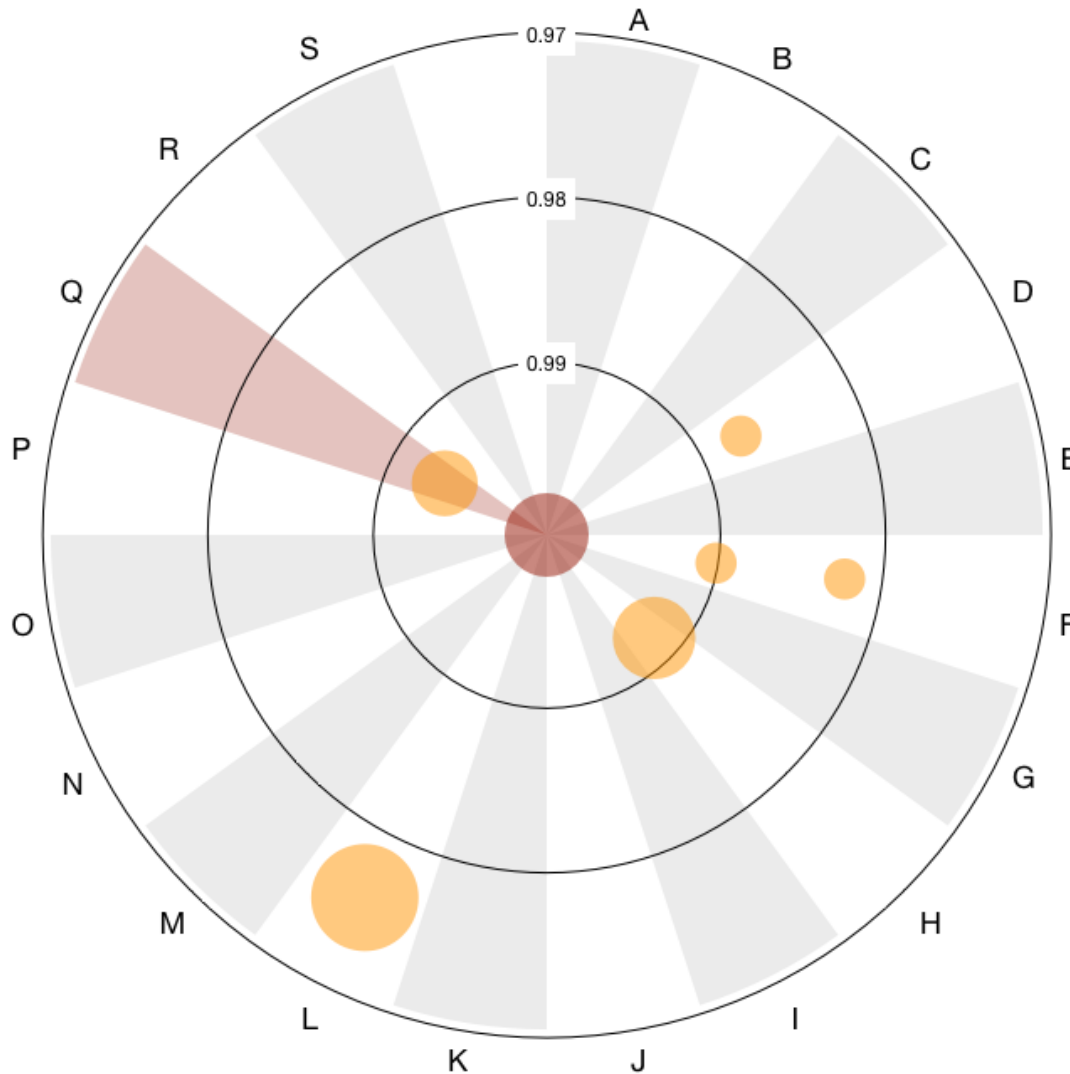
...

Compare by Age of Domain

Compare by Industry (Enterprise)

- Agriculture, Forestry and Fishing
- Mining
- Manufacturing
- Electricity, Gas, Water and Waste Services
- Construction
- Wholesale Trade
- Retail Trade
- Accommodation and Food Services
- Transport, Postal and Warehousing
  - Road Transport
  - Rail Transport
  - Water Transport
  - Air and Space Transport
  - Other Transport
  - Postal and Courier Pick-up and Delivery Services
  - Transport Support Services
  - Warehousing and Storage Services
- Information Media and Telecommunications
- Financial and Insurance Services
- Rental, Hiring and Real Estate Services
- Professional, Scientific and Technical Services
- Administrative and Support Services
- Public Administration and Safety
- Education and Training
- Health Care and Social Assistance
- Arts and Recreation Services
- Other Services

# Value for Registrants



# Next Steps

- Feedback
- Prototype
- Feedback
- Prototype
- Feedback
- Products

Registrar portal functionality

Registrant product add-on to .nz for registrars



# Feedback?

**Is this something you would use?**

**Is this something you would sell?**

Contact: [Jay Daley, jay@nzrs.net.nz](mailto:jay@nzrs.net.nz)

[www.nzrs.net.nz](http://www.nzrs.net.nz)