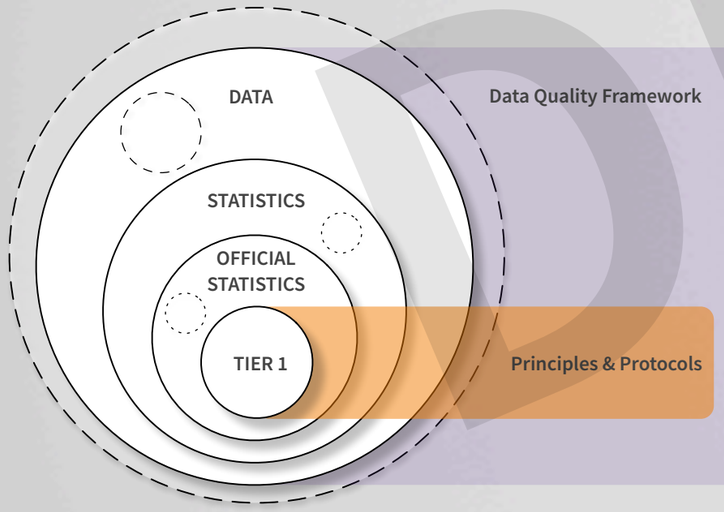
A DATA QUALITY FRAMEWORK FOR GOVERNMENT

PURPOSE

Develop a quality framework applicable to a wide spectrum of data (including official statistics) being produced by New Zealand government to meet its critical information needs of policy.

HOW DOES THE FRAMEWORK RELATE TO TIER 1?

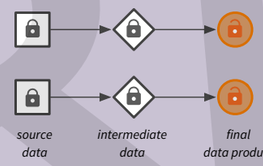


- 2-in-1: The idea is to **review** Tier 1 P&Ps and at the same time **create** "principles & protocols" for data sitting outside Tier 1 but also fulfilling critical information needs.
- Tier 1 statistics can be regarded as a **subclass of *data***. In such a hierarchy, any quality criterion applicable to *data*, applies to its nested class(es), but not the other way around.
- Differentiated guidance and requirements for a specific class of data, such as Tier 1, will be derived from those of *data*, the root class of the framework (**focus-down approach)**.
- Accordingly, the DQF will be directly applicable to Tier 1, effectively updating & covering every requirement articulated in the current P&Ps (**backwards compatible**).

...THE TIMES THEY ARE A-CHANGIN'

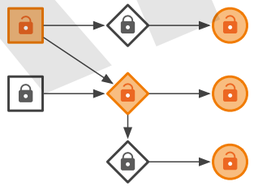
- Insights are less delivered by traditional linear and closed pipelines but via more **interconnected** data value chains.
- Rather than relying on highly-processed and standardised end products, many data users are keen to develop their own capabilities to draw insights meeting their **emerging information needs** based on intermediate data products.
- **Quality should be a concern** for any type of data with special consideration to where they sit in various data value chains and what information needs they are expected to serve.
- Currently, only Tier 1 statistics have formalised guidelines for their production. Such **explicit guidance** should be available for other types of data as well.

TRADITIONAL DATA VALUE CHAINS



- closed production pipeline
- focus on end product
- pull logic dominates
- relying on primary data
- unfragmented control

CONTEMPORARY DATA VALUE CHAINS



- more open production pipelines
- new value chains
- interdependence
- push logic (exploratory)
- re-using data
- fragmented control

WHAT'S THE ROLE OF THE QUALITY FRAMEWORK?

- Provide a concise set of **concepts** and **criteria** to evaluate quality, a scheme to think through quality problems and establish quality measurement, management and assurance practices.
- Foster a ***value chain* perspective** to account for a broader range of data scenarios agencies may encounter as they participate in those chains.
- **Converge** thinking and practices around similar data quality challenges in different parts of government.
- Adopt a **problem-focussed** approach rather than a prescriptive one.
- Offer **high-level** guidance for typical scenarios.
- **Provide pointers** to relevant resources (rules, procedures, policies etc.), if available.

HOW COULD IT WORK?

- It could work both as **reference** (a static document) and a **tool** (interactive, Web-based).
- It could allow general **direct lookup** of 'principles' and 'protocols' and also based on specific data profiles (e.g. for *Tier 1*).
- It could offer a **guided walk-through** (~discovery) mode to build a quality profile for data with no pre-existing profile.

The Data Quality Framework as a Tool

PROFILE
- data sensitivities (user/stakeholder expectations)
- place in the value chain (upstream/ downstream relationships)

PRIORITIES
- identify relevant aspects of data quality and target levels
- identify appropriate quality measures

TRADE-OFFS
- highlight available trade-offs
- identify risks and opportunities

MEASURE
- identify ways to assess data quality problems and quality performance

WHAT HAPPENS IN THE MEANTIME?

- We can use the framework to consider issues raised in the review including coverage of the data sets that underpin statistics, administrative data and data produced outside of government.
- We are addressing the need for more support for producer agencies with interpretation and applying the existing Principles and Protocols through the Data Leadership Hub. This will provide training and tools and access to expertise and "flying squads" to provide practical assistance.
- In the meantime, agencies can contact the System Policy team at Stats NZ.

System Policy team (August 2017)
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Stats NZ
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