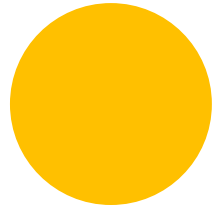
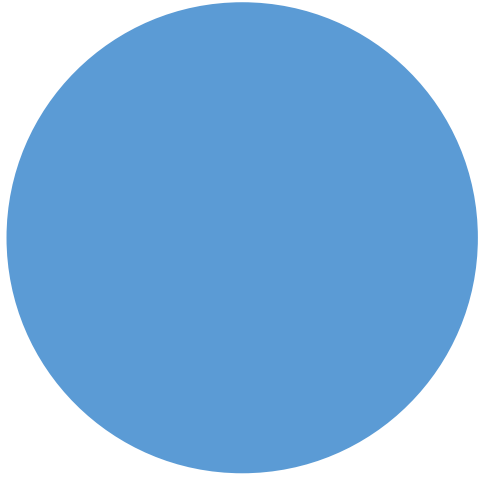


Kōrero Fellowship: Data, leadership and rabbit holes

Richard Hamblin
13 November 2019

Agenda

- Purpose and question
- Method
- Results
- Outputs



Purpose and
question



Richard Hamblin

Director of Health Quality Intelligence, Health Quality and Safety Commission

Organisations that deliver through data



Richard will investigate how organisations can successfully drive delivery through data and analytics. His aim is to focus on understanding what makes a great leader of data-driven organisations. He wants to contribute to the public sector's development of the right people to lead transformative data teams.

Richard will undertake research and visit organisations in New Zealand and overseas that have world-leading data and analytics teams, which have helped transform their organisations into being genuinely data-led. He wants to share the lessons of their success with the New Zealand public sector.

My project

Solving an urgent conundrum

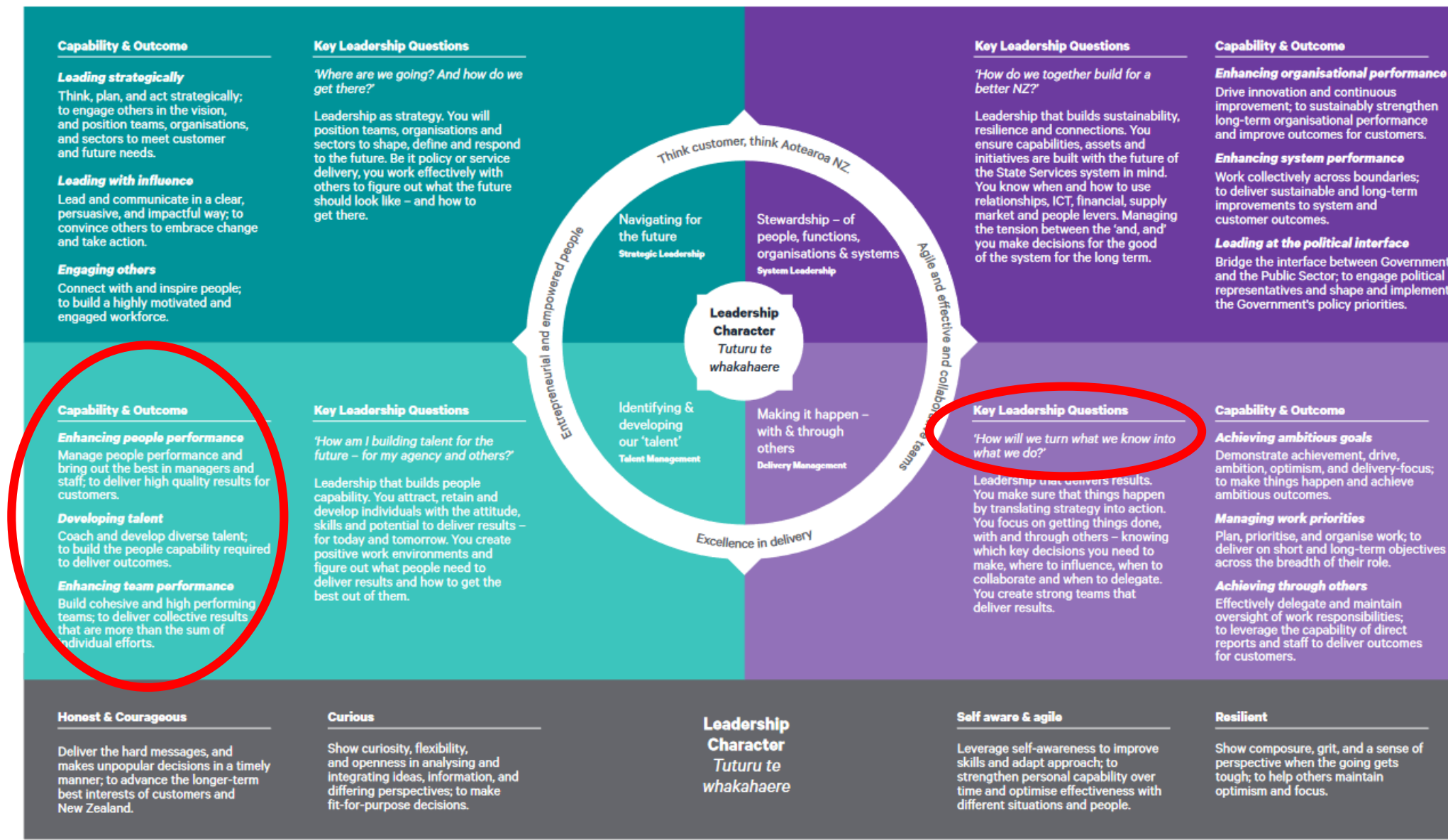
“It is relatively straightforward to recruit extremely good graduates into the public sector; it is extremely difficult to recruit people of such high quality with five years’ experience into career grade posts.

Essentially in those first five years of a career what we do either encourages people to leave or knocks out every bit of innovation, imagination and delight out of them. Analysts are either “lost” or “squashed”. Like Saturn, we have a tendency to devour our young.”

Why is this happening? What can we do about it?



LEADERSHIP SUCCESS PROFILE





Method

Pre-requisite
one

Having a very understanding boss...
...about 10 weeks of the year spent doing this

Pre-requisite
two

Having a very good team...
...taking up the slack



EXTENSIVE LITERATURE
REVIEW



LOCAL INTERVIEWS



FIELD TRIPS WITH
LEADING ORGANISATOINS



- 40 Interviews
- 50 articles, papers and book chapters
- Workshops
- Set piece meetings and presentations



GM ANALYSTS



Results

What we're doing wrong, what right looks like

30 years down the wrong rabbit hole:
how we got there and how we get out

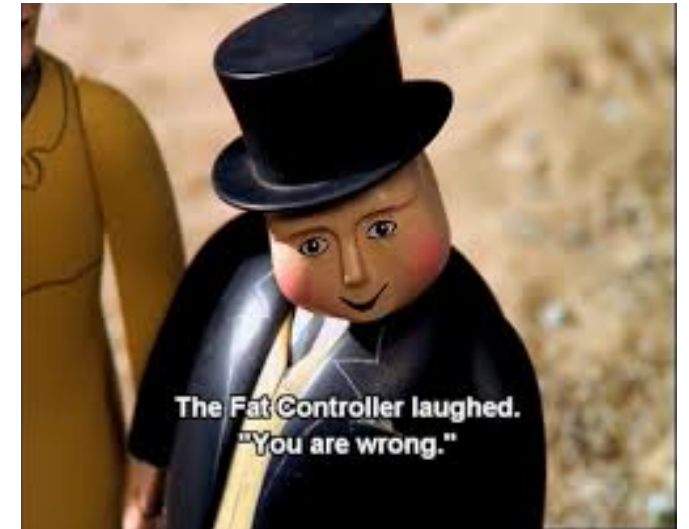
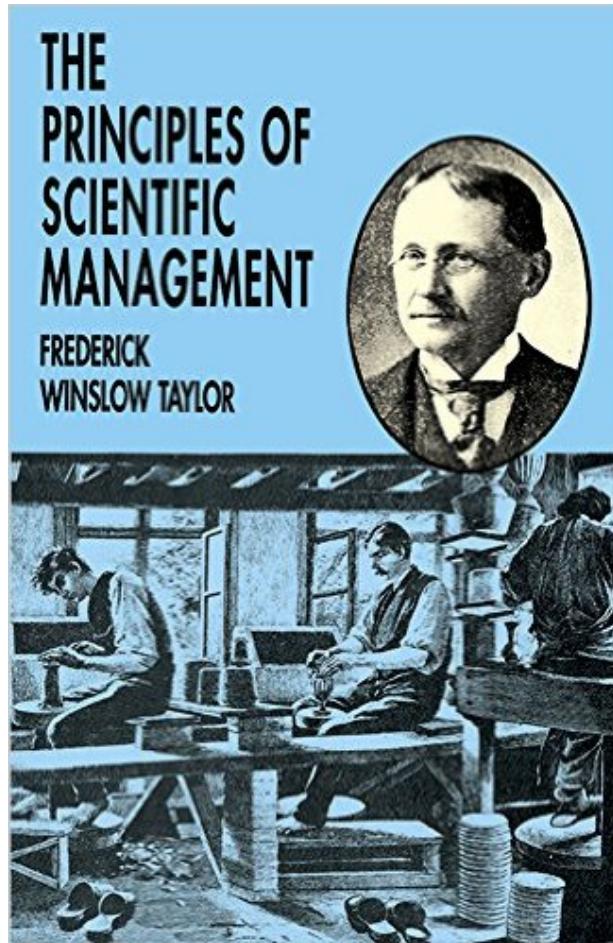
Richard Hamblin
Leadership Development Centre 2018 Fellow
July 2018

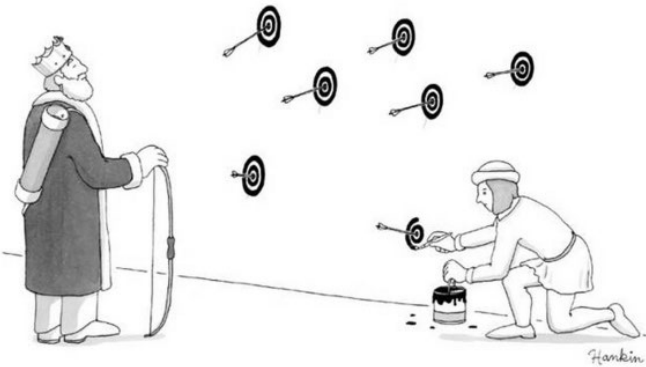
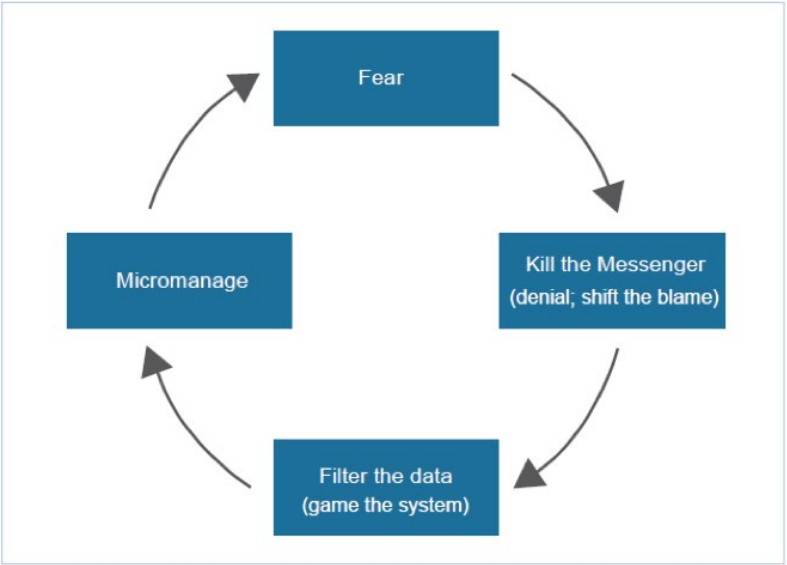
So what? (and for that matter
"how"?)

Richard Hamblin
Leadership Development Centre 2018 Fellow
December 2018

Why we need to change, how we need to change

The curse of Fred...





It's NOT the
Boots on the
Ground
that Matter...



DeMiguel... 4/12/09 Nov 30 2015 09:28

It's Whose Feet
are in the
Boots on the
Ground...

Your father
Your mother
Your son
Your husband
Your wife
Your daughter
Your friend
On some kid
you didn't know
who joined the service
because he didn't have
the money to go
to college...



The
consequence
of which is...

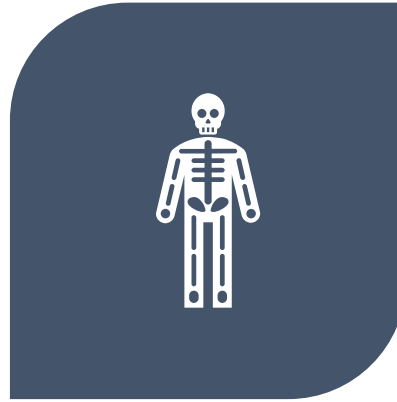
Data is a mechanism of control...

...Not a source of insight

This has been catastrophic....



LOSS OF TRUST

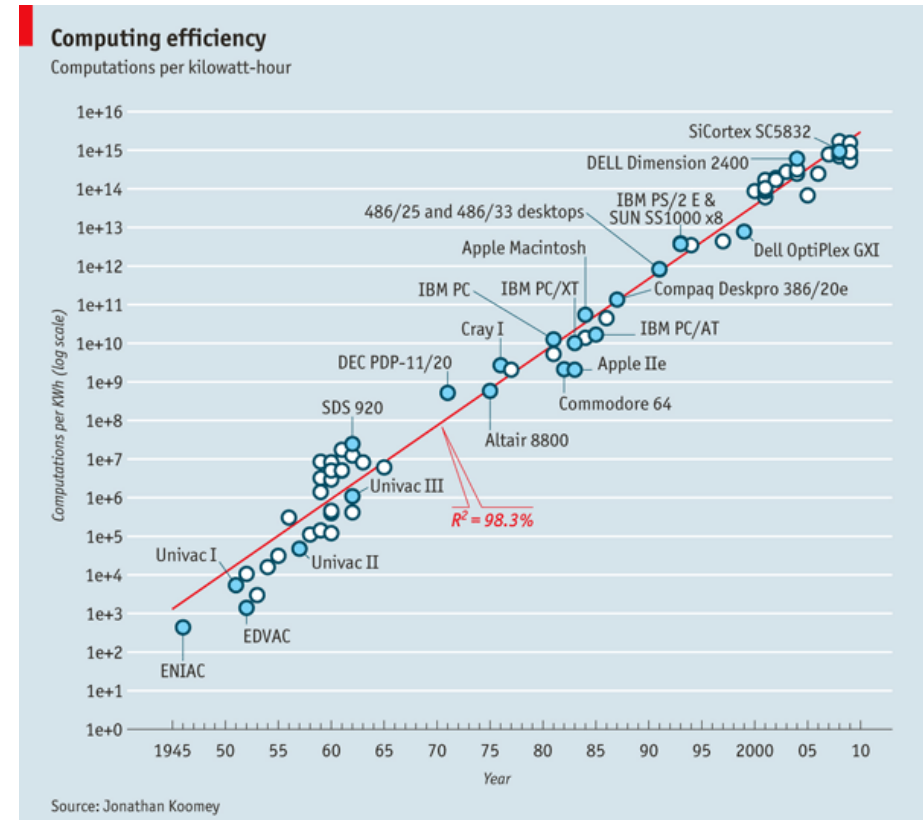
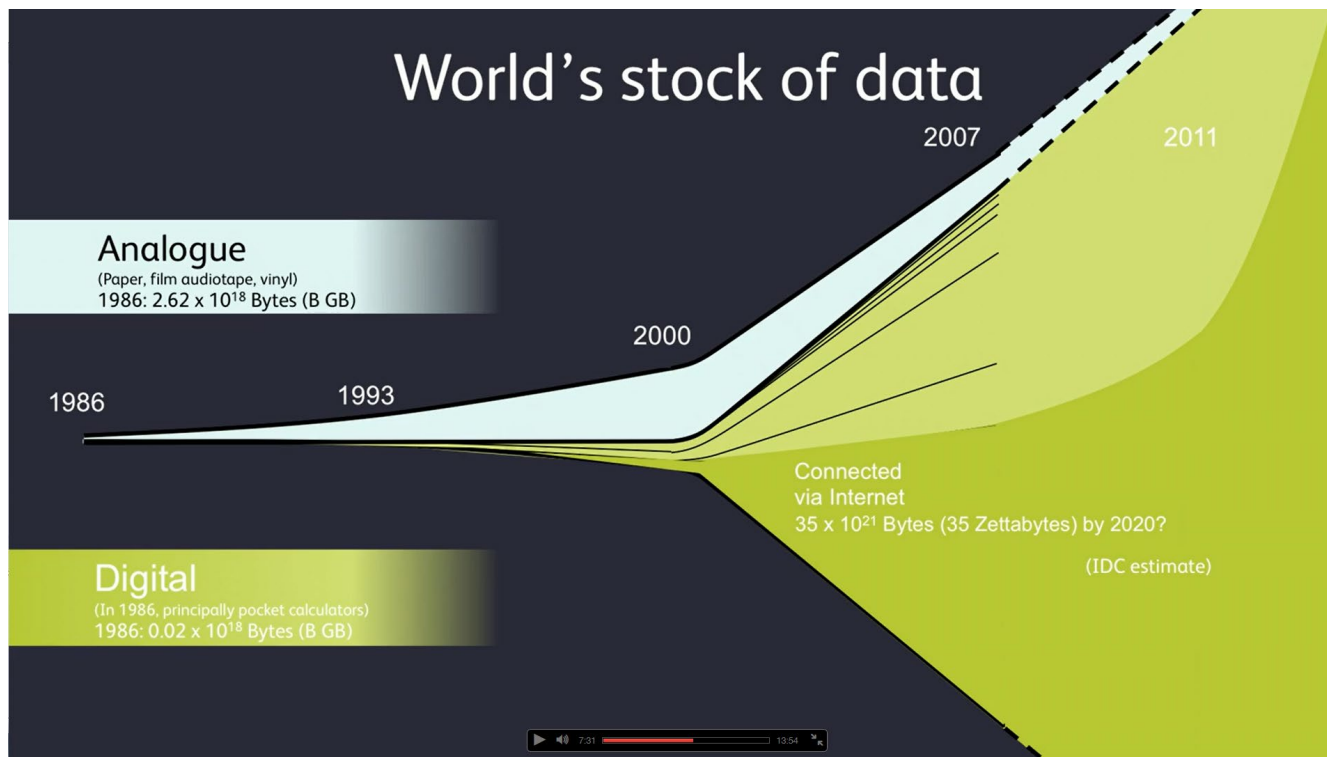


DOESN'T WORK (AT LEAST
NOT AS WELL AS HOPED)



OPPORTUNITY COST

Data and our capacity to exploit it



So we need to
add a fourth
discipline

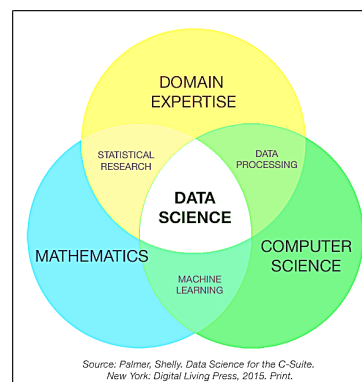
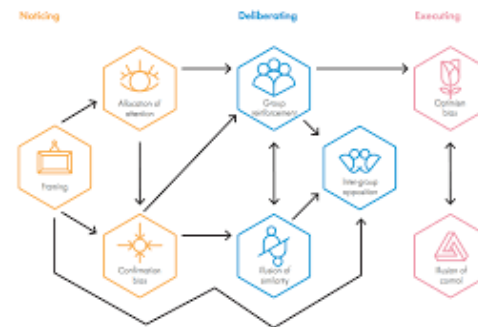
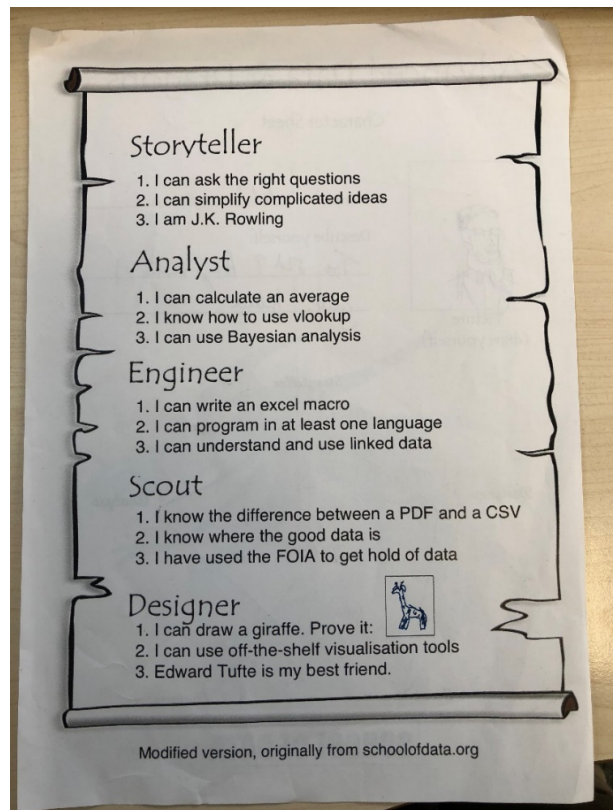
- **Measurement for insight** (Data for Insight, Data Science, Discovery Analytics)
- Exploiting all available data (including unconsidered sources)
- Understanding how a system works including unconsidered relationships between variables
- Focused on providing new knowledge for problems of policy or implementation
- New techniques of analysis, programming and visualisation

Measurement for insight

- A way of defining the complexity of a system
- A way of describing relationships inside complex systems
- So we can predict what is likely to happen
- So we know which part of the system to improve
- Then we can apply other forms of measurement

Measurement for insight - requires a mindset shift

- Openness about data a pre-requisite
- End of data as a mechanism of control
- Will not happen until we change simplistic, synedochic targets
- (and by the way we won't have the time either)



Five pre-requisites

- Higher purpose
- Skills
- Roles
- Social positioning
- Influence





Outputs

Writing

- Big papers
- Blog posts

30 years down the wrong rabbit hole:
how we got there and how we get out

Richard Hamblin
Leadership Development Centre 2018 Fellow
July 2018

Setting the scene

Posted 17 months ago

In the last ten years, our ability to analyse vast amounts of variable forms of data at great speed has, for some, opened up a brave new world of a government of services micro-targeted to individuals; policy devised, implemented and evaluated in real time; "data commons" empowering and freeing individuals and communities; even the very paraphernalia of public service itself replaced with algorithms!

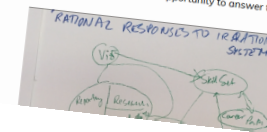
Beyond the hype (and the idea of Sir Humphrey being superseded by a 16-year-old with an app is as delicious as it is unlikely) using data more smartly to design better policy and improve people's lives is a worthy aim. Yet, despite pockets of excellence, it's proving remarkably hard to do. Why?

Part of the reason, I would argue, is that while we've invested in the data infrastructure (literally with the IDI, which I believe to be world leading) we haven't made the same investment in the people to traverse it. While we're starting to define what the modern data team looks like, we're less clear on how we get to that from where we are now. Even if we can create such a team how do we lead and incentivise them? And even if we can do that successfully, how do we embed their role into the broader organisation?

Filling each of these gaps is vital. The baleful influence of FW Taylor on the public sector is nowhere felt more keenly than in data teams required only to reduce beautifully rich individual level data sets to KPIs, irrelevant when not counterproductive and meaningless when not misleading. The requirement to generate insight rather than unread reports is exciting but demands new skills (or the reactivation of dormant ones), new ways of working, and new ways of thinking about information and how it relates to services.

Equally important is understanding how such teams relate, respond to and influence the organisations they are in. Building the world's most innovative and insightful data teams without considering this point would be like fitting a Rolls Royce engine and forgetting the transmission.

So how do we do achieve this? I'm not sure. At the moment I have a lot of questions. The great privilege of having an LDC fellowship is that I have the opportunity to answer them. Via this blog, I have the opportunity to share them as they emerge.



- <https://www ldc.govt.nz/assets/Drive-insight-interactive-tool-FINAL-AUG-2019.pdf>

Created by Richard Hamblin | 2018 LDC Fellowship

Drive insight and change

Interactive tool for analytical teams

This interactive tool will help public sector analytical teams learn how to gain real insights from their data. Find out how to move from primarily monitoring data to capturing real understanding from the information you collect and analyse. You'll be able to offer more value to your agency and across the public sector, and better understand the 'complex adaptive systems' that provide the services for New Zealanders.

Designed to structure and support your thinking, the tool includes:



Checklists



Decision trees



Links to useful resources

Write on, print out, and share the checklists and decision trees with your team.

LEARN MORE



Why deriving insight from data is valuable

<https://www ldc.govt.nz/assets/Uploads/30-years-down-the-wrong-rabbit-hole-R-Hamblin-July-2018.pdf>



How do you go about using data for insight?

<https://www ldc.govt.nz/assets/Uploads/RICHARD-HAMBLIN-So-what-And-how-for-that-matter-27-02-2020.pdf>

NEXT >>

The six tools



1 Monitoring to Insight

Find out what gets in the way of using analytical teams for insight rather than primarily monitoring. This checklist gets you to explore what's missing in helping you move towards insight – could it be lack of skills, mandate, positioning, leadership, or resources?

Go to [Monitoring to Insight](#)




2 Higher Purpose

Analytical teams need to understand and articulate how they contribute to their organisation's goals. This tool gets you to examine how well your team knows its higher purpose and if the team's work is genuinely linked to its organisation's goals. If your team isn't living its higher purpose, explore the barriers and be directed to other checklists for more help.

If your team can't define its higher purpose, go to the ['Driver Diagram'](#).

Go to [Higher Purpose](#)



 BACK

NEXT 

1 Monitoring to Insight



What proportion of team time is spent on routine monitoring?

$\leq 30\%$

Is over 50% of the team's time spent on generating insight to further the agency's mission?

Yes

Your work here is done

No

What's getting in the way?

Internal bureaucracy

Clarify and renegotiate the corporate tasks required – if a team spends more than half its time on internal bureaucracy something is amiss?

No mechanism to feed insight into mission

Go to [higher purpose](#) page >>

Lack of skills

Go to [skills](#) page >>

Difficulty in defining policy problems in data terms

Go to [roles](#) page >>

Difficulty in translating analysis results into stories that policy makers/managers understand

Go to [roles](#) page >>

Distrust of analysis/analysts

Go to [social positioning](#) page >>

Insufficient data

Is this really true? What, precisely, is actually missing?

3 Driver Diagram



Driver diagrams help ensure that the higher purpose relates to the day-to-day work, rather than being an unrealistic aspiration. You start with an overall aim and work back through the drivers that contribute to it, and from there, identify the actions that support these drivers. This tool will help ground higher purpose into reality.



Read more about driver diagrams: <http://www.ihl.org/resources/Pages/Tools/Driver-Diagram.aspx>

End goal

Our organisation exists to...

Primary drivers

The ways in which we achieve this are...

Secondary drivers

Our work program supports this by...

☐ Causes we can control
☒ Causes we can influence

4 Skills Checklist



Find out about the statistical, visualisation and programming skills that are useful in making the shift to using data as a source of insight. These resources are a starting point to learning more. (Please note, many of these links come from healthcare, but the underpinning maths and logic apply more widely.)

Statistical skills

ABILITY TO DESCRIBE CURRENT SITUATION ☒

- Meaningful comparison
- Means, medians, rates and proportions
- Tests of normality [more info](#)
- Rate difference and Rate Ratio
- Tests of difference [more info](#)
- Simple risk adjustment and standardisation [more info](#)
- Complex (multi variate) risk adjustment and standardisation [more info](#)
- Meaningful change
- Simple time series
- Simple statistical process control prospective and retrospective [more info](#)
- Cusum and EWMA [more info](#)
- Identify relationships
- Simple regression and correlation [more info](#)
- Logistic regression [more info](#)
- Multivariate analysis [more info](#)
- Ability to predict likelihood of future results
- Simulation and modelling
- Bayes [more info](#)
- Decision trees [more info](#)
- Machine learning [more info](#)

Programming skills

AUTOMATION OF ROUTINE REPORTING ☒

- Data linkage
- Programmatic querying and macros
- Robotic Process Automation [more info](#)
- Query languages/programming
- SAS
- SQL
- R
- Python
- Others

Visualisation skills [more info](#)

DESIGN SKILLS ☒

- Design principles
- Basic good practice (e.g. accurate representation, clarity of labelling)
- Use of real estate
- Data pacing
- Levels and click through
- Appropriate filtering
- Knowledge of unusual visualisations (e.g., Sankey, treemap, etc)
- Spatial/Geographic visualisation
- Visualisation software
- R shiny
- Tableau
- Power BI
- GIS
- Qlik

Thank you

<https://www.idc.govt.nz/programmes-and-events/ldc-fellowships/>

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