

Why data-driven?



Controlling for other factors, data-driven orgs are

A large black silhouette of a person's head and shoulders. Inside the head is a dark grey crown. On the chest, there is a large white dollar sign (\$) symbol.

5%

more productive

Analytics pays back



\$13 / \$1 invested

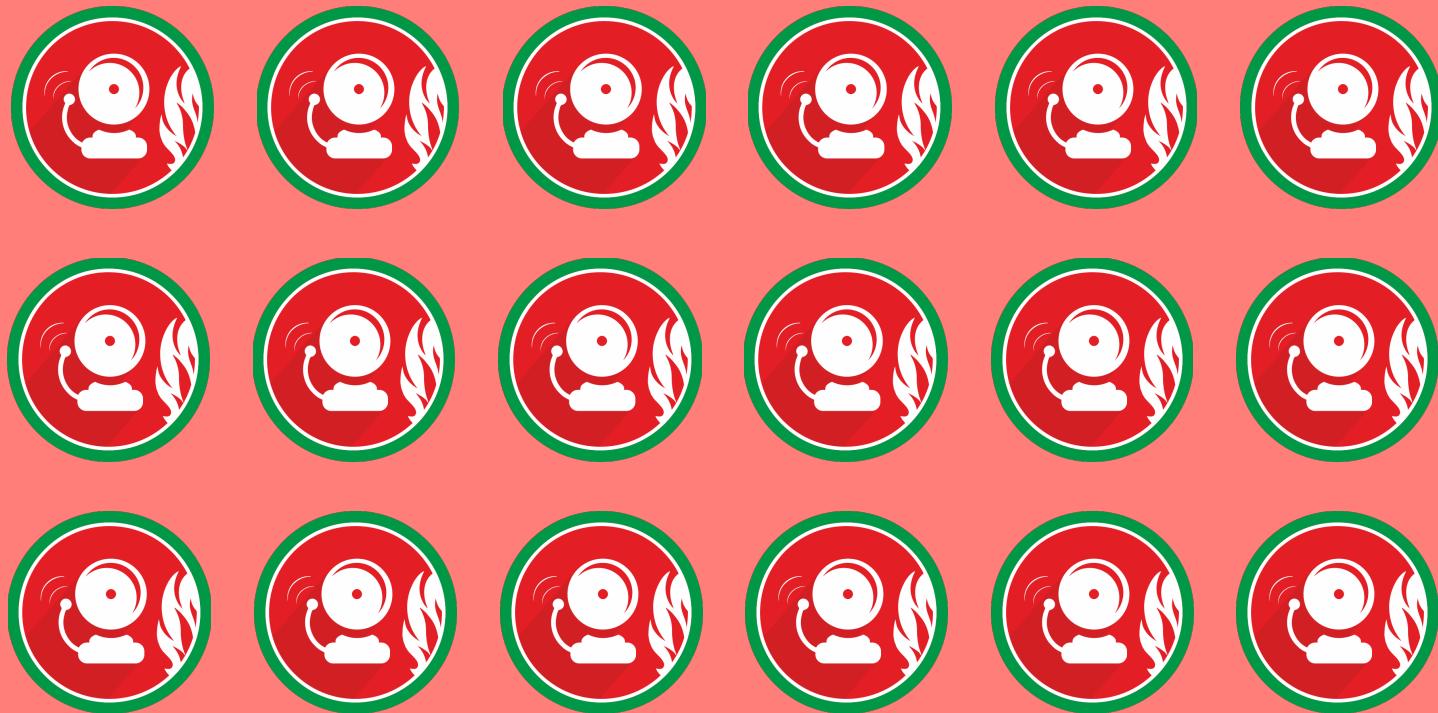
What is data-driven?



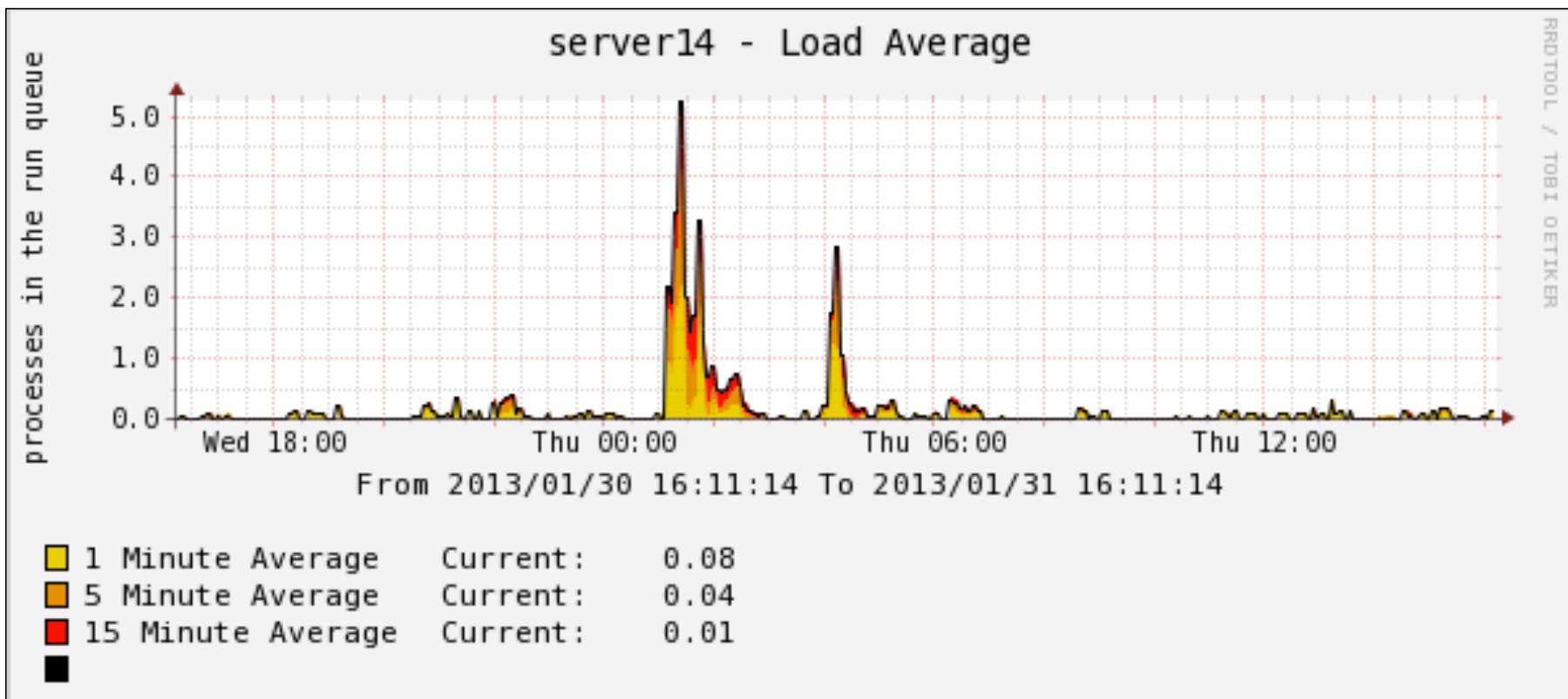
Having lots of reports does not make you data-driven.



Having lots of dashboards does not make you data-driven.



Having lots of alerts does not make you data-driven.

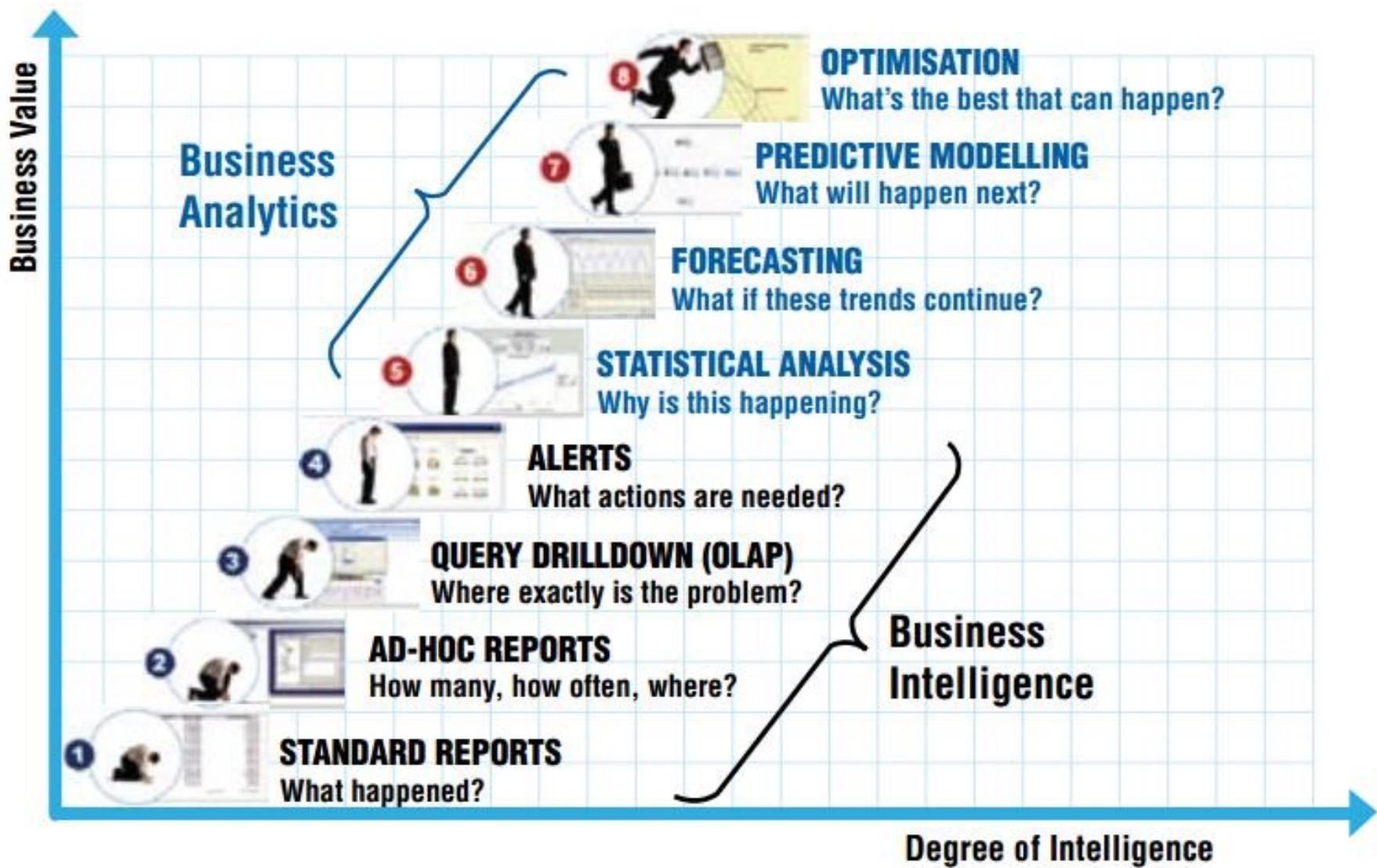


Data-driven: you must have analytics

Reporting	Analysis
Descriptive	Prescriptive
What?	Why?
Backward-looking	Forward-looking
Raise questions	Answer questions
Data → Information	Data + Information → insights
Reports, dashboards, alerts	Findings, Recommendation
No context	story telling

Not necessarily data-driven !

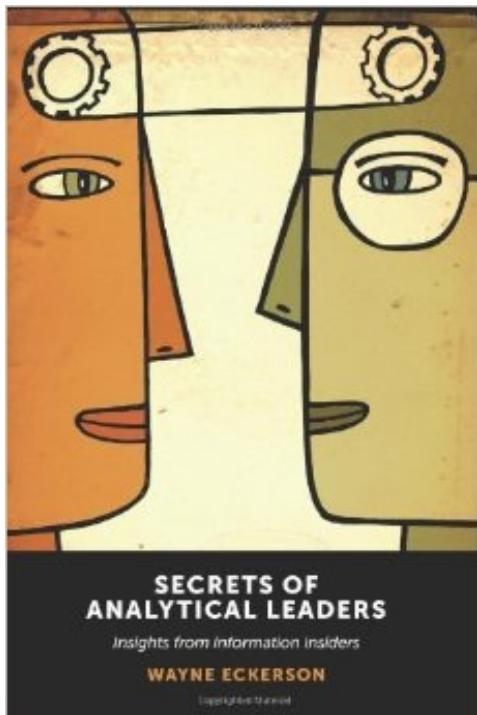
Levels of Analytics



Analytics Value Chain



"Analytics is about **impact**...In our company [Zynga], if you have brilliant insight and you did great research and no one changes, you get zero credit."



Ken Rudin
Facebook





Train analysts to be business savvy



Having a hadoop cluster does not make you data-driven.

WHY ARE WE DOING
A/B TESTING?



WHY ARE WE PREDICTING
FUTURE TRENDS?



WHY ARE WE ANALYZING
SENTIMENT?

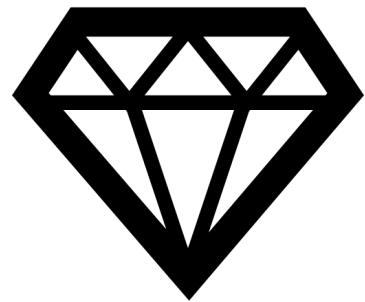


WHY ARE WE CREATING
A RECOMMENDER SYSTEM?



WHY?
WHY?
WHY!



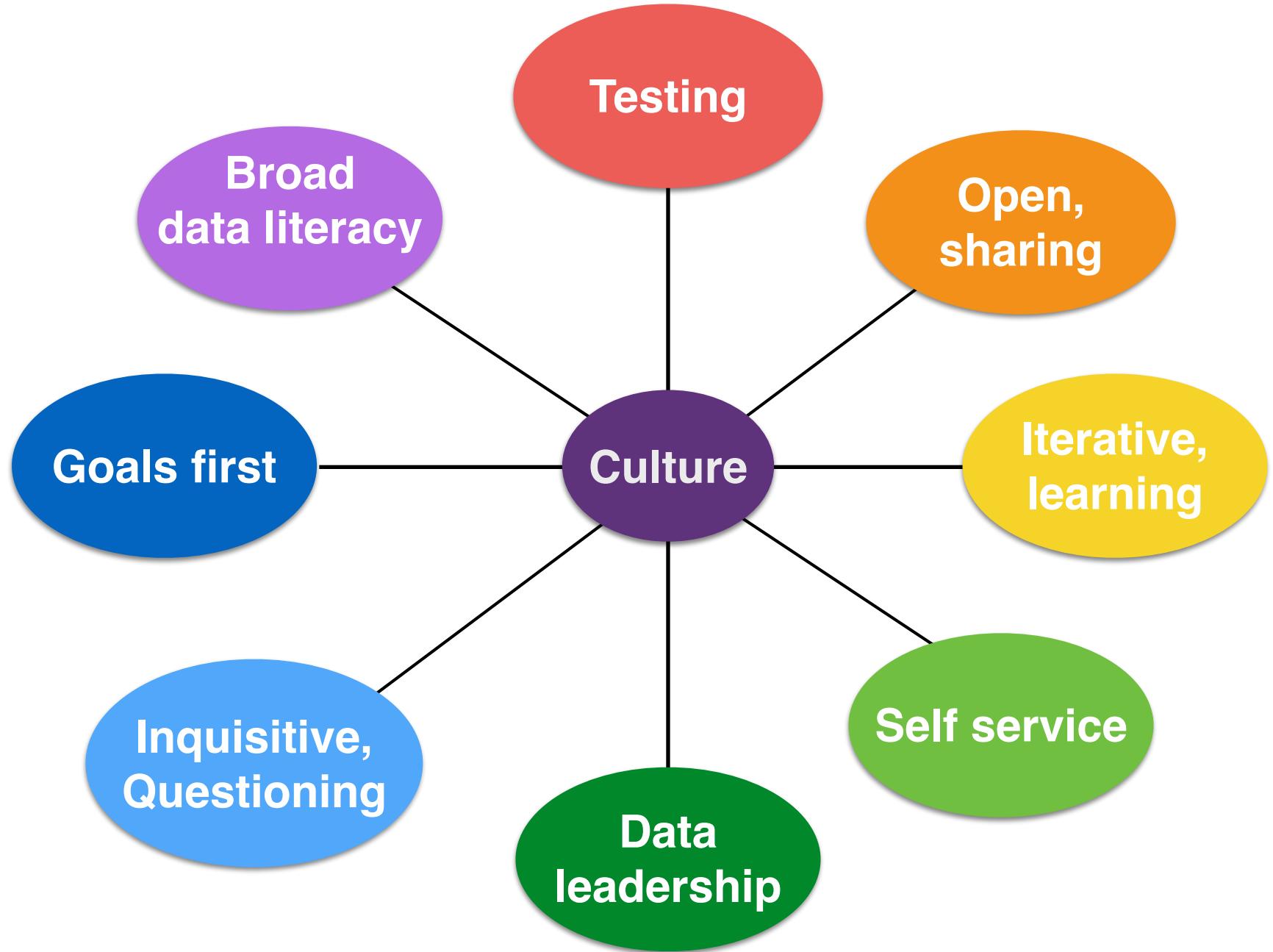


Leverage data as a strategic asset.



Data-driven requires a **data culture**

Data Driven Culture



Being data-driven means having...



a strong testing culture

Innovate through online and offline experimentation.
Encourage hypothesis generation broadly across org.

“you get surprises more often, and surprises are a key **source of innovation**. You only get a surprise when you are trying something and the result is different than you expected, so the sooner you run the experiment, the sooner you are likely to find a surprise, and the surprise is the **market speaking to you**, telling you something you didn’t know.”

Scott Cook

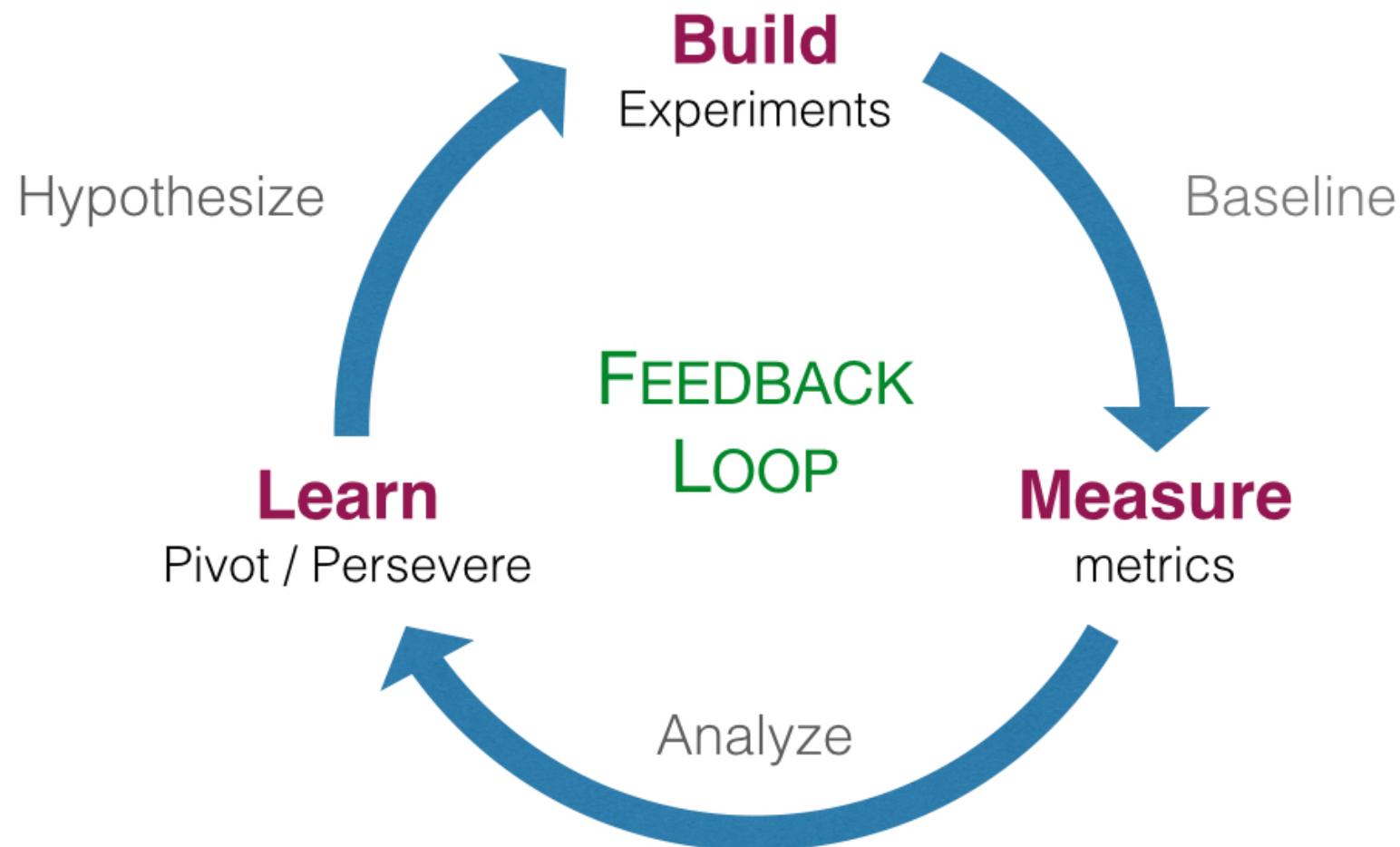
Intuit

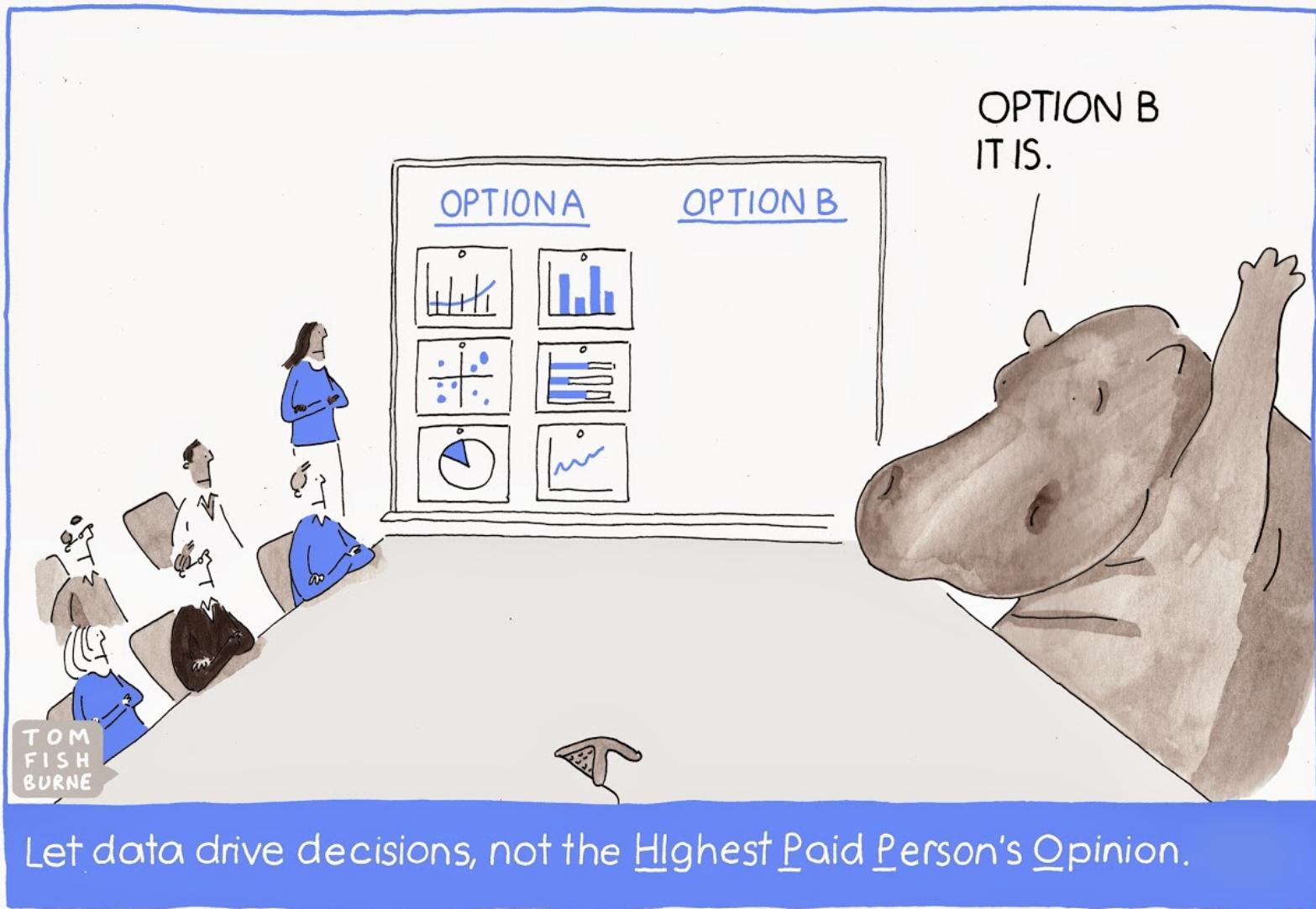


Optimize for Right Thing

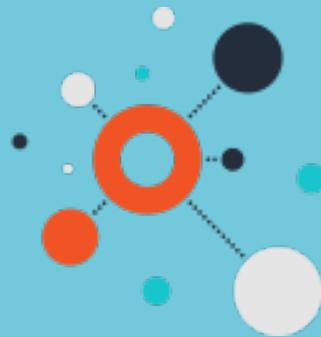


Iterate





Being data-driven means having...



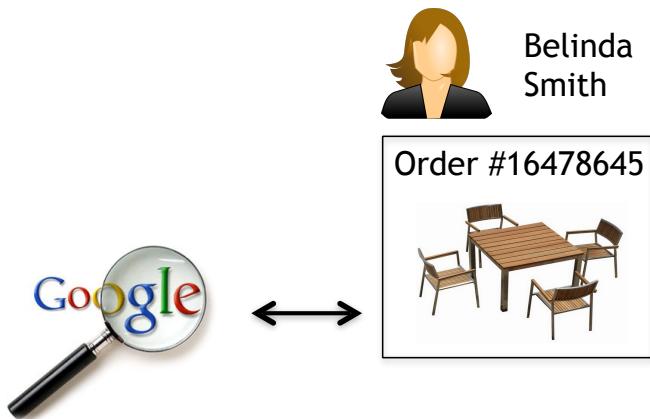
an open, sharing culture

No data hoarding or silos. Bring data together
to create rich contexts. Connect the dots.

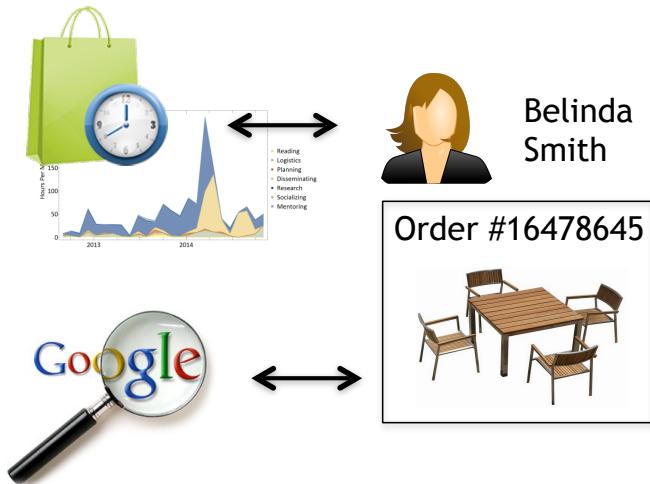
Context is King



Context is King



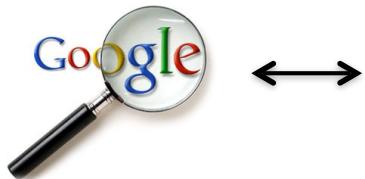
Context is King



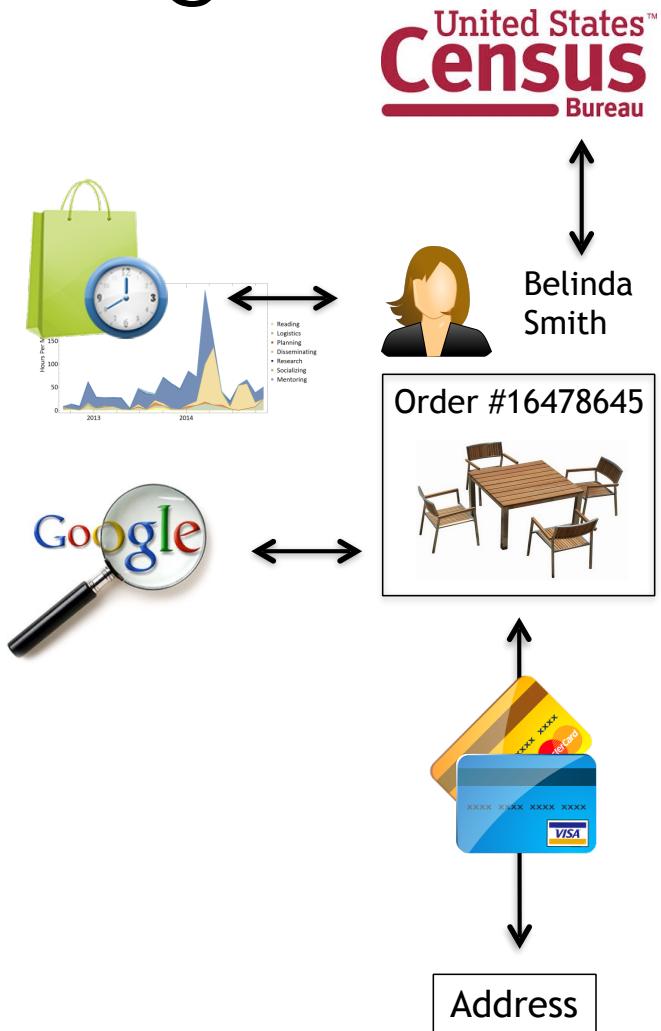
Context is King



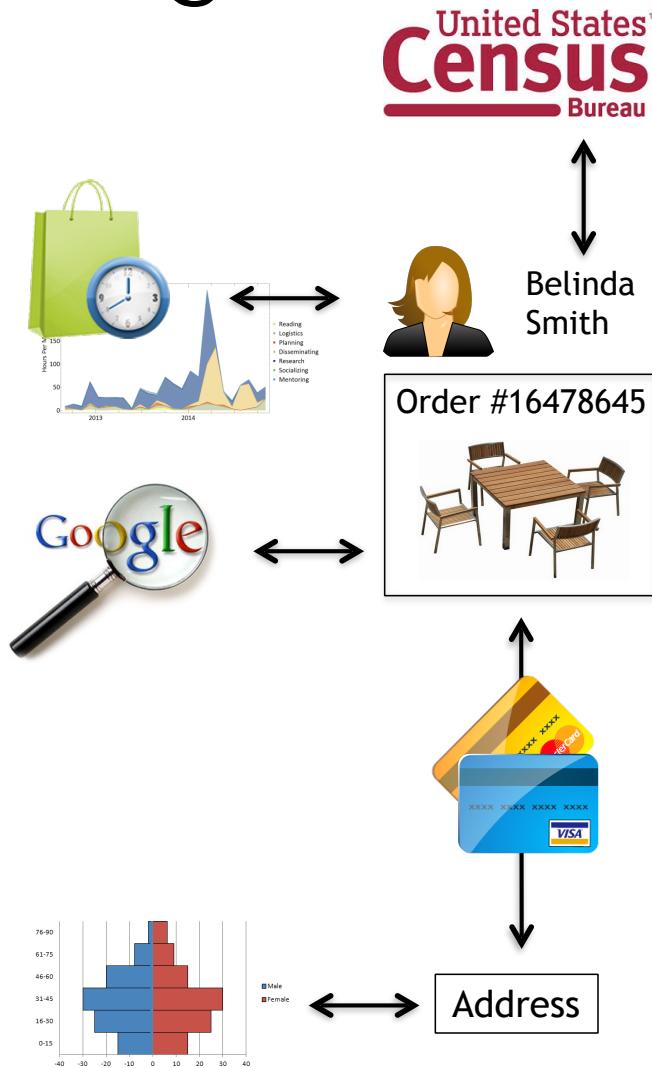
Belinda
Smith



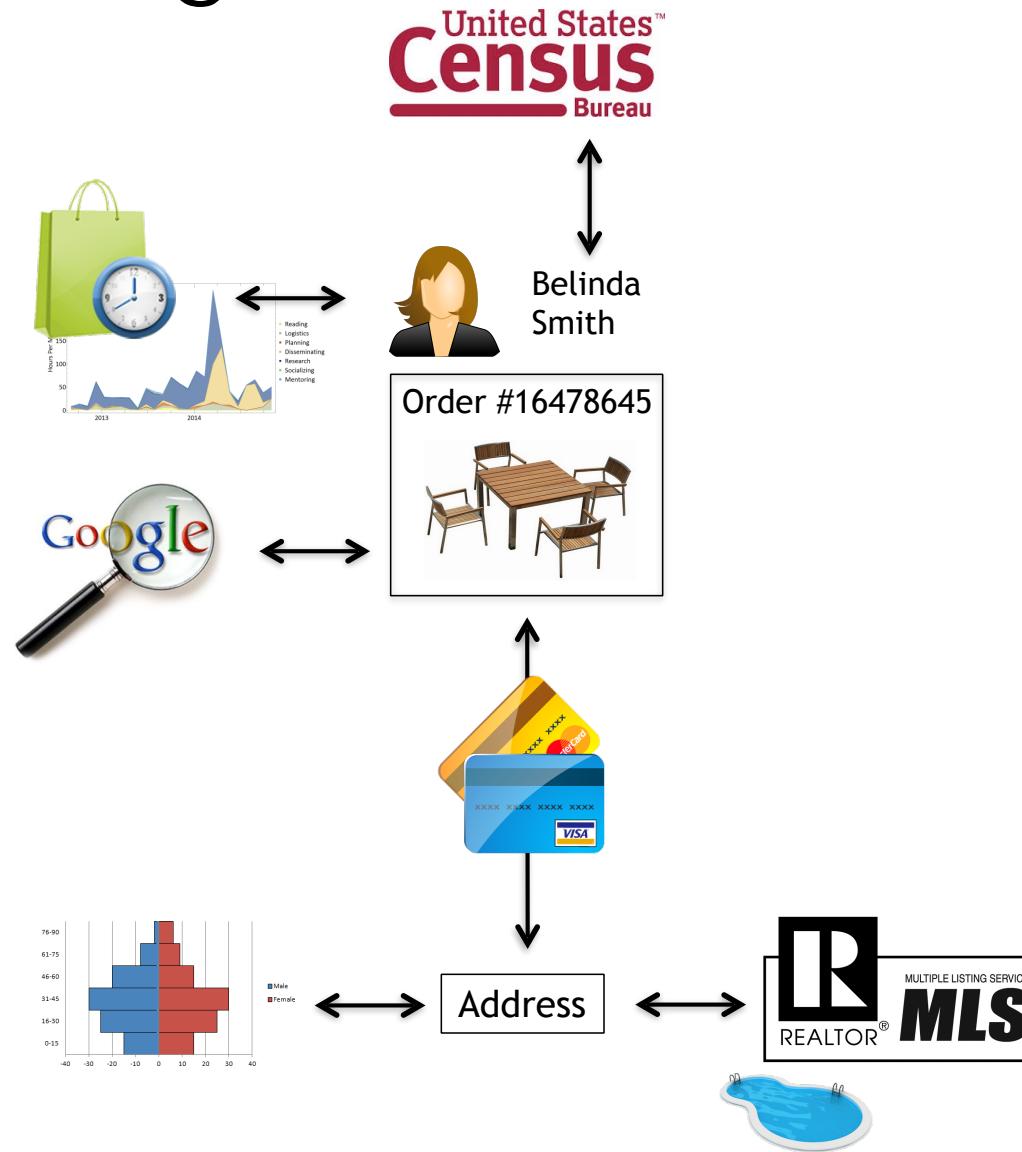
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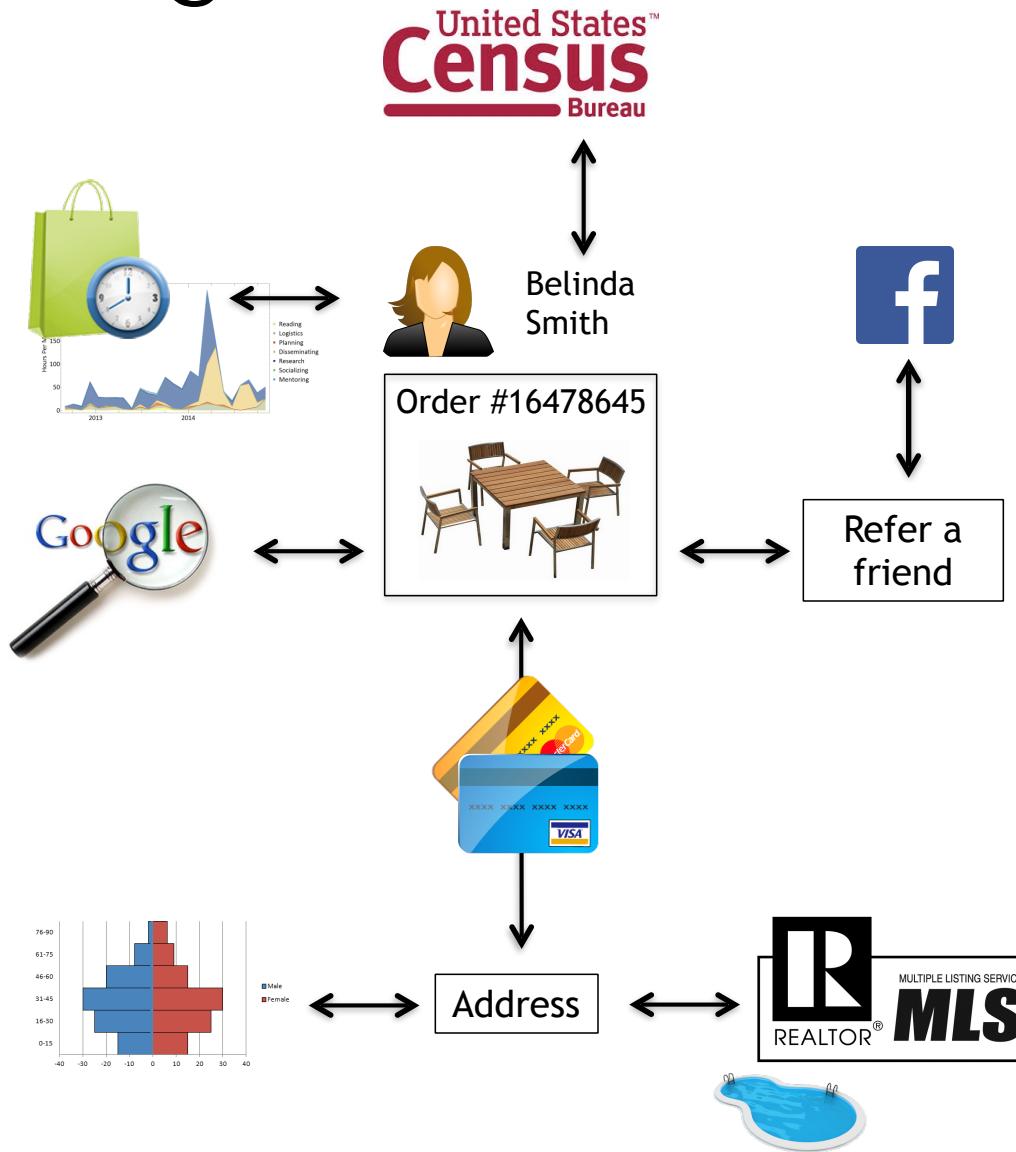
Context is King



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Invest in data quality

1 / 3

business leaders frequently make decisions
with data that they cannot trust

Being data-driven means having...



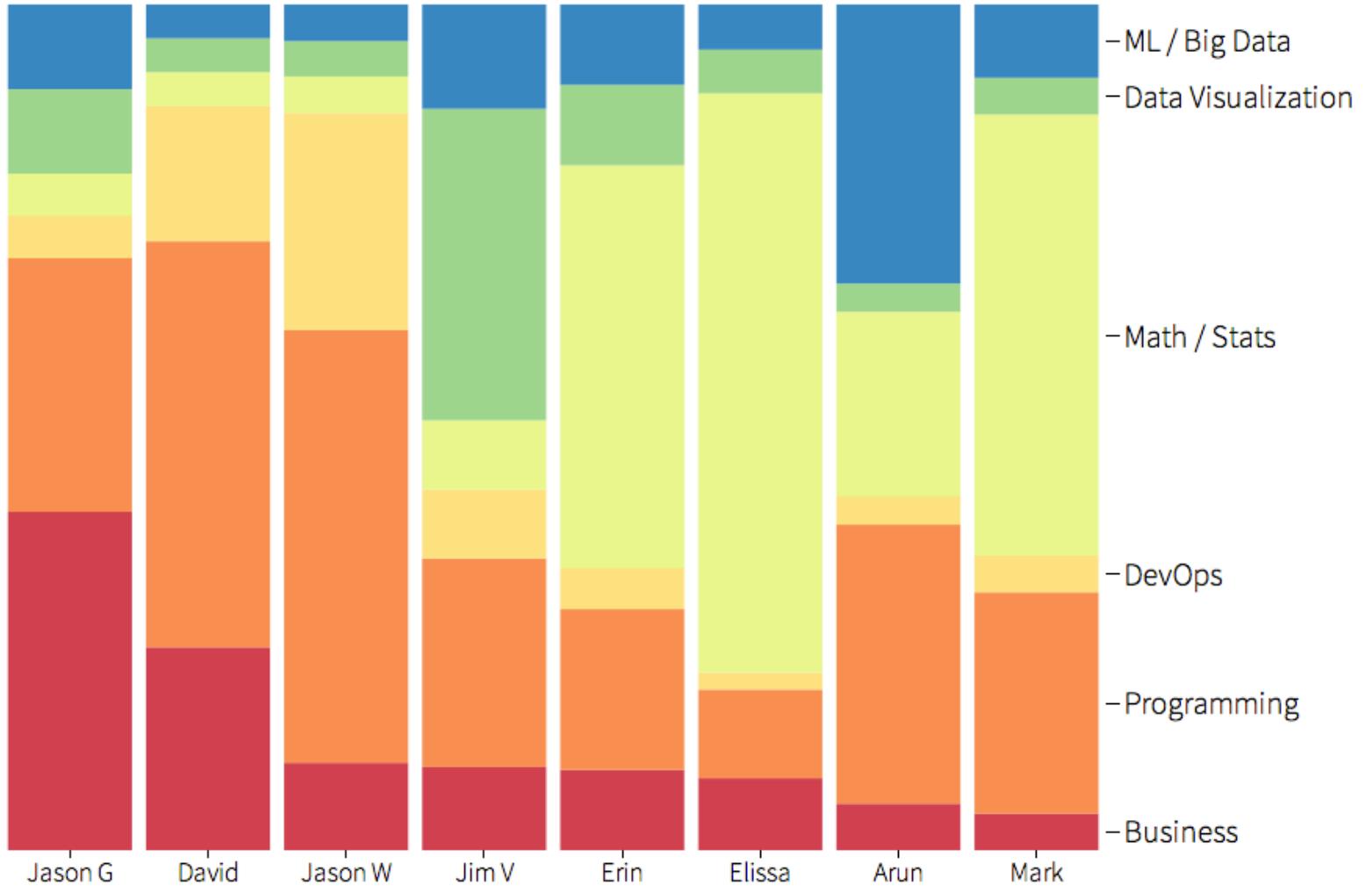
a self service culture

Business units have necessary data access as well as within-team analytical skills to drive insights, actions, and impact.

Traits of great analysts

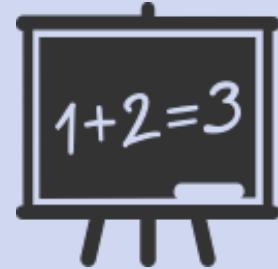
- Numerate
- Detail-oriented
- Skeptical
- Confident
- Curious
- Communicators
- Data lovers
- Business savvy

Hiring not just as individuals but to complement team



Nordstrom data lab (as of Strata 2013)

Being data-driven means having...



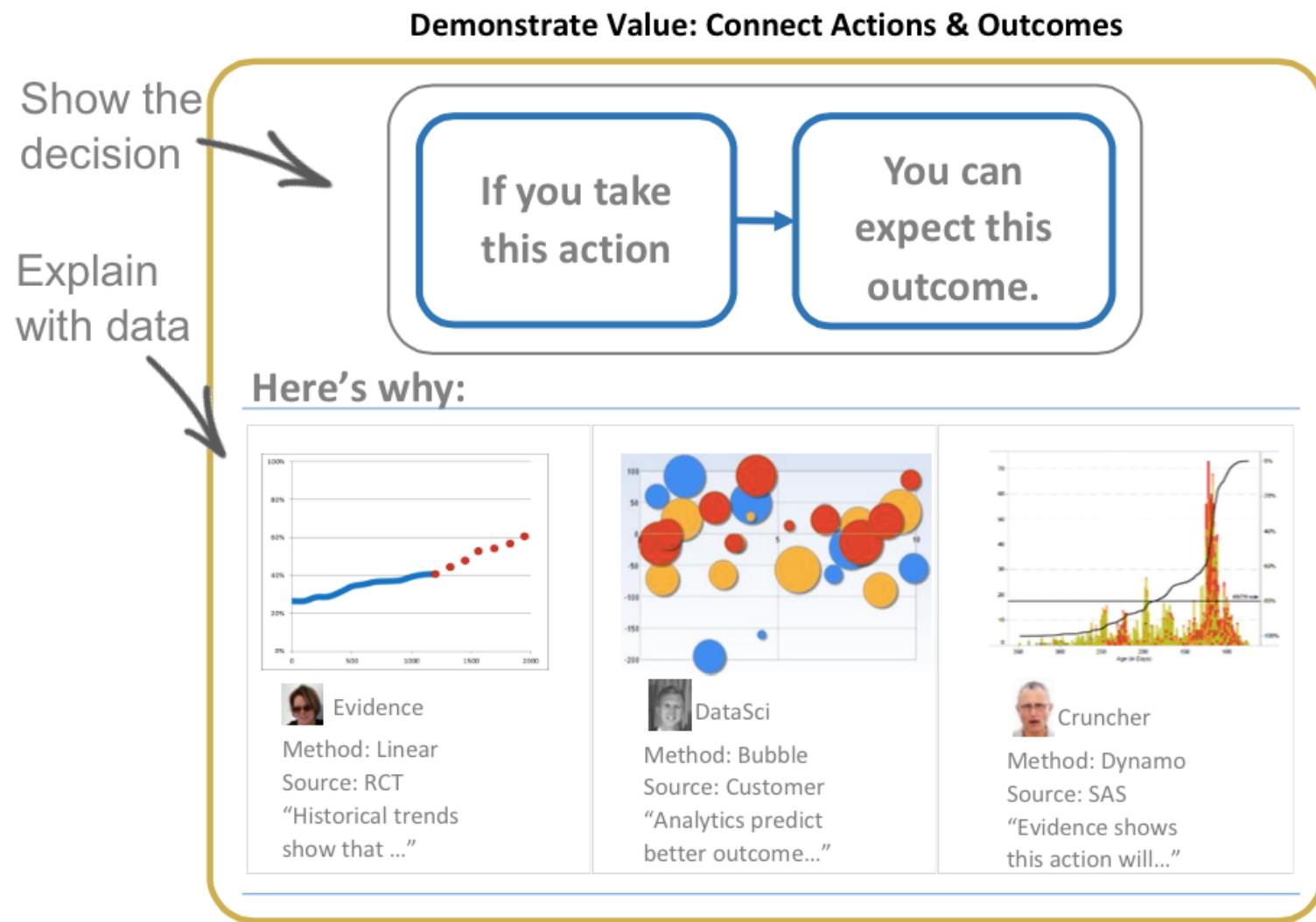
a broad data literacy

All decision-makers have appropriate skills to use and interpret data.

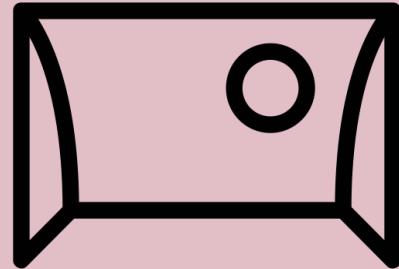
Analysts must sell, sell, sell their product



Tie actions to outcomes



Being data-driven means having...



a goals first approach.

Set out metrics before experiment. What does success mean?
Have an analysis plan. Prevent gaming the system.

Being data-driven means having...



an objective, inquisitive culture

“Do you have data to back that up?” should be a question that no one is afraid to ask and everyone is prepared to answer’—Julie Arsenault.

Being data-driven means having...



a visible, clearly-articulated strategy

Commonly understood vision. Suite of well-designed, accessible KPIs. All staff understand how their work ties back to these metrics.

Being data-driven means having...



strong data leadership

A head of data to evangelize data as strategic asset with budget, team, and influence to drive cultural change.

Which strategies have proved successful in promoting a data-driven culture in your organization?

Strategy	% of respondents
Top-down guidance and / or mandates from execs	49
Promotion of data-sharing practices	48
Increased availability of training in data analytics	40
Communication of the benefits of data-driven decision-making	40
Recruitment of additional data analysts	17

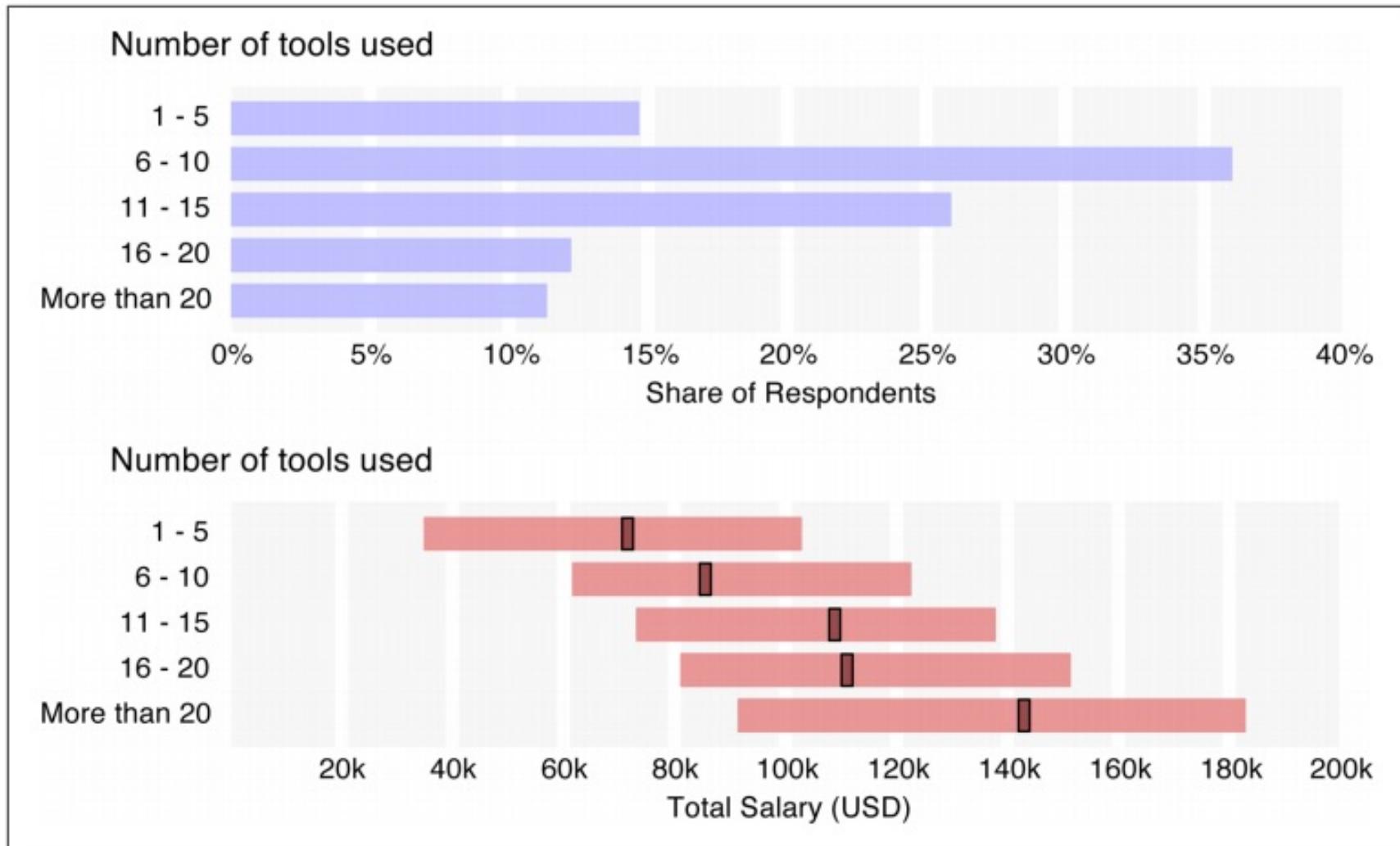
Change should not just be top-down



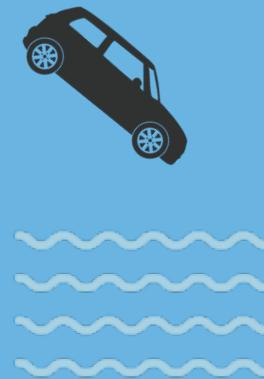
but bottom up too

Everyone in org has role and responsibility through “leveling up” their data skills, mutual mentoring, and embedding data into their processes.

Learn and you shall receive



Being data-driven doesn't mean



blindly following data.

Augment decision makers with objective, trustworthy, and relevant data.



<https://www.youtube.com/watch?v=a2QIH2uz3p8>



1:17 / 2:07



Girls Crash into Lake following Bad GPS directions



CrushingBastards

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165,605



*"You can't always make a data-driven decision --
sometimes you have to trust your gut!"*

Ultimately, data-driven means



using data to effect impact and results

Push data through “analytics value chain” from collection, analysis, decisions, action, and finally to impact. Partway along chain doesn’t count.

Example actions

- Analyst competency matrix
- Raise bar for new analyst hires
- Vision statement: data culture
- Stats for managers class
- Mentor / train analysts to improve skills such as stats, SQL
- Mentoring staff in experimental design
- Democratizing data access through BI tools
- Push on ROI, tie back to strategic objectives

Don't get complacent!



"With the exception of, say, an Amazon, no global store chain was thought to have demonstrably keener data-driven insight into customer loyalty and behavior"



Tesco Today

- Tesco stock rated as junk
- Shedding 9000 jobs
- Closing 43 stores
- \$9.6B loss for 2014 fiscal year (\$33Bn debt)
- Tried and failed to sell Dunhumby, their analytics gem
- Warren Buffett: “I made a mistake on Tesco”

Summary

Culture	Collaborative, inclusive, open, inquisitive
Data Leadership	Chief Data Officer / Chief Analytics Officer
Decision Making	Testing mindset, fact-based, anti-HiPPO
Organization	Embedded, federated analytics
People	Analytics org: composition, skills, training
Data	Data quality, data management



Bake in data-driven culture early!