MSiA

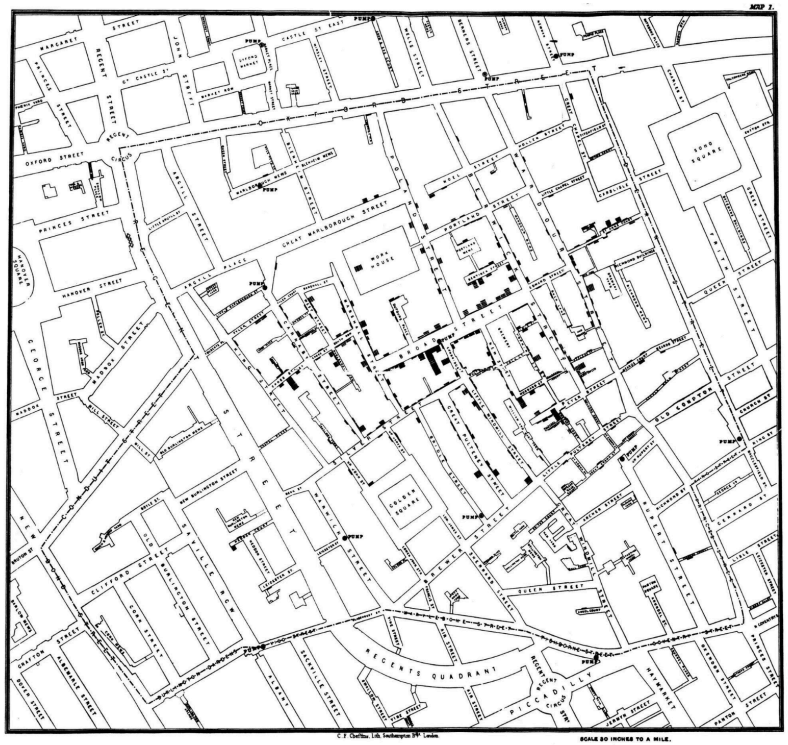
CLASS 2: BECOMING A GREAT ANALYTICS COMMUNICATOR

Joel Shapiro
Clinical Associate Professor, MEDS

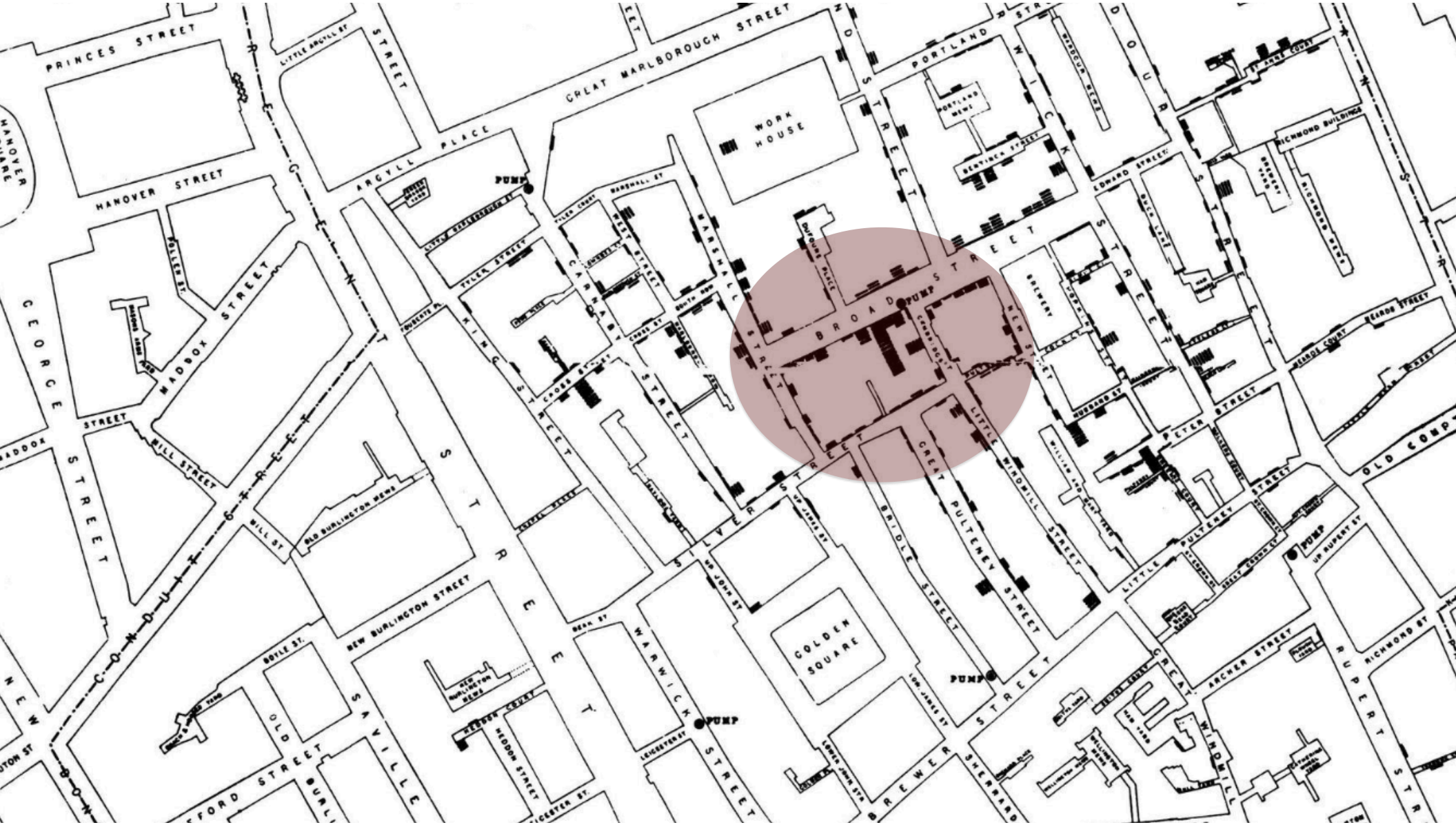
Northwestern | Kellogg

ANALYTICS COMMUNICATION

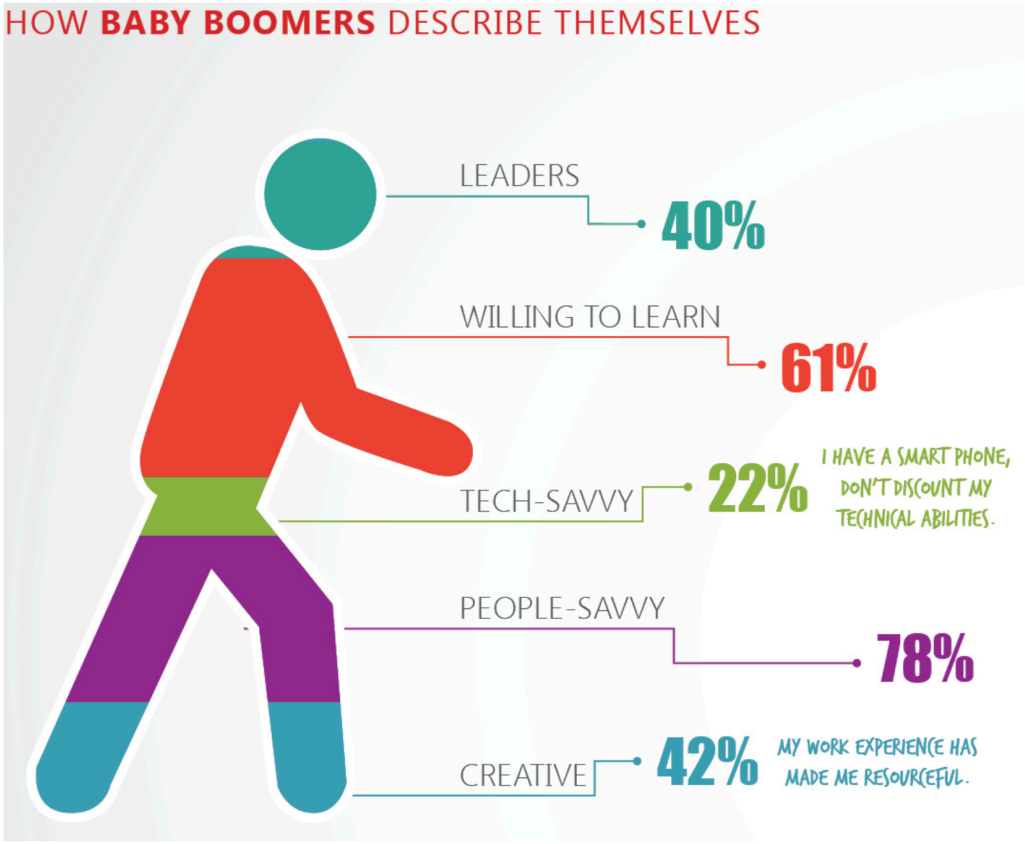
1854 Cholera Outbreaks in London



Visualization by: John Snow

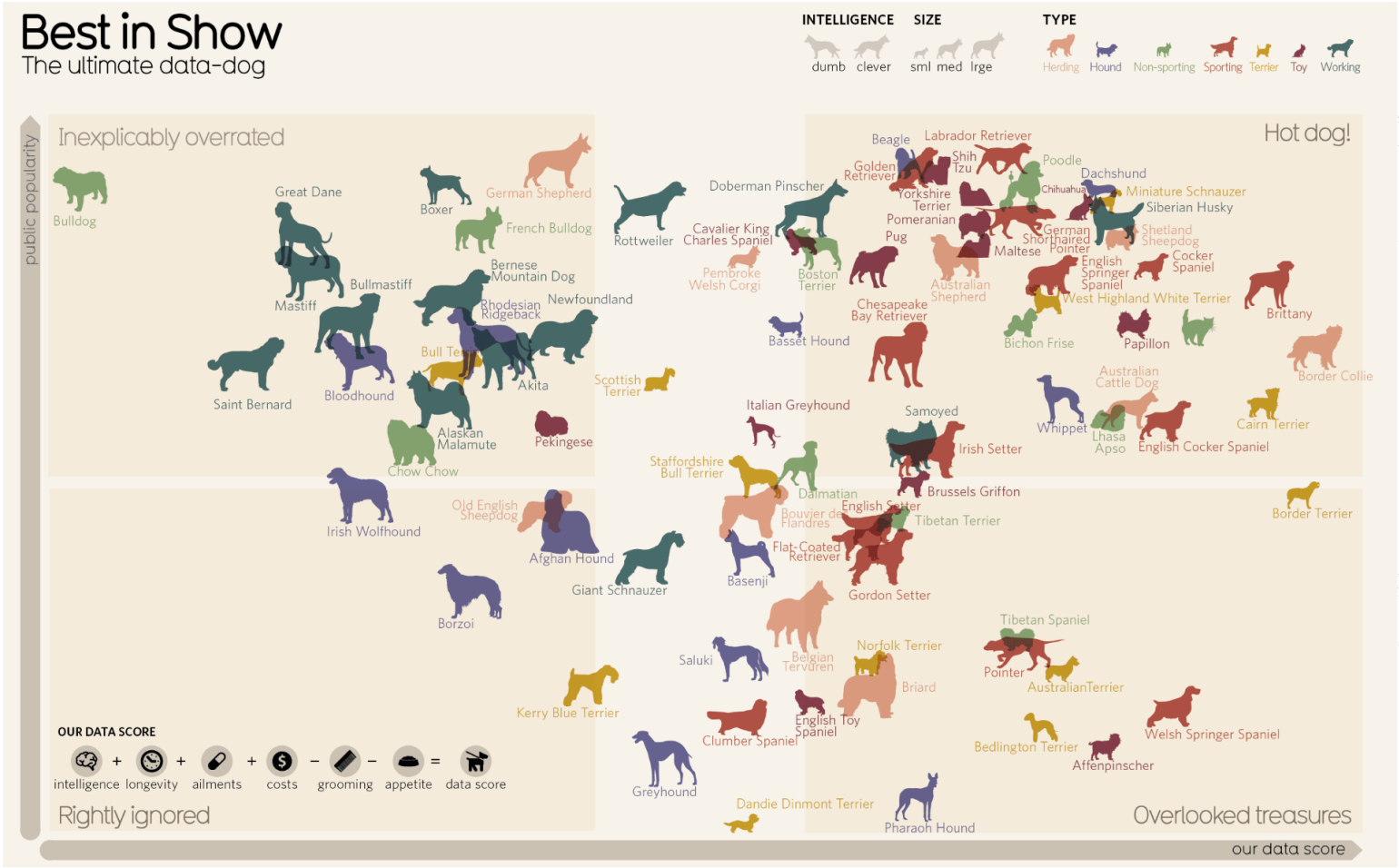

PRINCES STREET
HANOVER STREET
GREAT MARLBOROUGH STREET
ARGYLL PLACE
LITTLE ARGYLL ST
REGENT STREET
WORK HOUSE
PUMP
BROAD STREET
PORTLAND STREET
EDWARD STREET
RICHMOND BUILDINGS
GEORGE STREET
HADDOX STREET
MILL STREET
NEW BURLINGTON STREET
KING STREET
CARNABY STREET
MARSHALL STREET
TYLER STREET
CROSS STREET
SOHO STREET
GREAT PULTENEY STREET
LITTLE PULTENEY STREET
BRIDLE STREET
LITTLE WINDMILL STREET
GOLDEN SQUARE
WARWICK STREET
SAVILLE ROW
OLD BURLINGTON STREET
BOYLE ST.
ARCHER STREET
RICHMOND ST
RUPERT ST
BREWER STREET
SHERRARD
OLD COMPTON

DON'T GET TOO "CUTE"



Source: viz.wtf

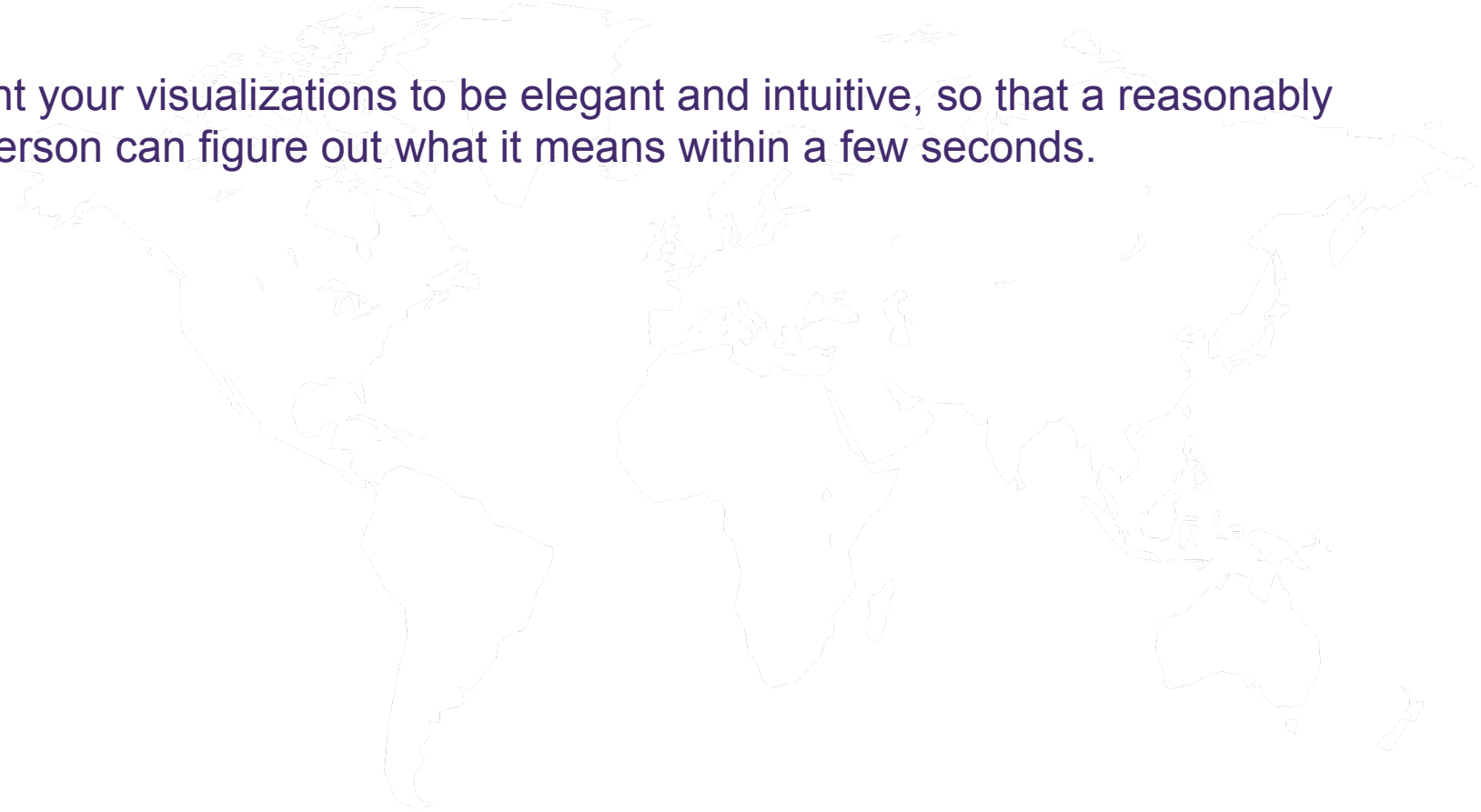
DON'T OVERLOAD YOUR AUDIENCE



http://www.informationisbeautiful.net/visualizations/best-in-show-whats-the-top-data-dog/

DATA VISUALIZATION IS IMPORTANT…

You want your visualizations to be elegant and intuitive, so that a reasonably smart person can figure out what it means within a few seconds.



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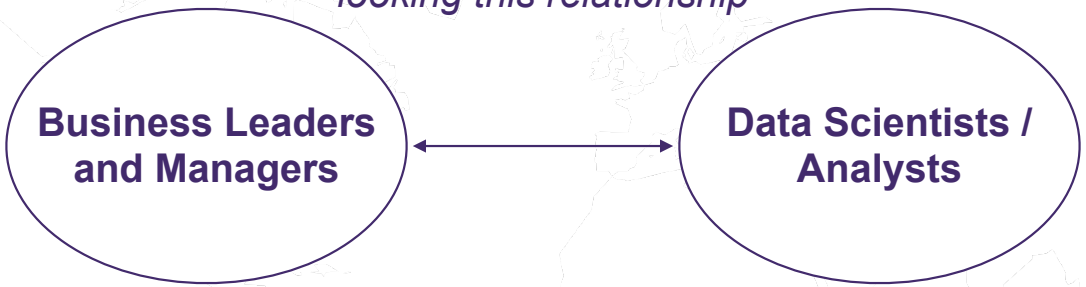
DATA VISUALIZATION IS IMPORTANT…
BUT NOT THE WHOLE STORY

I've spent a lot of time looking this relationship



Needs more knowledge of data science methods and applications so that they can learn "the truth" and make better decisions

Need better communication and persuasive skills to convey "the truth"

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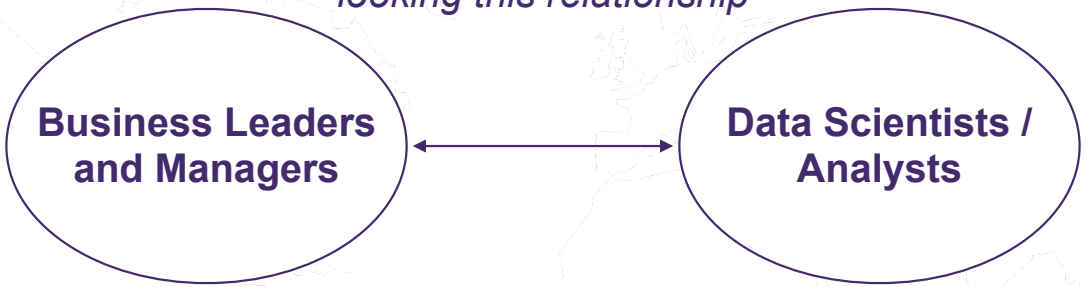

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SOLUTION TRANSLATION

PLUS, COMMUNICATION ISN'T JUST ABOUT UNDERSTANDING RESULTS

PROBLEM SCOPING

Interacting with business teams to tease out the level of specificity needed to solve a problem with analytics.

Lots of "what if" questions, hone in on metrics that matter, etc.

PROBLEM SHEPHERDING

Simple insights: "who did what when" enable someone to stay engaged with a problem and weigh in on progress.

SOLUTION TRANSLATION

Data viz, other good tools (coming shortly)

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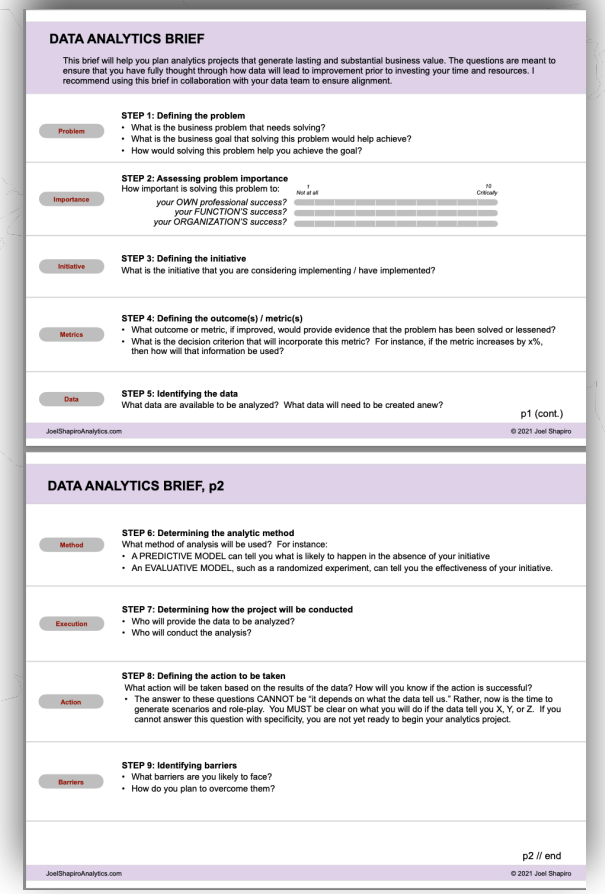

DATA ANALYTICS BRIEF

DATA ANALYTICS BRIEF

This brief will help you plan analytics projects that generate lasting and substantial business value. The questions are meant to ensure that you have fully thought through how data will lead to improvement prior to investing your time and resources. I recommend using this brief in collaboration with your data team to ensure alignment.

Problem

STEP 1: Defining the problem
- What is the business problem that needs solving?
- What is the business goal that solving this problem would help achieve?
- How would solving this problem help you achieve the goal?

Importance

STEP 2: Assessing problem importance
How important is solving this problem to: 1 Not at all — 10 Critically

your OWN professional success?
your FUNCTION'S success?
your ORGANIZATION'S success?

Initiative

STEP 3: Defining the initiative
What is the initiative that you are considering implementing / have implemented?

Metrics

STEP 4: Defining the outcome(s) / metric(s)
- What outcome or metric, if improved, would provide evidence that the problem has been solved or lessened?
- What is the decision criterion that will incorporate this metric? For instance, if the metric increases by x%, then how will that information be used?

Data

STEP 5: Identifying the data
What data are available to be analyzed? What data will need to be created anew?

p1 (cont.)

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DATA ANALYTICS BRIEF, p2

Method

STEP 6: Determining the analytic method
What method of analysis will be used? For instance:
- A PREDICTIVE MODEL can tell you what is likely to happen in the absence of your initiative
- An EVALUATIVE MODEL, such as a randomized experiment, can tell you the effectiveness of your initiative.

Execution

STEP 7: Determining how the project will be conducted
- Who will provide the data to be analyzed?
- Who will conduct the analysis?

Action

STEP 8: Defining the action to be taken
What action will be taken based on the results of the data? How will you know if the action is successful?
- The answer to these questions CANNOT be "it depends on what the data tell us." Rather, now is the time to generate scenarios and role-play. You MUST be clear on what you will do if the data tell you X, Y, or Z. If you cannot answer this question with specificity, you are not yet ready to begin your analytics project.

Barriers

STEP 9: Identifying barriers
- What barriers are you likely to face?
- How do you plan to overcome them?

p2 // end

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SOLUTION TRANSLATION

Data viz, other good tools (coming shortly)

WHY ARE DATA EXPERTS' COMMUNICATION SKILLS **LACKING**?

They are hired for their technical expertise…

When asked a question by a business leader, they feel compelled to demonstrate value…

So they show off their technical expertise…

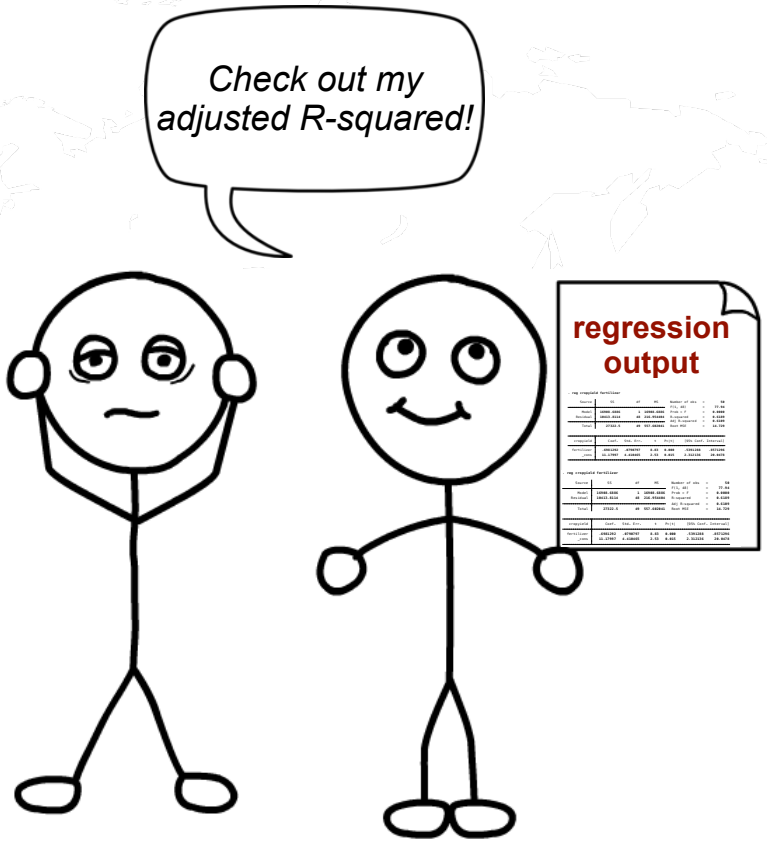
Which is not really what the business leader needs…

So the business leader just nods along…

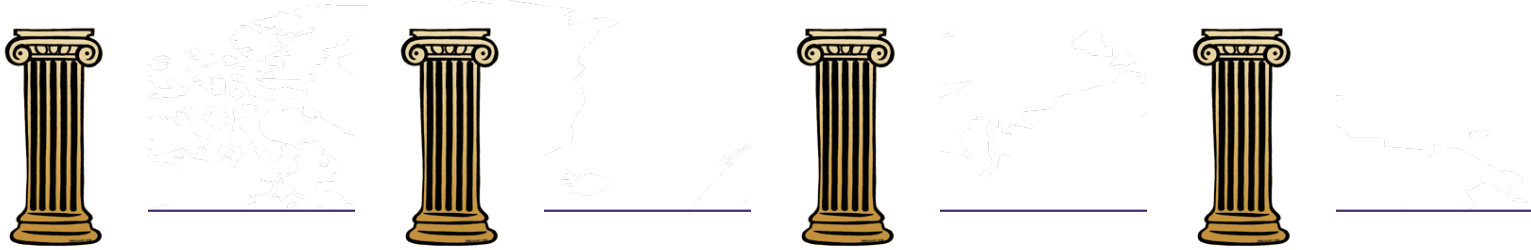
The data scientist's analysis goes un-acted upon…

Everyone gets frustrated…

They say analytics "just isn't working at our company" and "it's a culture thing"…



PILLARS + PRACTICES FOR GREAT ANALYTICS COMMUNICATION



PILLAR	Analytics supports a decision / action	Results matter only if they further a business objective	Different audiences require differently technical messaging	Effective communication isn't about what you want to say, but what you want audience to hear
PRACTICE	HAVE A CLEAR **TAKEAWAY** / ACTION ITEM	DEFINE WHY THE AUDIENCE SHOULD **CARE**	PROVIDE COMPELLING **EVIDENCE**	MAXIMIZE **INFLUENCE**
GOAL	Simple + Clear	Relevant	Digestible	Intuitive + Compelling

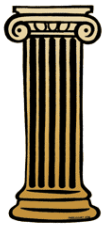
PILLARS + PRACTICES FOR GREAT ANALYTICS COMMUNICATION

YOUR GOAL

"I understand what I should do, the evidence supporting it, and why this matters"

A GOOD MODEL ISN'T ENOUGH FOR "INFLUENCE"

Your model NEVER "speaks for itself," no matter how good it is!



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↓

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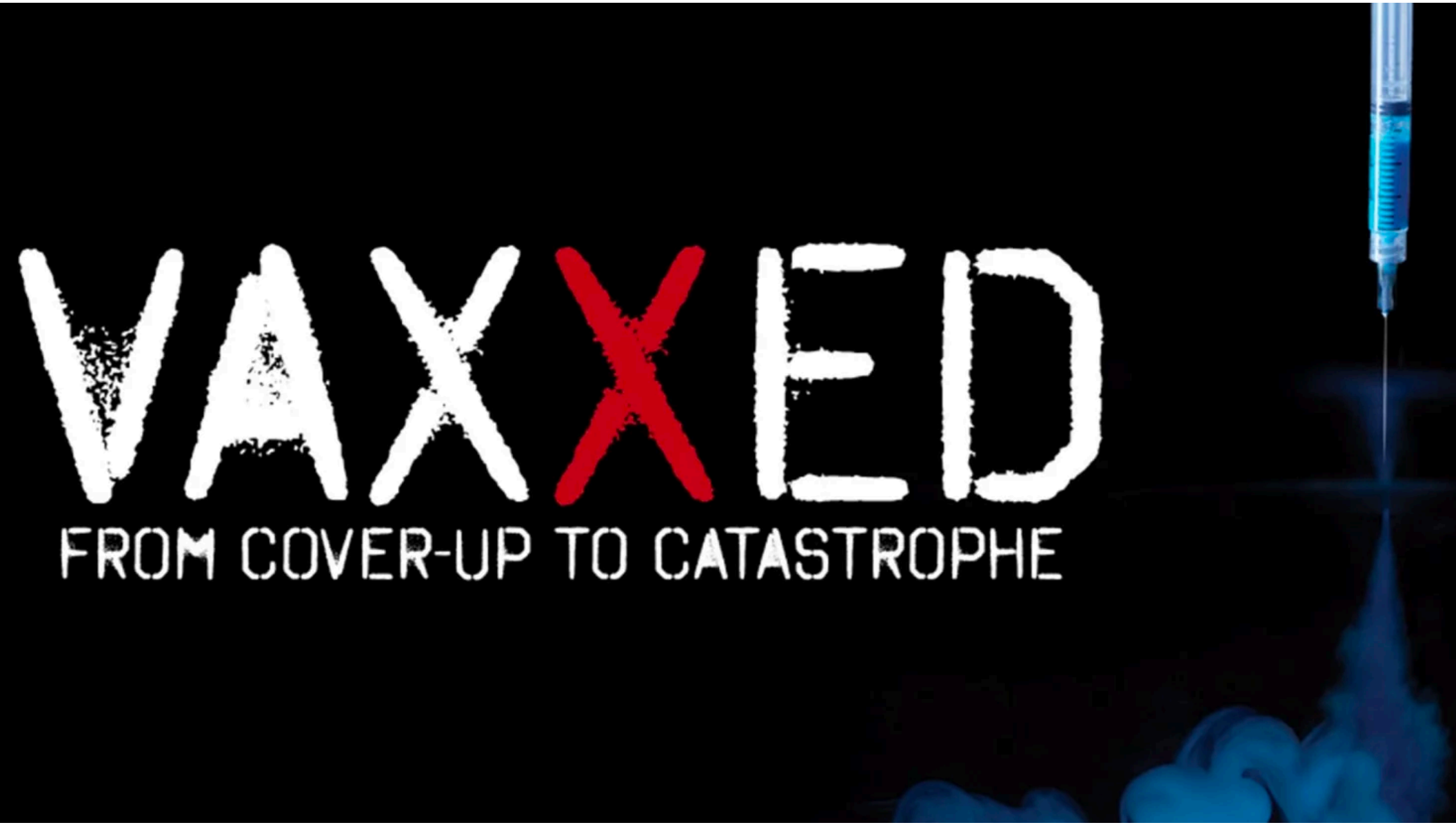
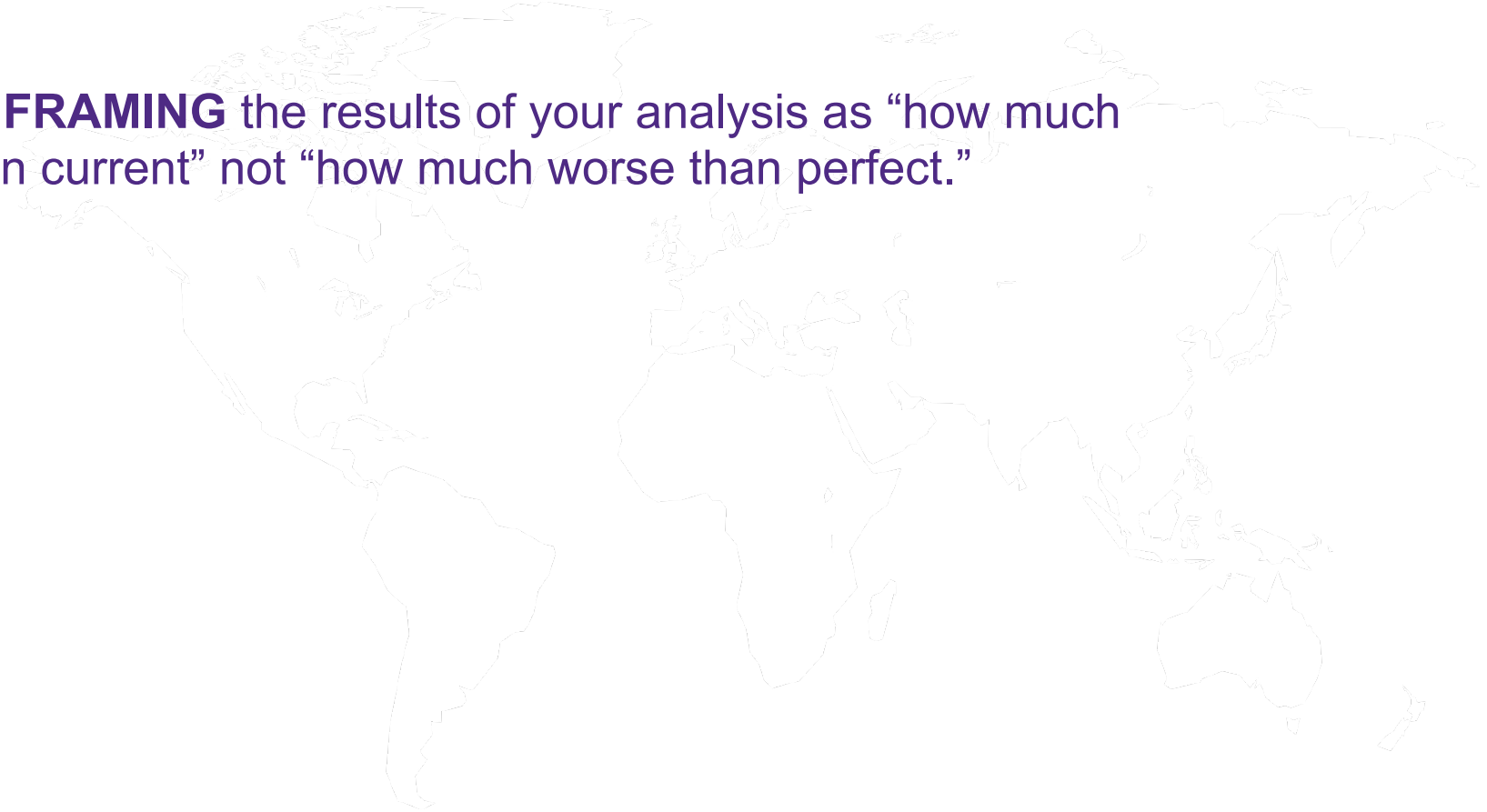

VAXXED
FROM COVER-UP TO CATASTROPHE

A GOOD MODEL ISN'T ENOUGH FOR "INFLUENCE"

This project is my baby. I know what it needs to be successful!

My model says otherwise!

3 COMPONENTS OF GREAT ANALYTICS COMMUNICATION



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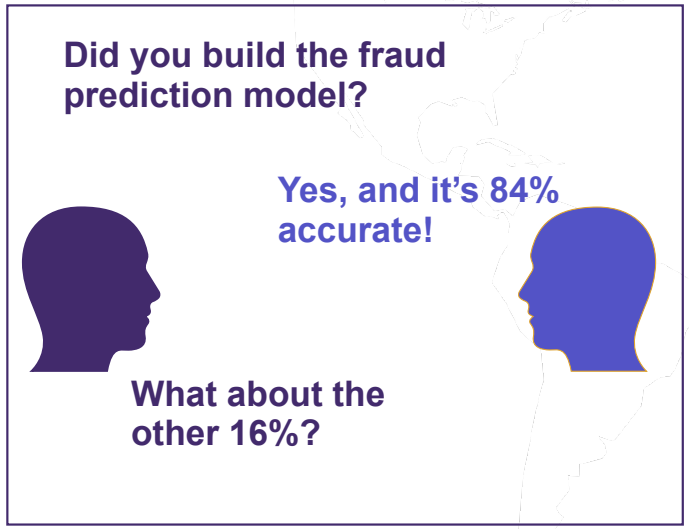

3 COMPONENTS OF GREAT ANALYTICS COMMUNICATION

1. Consider **FRAMING** the results of your analysis as “how much better than current” not “how much worse than perfect.”

2. Express the value of a model in **BUSINESS OUTCOMES.**

Why is a more accurate prediction better?
Can you quantify the value of a better prediction?

(More detail soon)

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2. Express the value of a model in **BUSINESS OUTCOMES.**

3. Learn how to write a great 1-2 page **ANALYTICS MEMO**

WHY A MEMO?

Your work does **NOT** speak for itself. You need to speak for it.

This is your opportunity to define “so what?”

People often want to circulate / re-engage with your analyses, and you should have your work clearly documented.

You **WANT** to be able to control the narrative around your work. A short memo forces you to articulate what is important and to define how best to use your work.

It is an **OPPORTUNITY** for you to shape your own contributions.

TIPS FOR A GREAT **ANALYTICS MEMO**

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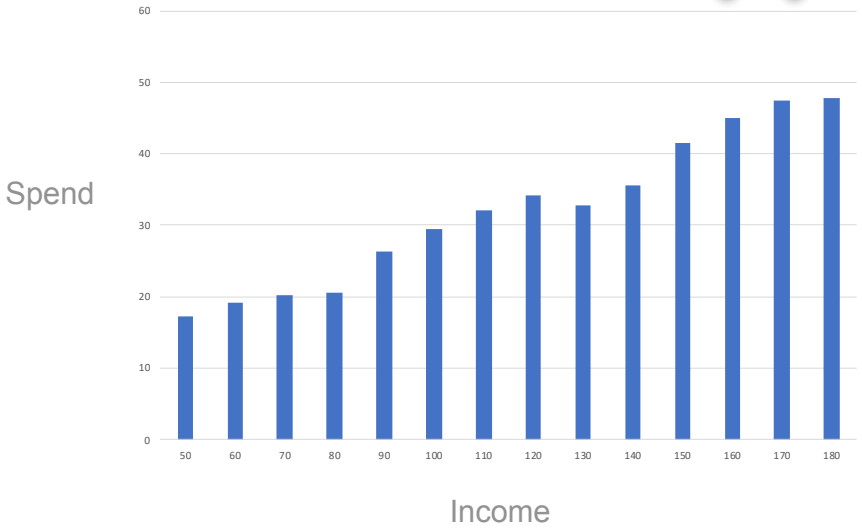
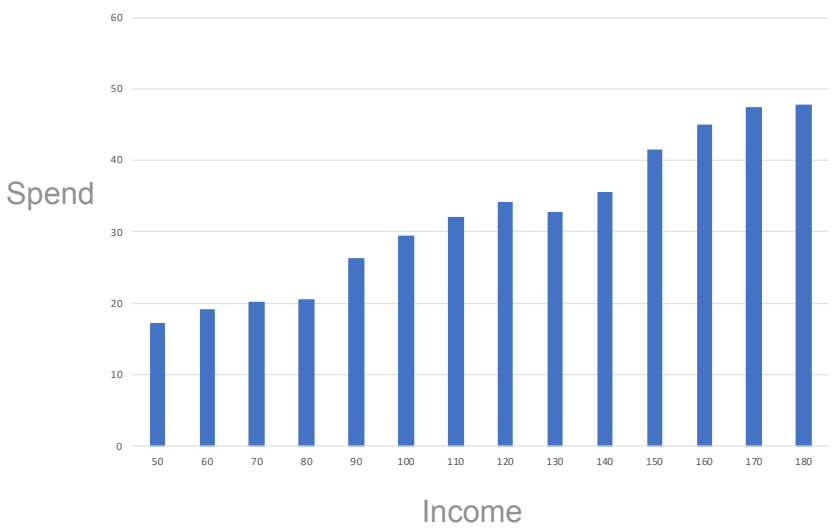
Spend versus income



Higher income earners spend more



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Here's the **DATA**, here's how I **CLEANED** it, here's the **MODEL** I ran, here are the **RESULTS**, here's the **ACTION** to take

Here's the **PROBLEM**
here's the **SOLUTION / ACTION,**
here's the **EVIDENCE** supporting it

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7. Use executive summaries to give the problem, the solution, and the primary evidence.

COMMUNICATION ACROSS THE DATA SCIENCE LIFECYCLE

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