False Choices, Policy Framing, and the Promise of "Big Data"

Presidential Address

November 8, 2013

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President, Mathematica Policy Research

It All Starts with Data

"In God we trust; all others bring data."
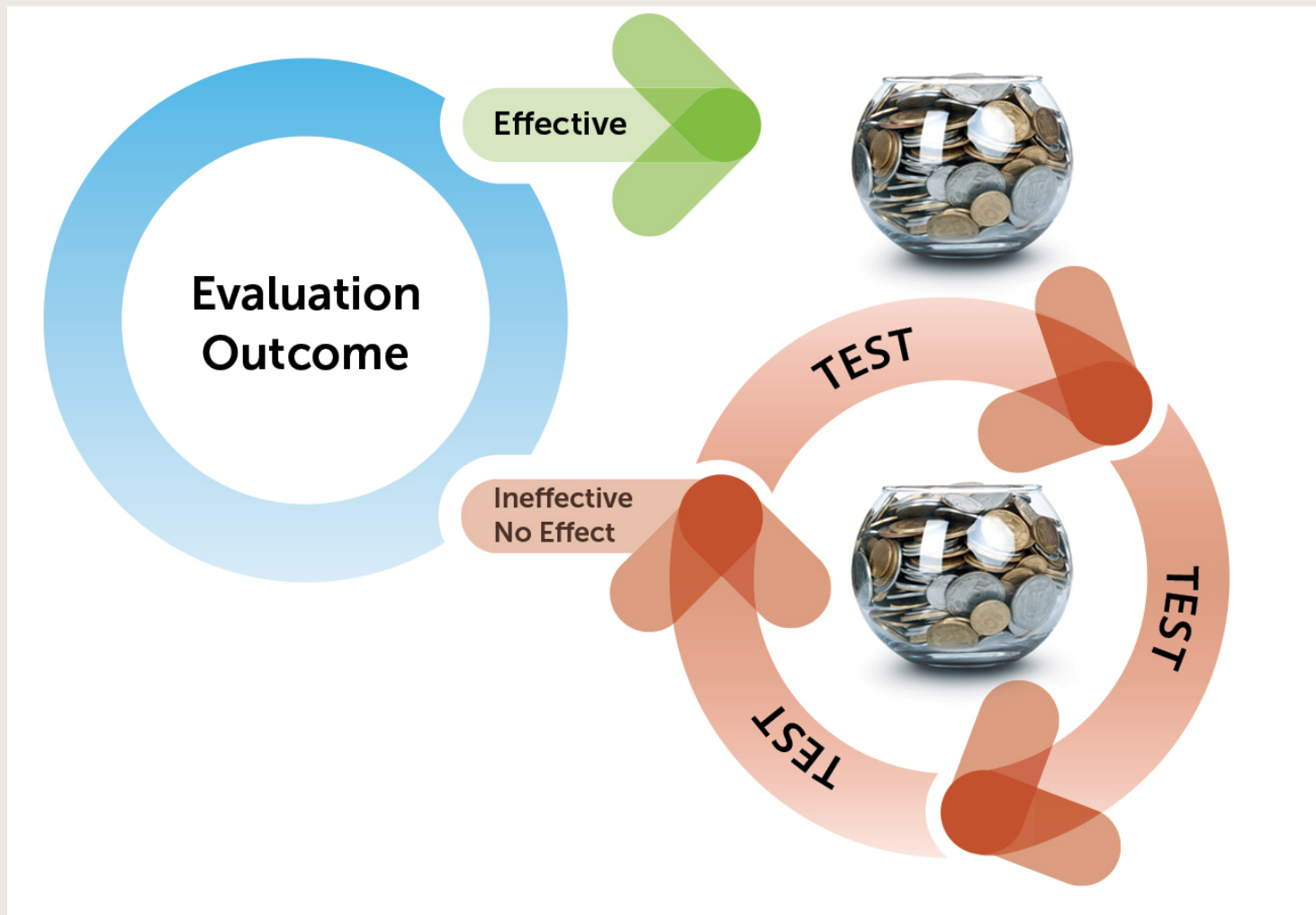
- W.E. Deming, Statistician

"Not everything of value can be measured."
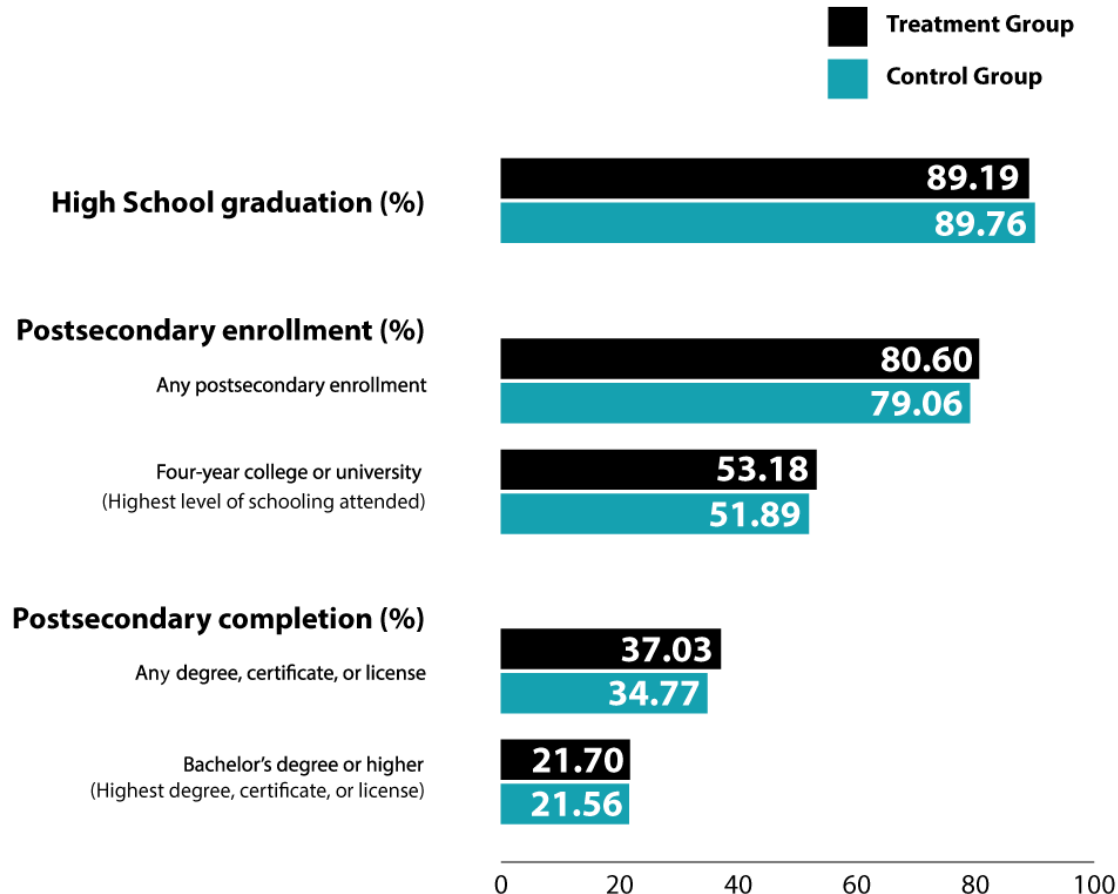
- *Wall Street Journal*, May 17, 2013

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The False Choice Equation

The Nuanced Choice

Case in Point: Upward Bound

Treatment Group

Control Group

High School graduation (%)
- Treatment: 89.19
- Control: 89.76

Postsecondary enrollment (%)

Any postsecondary enrollment
- Treatment: 80.60
- Control: 79.06

Four-year college or university
(Highest level of schooling attended)
- Treatment: 53.18
- Control: 51.89

Postsecondary completion (%)

Any degree, certificate, or license
- Treatment: 37.03
- Control: 34.77

Bachelor's degree or higher
(Highest degree, certificate, or license)
- Treatment: 21.70
- Control: 21.56

0   20   40   60   80   100

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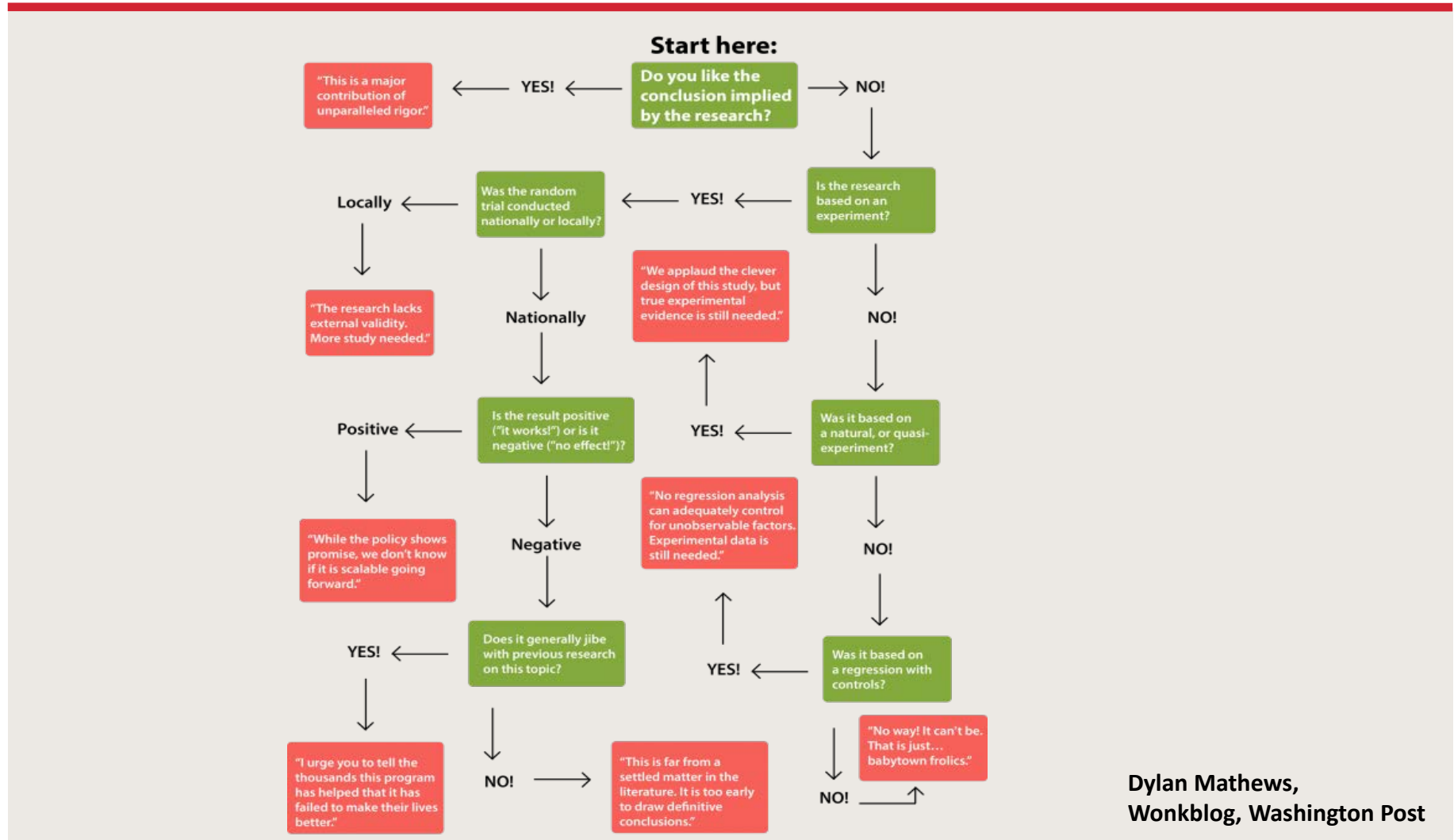# Advocates' Response

1. Cast doubt on findings

2. Work to prohibit further research

How to Argue with Research You Don't Like

Start here:

Do you like the conclusion implied by the research?

YES! → "This is a major contribution of unparalleled rigor."

NO! → Is the research based on an experiment?

YES! → Was the random trial conducted nationally or locally?

Locally → "The research lacks external validity. More study needed."

NO! → Was it based on a natural, or quasi-experiment?

YES! → "We applaud the clever design of this study, but true experimental evidence is still needed."

NO! → Was it based on a regression with controls?

YES! → "No regression analysis can adequately control for unobservable factors. Experimental data is still needed."

NO! → "No way! It can't be. That is just... babytown frolics."

Nationally → Is the result positive ("it works!") or is it negative ("no effect!")?

Positive → "While the policy shows promise, we don't know if it is scalable going forward."

Negative → Does it generally jibe with previous research on this topic?

YES! → "I urge you to tell the thousands this program has helped that it has failed to make their lives better."

NO! → "This is far from a settled matter in the literature. It is too early to draw definitive conclusions."

**Dylan Mathews,
Wonkblog, Washington Post**

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Advocates' Response

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Felony

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Advocates' Response

"You can't tell a kid, '**You're going to be in this life-changing program,**' and then say, '**no, you're only going to be in a control group.**'"

Education Week

Advocates' Response

"Random assignment is the wrong way to study their efforts because program operators typically **require students to undergo an elaborate application process** as a way to show commitment and winnow out candidates unlikely to succeed."

Education Week

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Spend More Time on Approaches
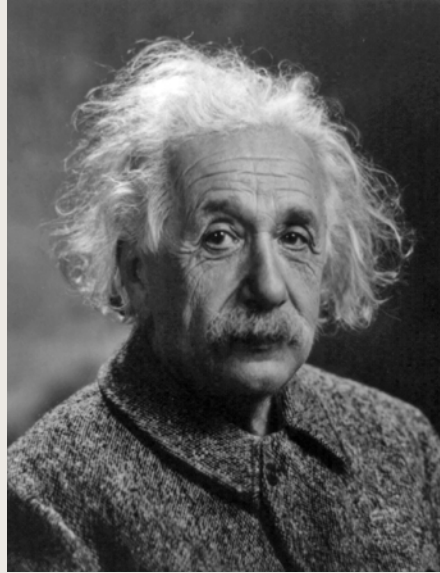
"If I had an hour to solve a problem I'd spend 55 minutes thinking about the problem and 5 minutes thinking about solutions."

- Albert Einstein

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Reframing the Evidence Conversation

- Stable commitment of resources

- Evidence is generated on a continual basis

- Research becomes an ally not a threat

- Programs evolve in their populations' best interest

Premature Obituary: Job Corps

Job Corps Elimination

Sept. 21, 1967

(News Washington Bureau)

WASHINGTON — The Job Corps program as presently operated by the Office of Economic Opportunity (OEO) has little chance of surviving an economy-minded Congress, but it is too early to say whether the Custer Job Corps Center in Michigan will be closed.

This appraisal was made today by Rep. Marvin L. Esch, R-Ann Arbor, a member of the House Education and Labor Committee which is starting final deliberations on the anti-poverty bill.

Esch said a majority of committee members believes that the Job Corps met a limited objective for a few people at an extremely high cost. He said

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Job Corps Earning Impacts

Average Earnings Per Week by Quarter
(1995 Dollars)

Program Group

Control Group

Quarter After Random Assignment
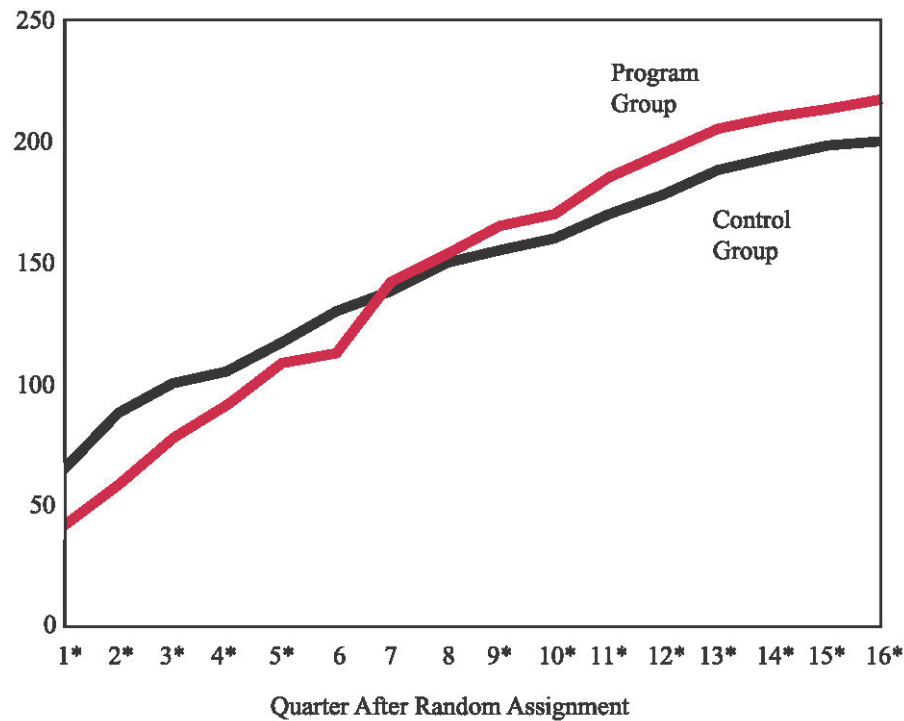
*Difference is statistically significant.

Paul's Policy and Practice Takeaways

1. Continue to support and generate evidence

2. Re-frame the evidence conversation beyond the binary choice

3. Don't be shy about connecting the dots

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APPAM and "Big Data"
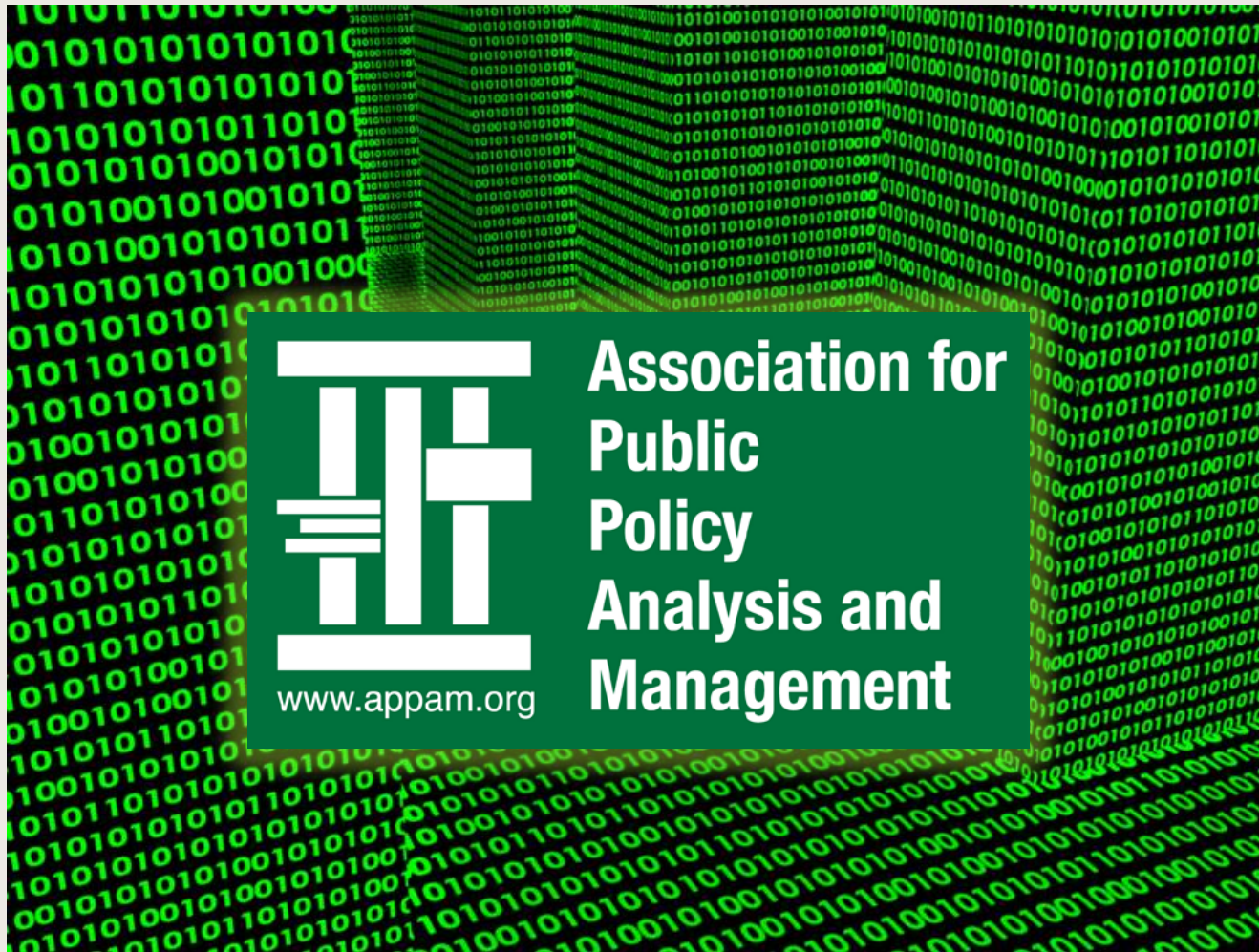
A Symbiotic Relationship With Technology

Disruptive Innovation Defined

"**Technologies, processes or business models** that bring to market products or services that are **more affordable and simpler to use** than what is currently available. It **enables more consumers** in that market to afford and/or have the skill to use the product or service. The change caused by such an innovation is so big that it **eventually replaces, or disrupts, the established approach** to providing that product or service."

– Clayton Christensen

"Big Data"

"Big Data"

Data Scientists: The New Cool

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"Big Data"

The Atlantic

Teaching Yourself to Dunk at 5'5"

How So Netwo...

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"Less than $1 out of every $100 of government spending is backed by even the most basic evidence that the money is being spent wisely."

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Data Tsunami

"Juking the Numbers"

APPAM's Sweet Spot

No Research Expertise Required
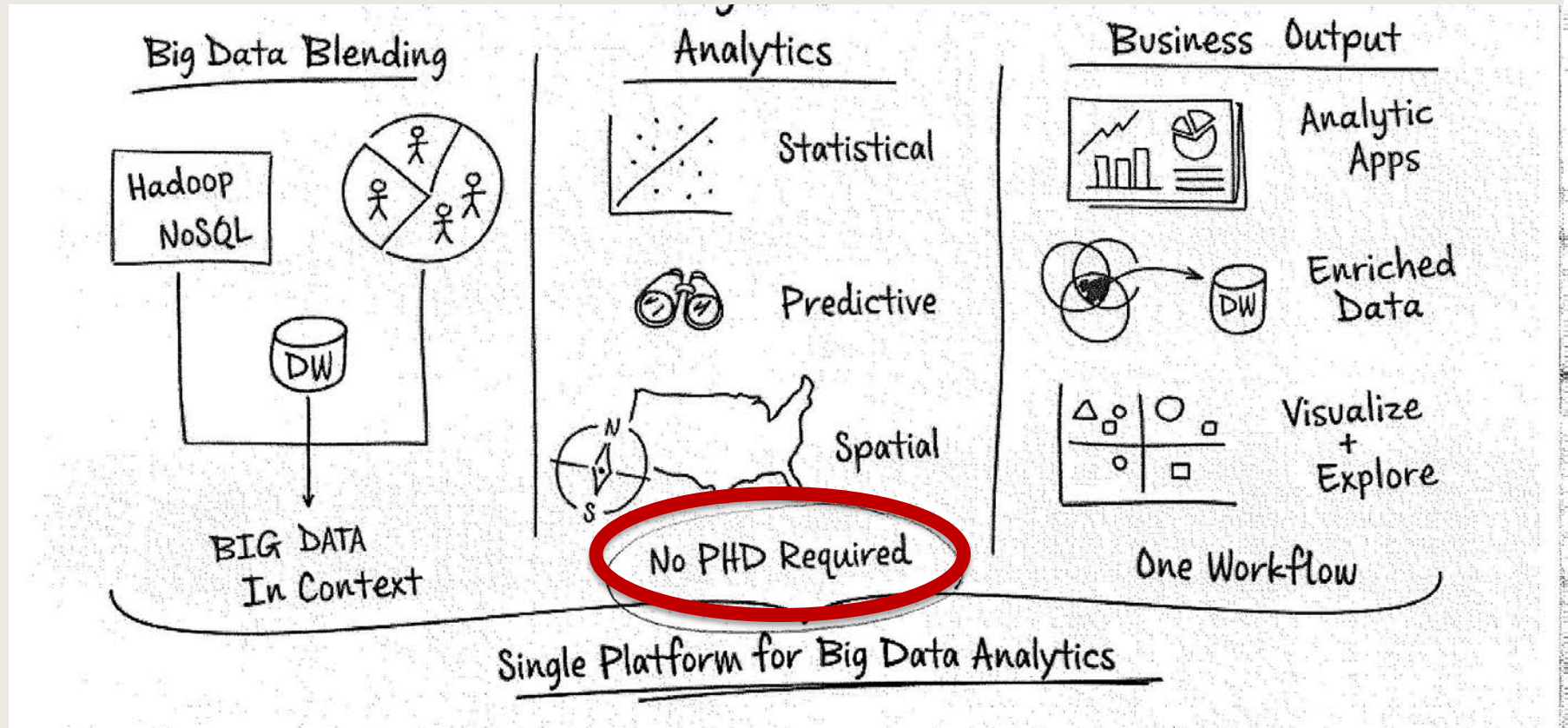
The APPAM Advantage

- Public management experience

- Methods expertise

- Policy analysis and evaluation

- Translation of data and research into practice

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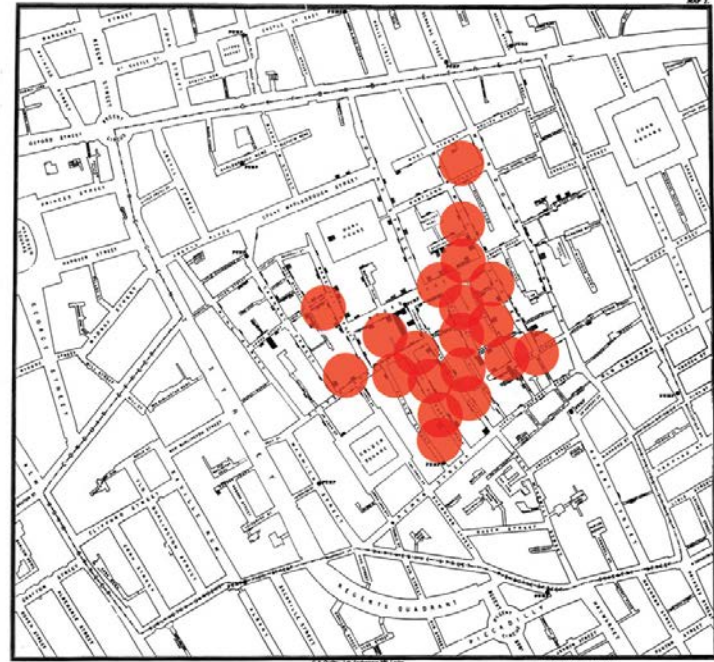# Democratization of Data

Half Full?

Conclusion

- Commit to research and evidence, especially when it's inconsistent with our initial beliefs.

- We must remain nonpartisan and objective

- Realizing the full potential of "Big Data" is in our hands

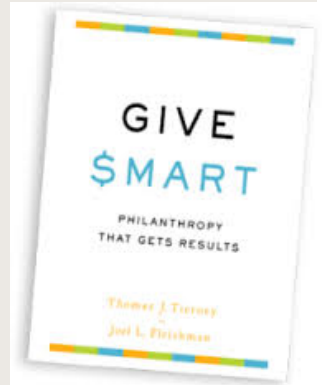- Ask the questions and set the framework, what gets asked gets answered.

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Pythagoras

John Snow and the Broad Street Water Pump

Joel Fleischman

- Seed a problematic field with research and trials

- Define clear and achievable goals

- Devise evidence-based strategies to get there

- Help guide society toward that sweet spot on the horizon

GIVE
$MART
PHILANTHROPY
THAT GETS RESULTS

Thomas J. Tierney
Joel L. Fleischman

For More Information

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