Causal Inference in Strategy Research: Lovely or Likely?

Presentation for Utah 2024 Strategy Summit

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Strategy Summit 2024

Deer Valley, Utah

Causal Identification in Strategy

Lovely

- Is :L.A.T.E. interesting?

Likely:

- Are tests reliable?

- Are they the correct tests?

"Well, dang. At least we're still making money."

Three-Legged Stool of Causal Identification in Strategy

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Thought experiment

- Imagine 10 competing firms, each with

- Identically competent strategic design and strategic implementation capabilities.

- Different theories of the state of the world; each develops a unique strategy optimized to that theory.

- One firm wins (Winner take all market)

- L.A.T.E.?

Is L.A.T.E.*Lovely?*

"In a world where all strategic decisions depend on many other choices, **average effects offer rather little value to the decision maker**.

– Leiblein, Reuer, Zenger (2018)

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Are they the correct tests?

Identifying assumptions (IV, Exclusion restriction, parallel trends)

Coming up with identification strategies almost always requires interaction with the data!

Getting the correct tests undermines their reliability!

-- Pillai, Goldfarb, Kirsch (2024); Heckman & Singer (2017)

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Structure of Abduction

Given

1. Observations $\boldsymbol{\Omega}$: $O_1\ldots O_n$
2. Explanations $E_1\ldots E_n$
3. E_i explains O *better* than all E_j such that $j \neq i$

Better can be

A. *Closer to the Truth*
B. *Most satisfactory*
C. *Most likely*
D. *Most meaning*
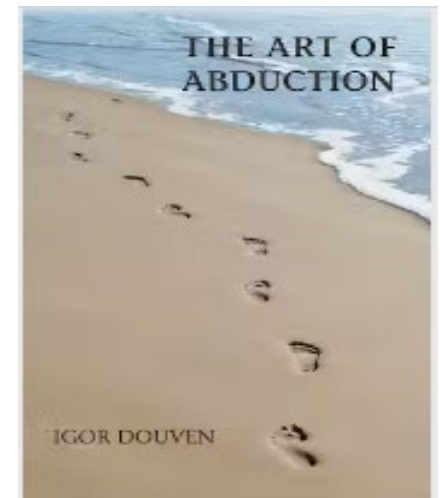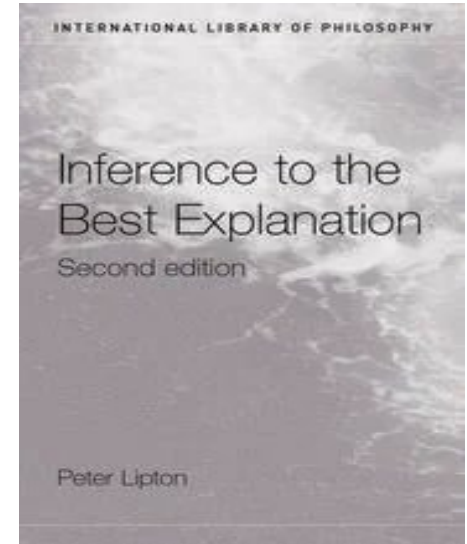
NEWS

The 7 Worst Tech Predictions of All Time

By Robert Strohmeyer
PCWorld | DEC 31, 2008 1:00 PM PST

Foolish Tech Prediction 1

"I think there is a world market for maybe five **computers**."

Thomas Watson Sr., Chairman, IBM, 1943

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Google

The Guardian
https://www.theguardian.com › technology › feb › co... ⋮

How many computers does the world need? Fewer than you ...

Feb 20, 2008 — In the early 1940s, IBM's president, Thomas J Watson, reputedly said: "**I think there is a world market** for about **five computers**.

PCWorld
https://www.pcworld.com › article › worst_tech_predi... ⋮

The 7 Worst Tech Predictions of All Time | PCWorld

Dec 31, 2008 — Foolish Tech Prediction 1 ... "**I think there is a world market for maybe five computers.**" ... At the dawn of the computer industry, nobody really ...

Ludwig
https://ludwig.guru › i+think+there+is+a+world+marke... ⋮

i think there is a world market for maybe five computers - Ludwig

Thomas Watson, the founder of IBM, presciently once said, "**I think there is a world market for maybe five computers**". 3.

Medium
https://medium.com › i-think-there-is-a-world-market-... ⋮

"I think there is a world market for maybe five computers."

Feb 22, 2017 — Thomas Watson, president of IBM, 1943. ""**I think there is a world market for maybe five computers.**"" is published by Josh Wulf.

I think there is a world market for maybe five computers ...

Sep 30, 2017 — "I think there is a **world market** for maybe five **computers**." Thomas Watson, president of IBM, 1943. In a time when we all carry a **computer** in ...

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Context: Statement at Shareholder meeting

"IBM had developed a paper plan for [the IBM 701 Electronic Data Processing Machine] and took this paper plan across the country to some 20 concerns that we thought could use such a machine. I would like to tell you that the machine rents for between $12,000 and $18,000 a month, so it was not the type of thing that could be sold from place to place. But, as a result of our trip, on which we expected to get orders for five machines, we came home with orders for 18 (IBM, 2007, p. 26)."

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IBM 701

What's the best explanation?

E1: Watson foolish: World-Market-for-5-Computers

E2: Watson's-team-underestimated-demand-for-the-IBM-701

E3: Watson-Impresses-Shareholders

E4: Watson-manipulates-shareholders-to-generate-support-for-cheaper-650

IBE

Observations

1. CEO of IBM
2. Shareholder meeting
3. Computers were large, limited devices
4. Computers were expensive

Prior theory / Knowledge

A. CEOs are strategic actors
B. Future is uncertain

	Consilience	Coherence	Parsimony	Depth
E1: Foolish	+: -: 1,2,3,4	+: B -: A	***	*

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E4: Manipulate	+: 1,2,3,4	+: A, B	*	***

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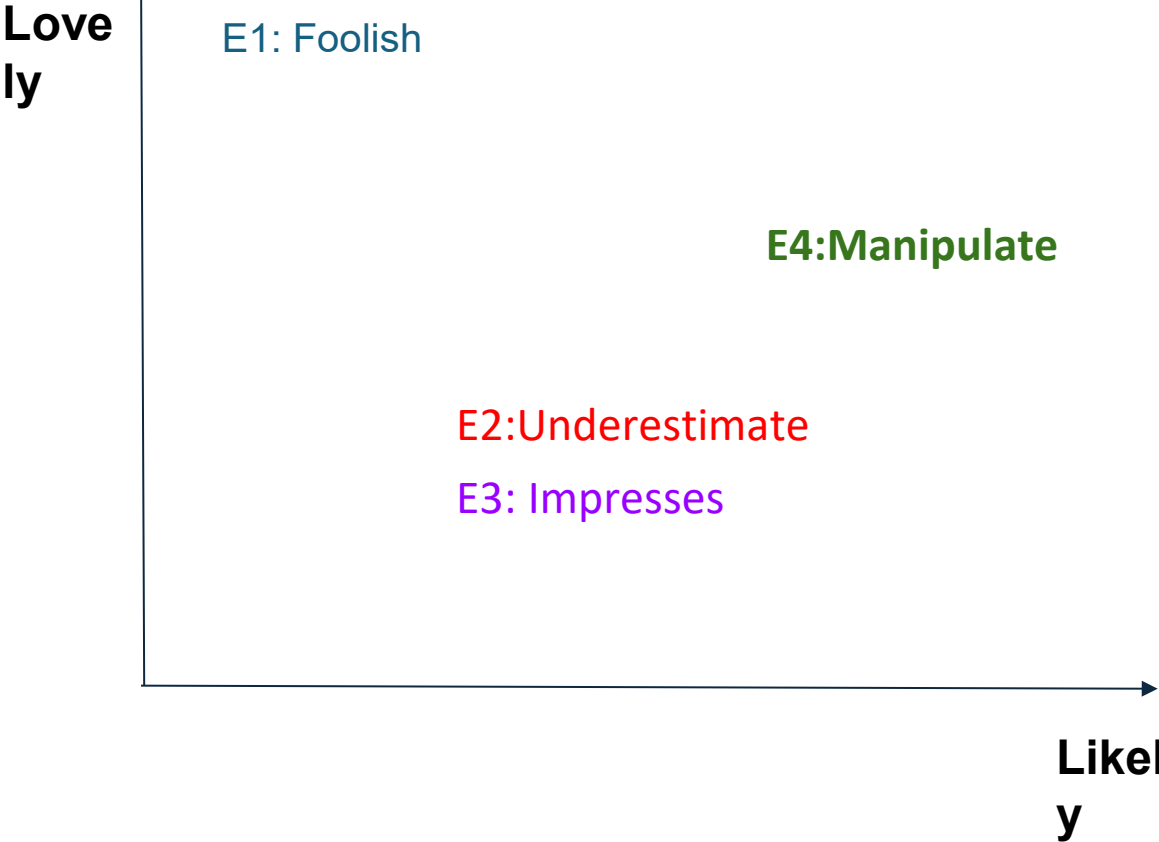4. Computers were expensive

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Coherence	Parsimony	Depth

Lovely & *Likely*

**Love
ly**

E1: Foolish

E4:Manipulate

E2:Underestimate

E3: Impresses

Consilience	Coherence

**Likel
y**

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IBE Provides Language & Structure for Judgment

Can we do better?

Severe Testing $-$ Mayo & Cox (2007)

A Hypothesis *H* is **severely tested** if it would

very probably not have survived the test *T*
so well if it were false

Calibrating claims:

The data are evidence for Hypothesis H **just to the extent** that Hypothesis H has severely passed test T.

A New Stool?

1. Find empirical regularities in a dataset in particular strategic contexts

2. Use deep contextual knowledge to

       Design severe tests of causal links

       Collect data/evidence and conduct these tests.

       Identify reusable causal "Micro-links".

3. Apply to new settings by assembling Micro-links

Severe Test T: Foolish

If Watson was foolish, then his 5 computer assessment would have been contested contemporaneously by other experts.

[historical record]

New Plan

Regressions give us conjectures

Use IBE to clarify preferences for explanations

When possible, design severe tests to identify causal links

Assemble causal links to build theories in new strategic environments.

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