Next steps

Questions, metrics, data, designs

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Measuring outcomes: the case of the “shareholder value” fad

- Assertion: the market price of a financial instrument represents the best estimate of the future income flows associated with its ownership (the “efficient market hypothesis”)
- M. Jensen (1988) on EMH: “No proposition in any of the sciences is better documented”
- Efficient markets and social welfare:
  - Firms maximize social welfare by maximizing profits
  - Share price is the best indicator of sustainable profitability
  - \( \therefore \) firms maximize social welfare by maximizing share price

Shareholder value pre- and post-bubble

1999
- “We exist to create value for our share owners on a long-term basis by building a business that enhances The Coca-Cola Company’s trademarks.”
- “Sara Lee Corporation’s mission is to build leadership brands in consumer packaged goods markets around the world. Our primary purpose is to create long-term stockholder value.”

2005
- “The Coca-Cola Company exists to benefit and refresh everyone who is touched by our business.”
- “Sara Lee Corporation’s mission as a company is to feed, clothe and care for consumers and their families the world over.”

What innovations are grants supposed to produce?

- Contributions to basic knowledge
  - Simple measures
    - \# of publications
    - Impactful publications (weighted by ISI count)
  - More complicated measures
    - Publications relative to comparable (but unfunded) peers
    - Publications that draw on more diverse prior work and are cited by more diverse later works
- Contributions to applied knowledge
  - All of the above, but with patents
How does one measure innovation? A parable

- Multidisciplinary project funded by an anonymous science foundation
- Central research question: “How does physical architecture shape collaboration networks and innovation in scientific and industrial settings?”
- Collaborators included PIs in Architecture, Business, Information, and Sociology

A real-world application: “Name your innovations”

- Research site #2: environmental office of multinational manufacturer
- Asked to name the office’s most important innovations, interviewees listed:
  - Process to turn chemical fumes into fuel
  - Low-energy method of purifying factory wastewater
  - Lobbying technique for dealing with state legislators
  - Method for valuing carbon credits traded on Chicago exchange
- How to commensurate such diverse outcomes?

A task for us: how to measure “impact” and “innovation”? 

- Transformative knowledge?
- Policy and practice?
- Capacity-building (for students; for faculty; for institution)?
- Cooperative science (vs. competitive)?
- Legitimacy due to NSF imprimatur?
- Pat K’s challenge: What are the best possible outcomes 5 years out?