Civic Canopy Summit

Denver, Colorado

11:00-12:15

November 28 2018

Contribution Analysis

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1. Social innovators – and those who support them – want to get a sense of the extent to which their hoped for outcomes, results or changes can be linked to their activities.

2. The traditional approach to assessing **attribution** ' – experimental designs, including randomized controlled trials – are **impractical** except in a few niche situations.

3. The alternative is **contribution analysis**, an approach that is in early phase of development, is more realistic and practical.

4. There are three **broad methods** for contribution: stakeholder estimates, general elimination methods and counterfactural scenarios.

5. Its early days contribution analysis: innovators and evaluators should be clear about their desire for using its – and capacity for employing it – as they design their evaluations.

A Vignette

From 1974 to 1989, incidences of violent crime increased 80% in the US. Within years, dropped back to levels not seen since 1950s.

What are the top three reasons for this drop?

Popular Crime Drop Explanations in Media and Research

Crime Drop Explanation	Number of Citations
1. Innovative Police Strategies	52
2. Increased Reliance on Prisons	47
3. Changes in crack/drug markets	33
4. Aging of population	32
5. Tougher gun control	32
6. Strong economy	28
7. Increased # of police	26
8. All other (capital punishment, concealed weapons laws, buybacks, etc.)	34

Top Three Likely Reasons

Crack Bubble Bursts – a key driver of violent crime.

Tougher prison sentencing – prevents existing offenders from reoffending (for the time being). .

Wade Versus Roe = Reduction in the number of at-risk young men – demographic dip and legalized abortion

FREAKONOMICS

A ROGUE ECONOMIST EXPLORES THE HIDDEN SIDE OF EVERYTHING

"Prepare to be dazzled."
— Malcolm Gladwell, author of *The Tipping Point* and *Blink*

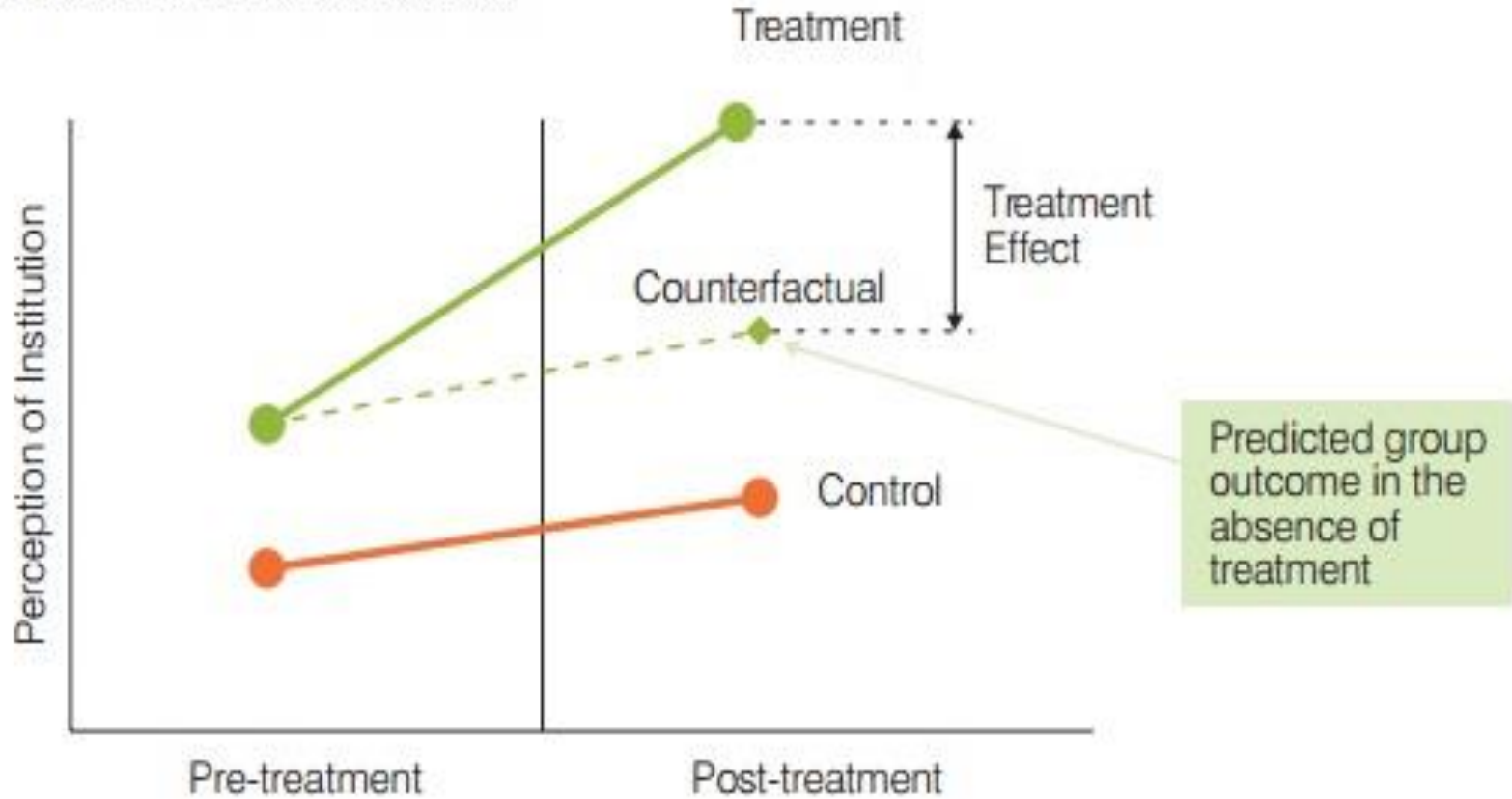**STEVEN D. LEVITT** AND **STEPHEN J. DUBNER**

Figure 5. Illustration of Difference-in-Difference Estimation

The Traditional Approach: Attribution Analysis

The traditional approach to establishing the counterfactual or assess attribution, is experimental design, used to be the widely accepted 'gold standard'.

Experimental designs are impractical, except in a few niche situations, because of costs, time, requirements imposed on intervention, ethics and complexity of many community change interventions.
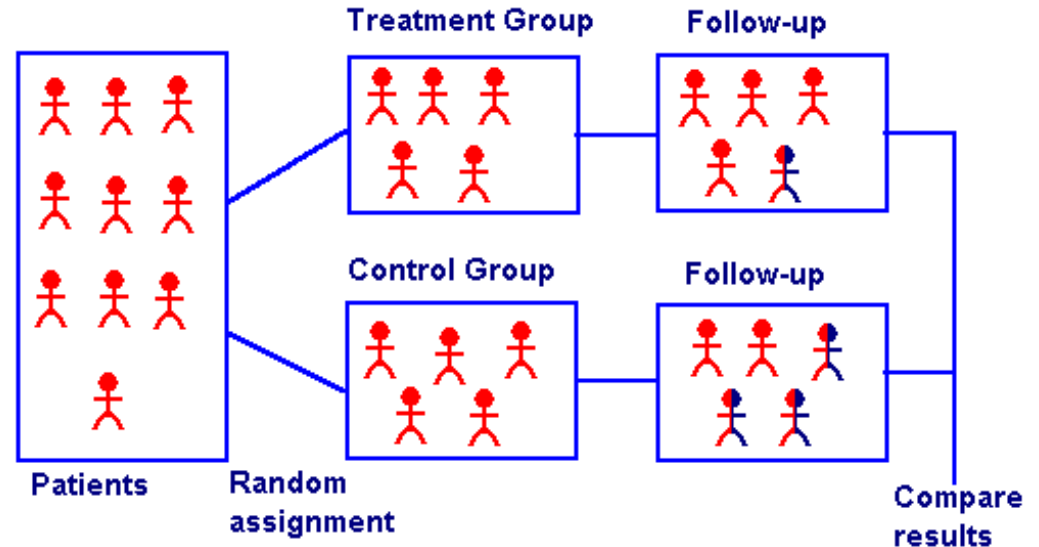
Experimental Methods

- Randomized Controlled Trials

- Quasi-Experimental Designs

- Comparison Groups

- Various Statistical Models & Techniques

Attribution vs. Contribution

A paradigm shift

# Why try to assess the link between activities and outcomes?

Type	User/Use
Developmental or Formative	To help innovators get feedback to affirm or guide changes in direction.
Summative	To determine the merit or worth of an intervention.
Accountability or Marketing	To demonstrate progress and/or secure more resources to external bodies (e.g., funders, policy makers, public).
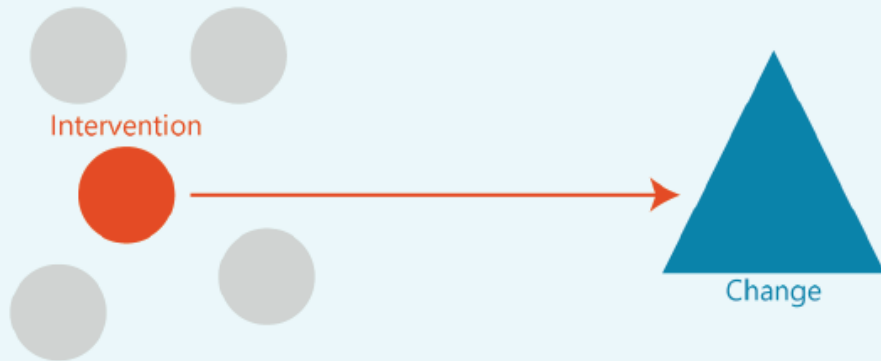
Attribution	Contribution
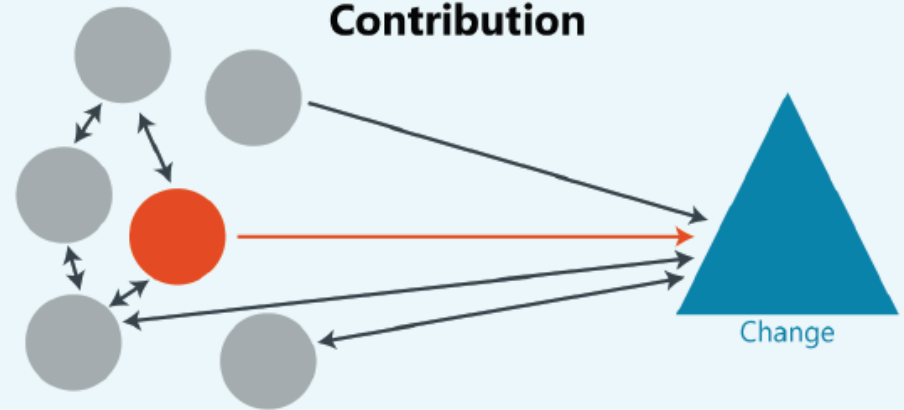
Attribution Analysis

Employs a narrow-angle lens that assumes a linear cause-and-effect relationship between intervention activities and observed changes.

Asks: To what extent did out intervention cause the change?

Seeks to prove the link between activities and change.

Privileges experimental design as the 'gold standard' methodology.

Contribution Analysis

Embraces a wide-angle lens on the non-linear cause-and-effect relationships between intervention and non-intervention factors that influence changes.

Asks: To what extent did our intervention contribute to the change?

Seeks to establish a plausible link between the intervention and change.

Emphasizes triangulation of methods and stakeholder verification of findings.

"Far better an approximate answer to the right question, which is often vague, than an exact answer to the wrong question, which can always be made precise."

John Tukey, Mathematician

Our Mission:
Start Integrating Contribution Analysis Into Work Where Necessary

Relatively few evaluation-leaders focusing attention on contribution analysis.

What does exist is not yet innovator or evaluation practitioner friendly.

Lets try and change that.

We are **HERE**

innovators	early adopters	early majority	late majority	laggards
2.5%	13.5%	34%	34%	16%
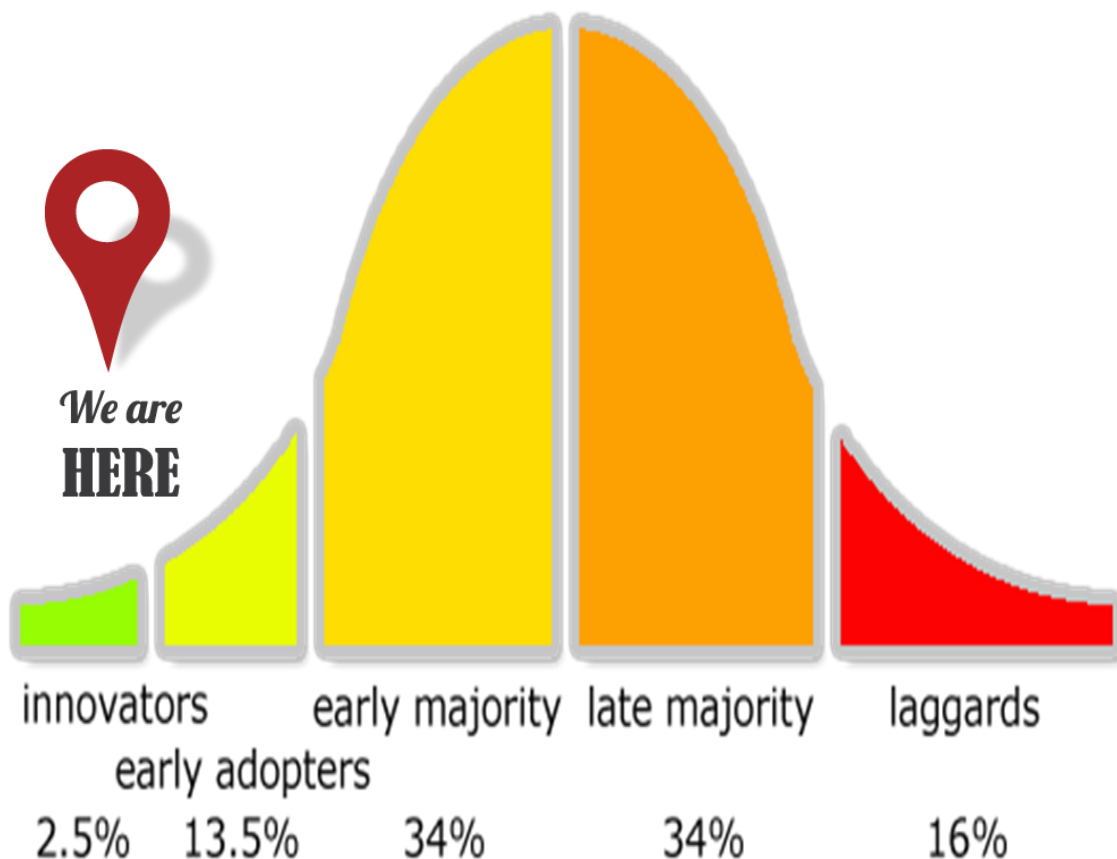
Three Methods
Ranging from Light to Heavy

Stakeholder Estimate

The evaluator acts like a journalist to obtain stakeholder estimates of the different contributions to outcomes.

General Elimination Method

The evaluator is a detective that explores all the possible contributions to an outcome and settles on the most likely ones based on the evidence on hand.

Counterfactual Scenario

The evaluator works with innovators and experts to create scenarios of what would have happened without the intervention.

#1: Stakeholder Estimates
(aka The Journalist)

Aim

To engage stakeholders in assessing the relative contribution of an intervention and intervention actors to an observed outcome.

Techniques

1. Stakeholder Rating Scale

2. Outcome Harvesting

3. Collaborative Outcomes Reporting

Outcome Harvesting

Outcome Harvesting collects ("harvests") evidence of what has changed ("outcomes") and, then, working backwards, determines whether and how an intervention has contributed to these changes.

Usefulness

Good When

- Impact requires systems change
- Multiple stakeholders
- Activities and plans emerge rather planned up front
- Results are small and cumulative over time

Used by

- World Bank
- United States Agency for International Development
- The Ford Foundation

Key Terms

Outcomes: key actions, behavior changes by key system actors that 'align' and 'contribute' to moving forward on an vision/end statement.

Impacts: the (if possible, measureable) effects of outcomes that contribute to vision/end state.

Significance: the significance of the outcomes to the larger effort to achieve a vision/end state.

Contribution: the manner in which social innovators contributed to the outcomes and impacts, often measured on some type of scale.
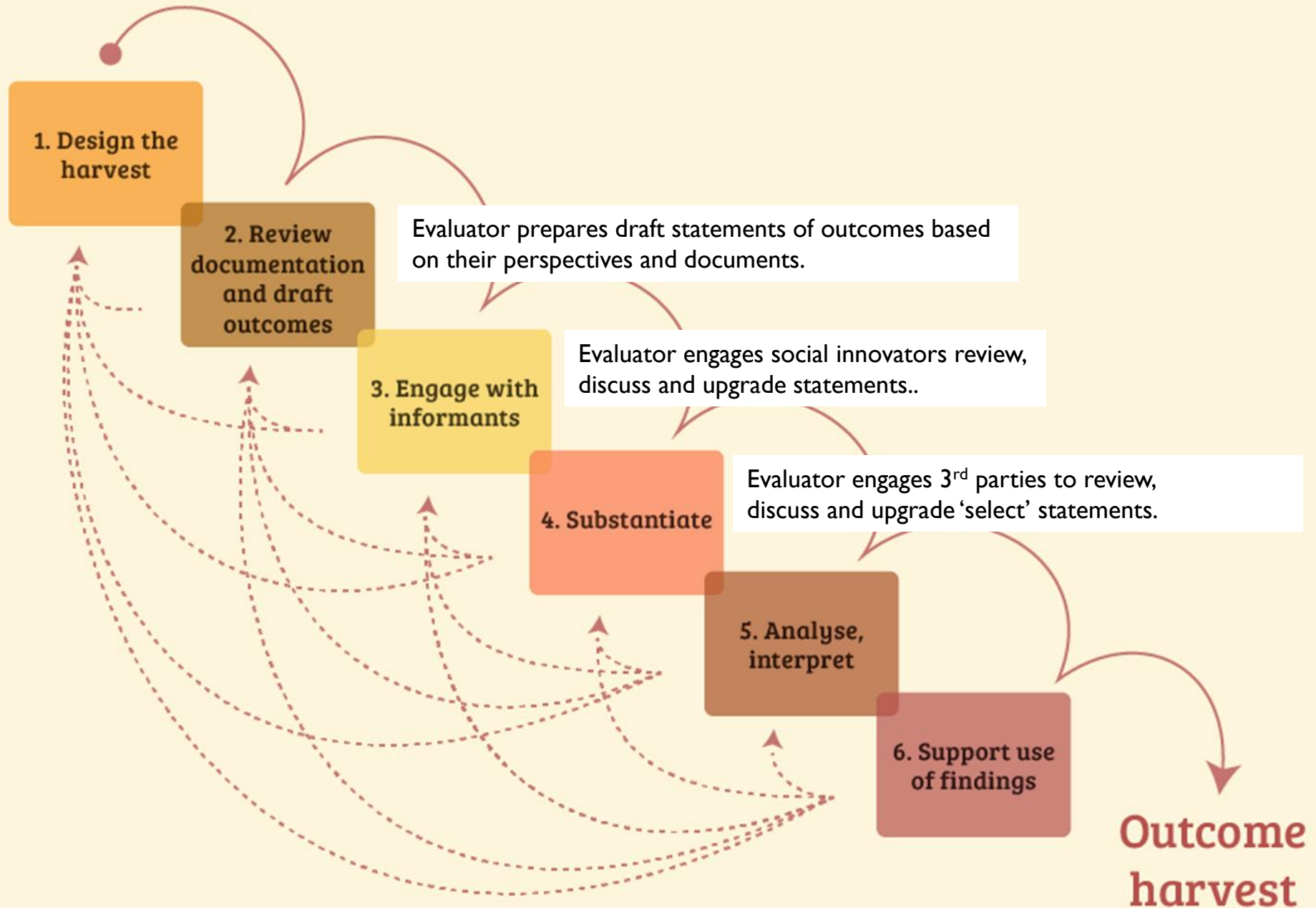
Example: Tower Renewal in Toronto

- **Outcomes**: In 2016, the Toronto City Housing Corporation and Toronto Atmospheric Fund launched a joint project to invest $4.2 million to retrofit 7 of its towers with a variety of energy efficiency measures.

- **Impacts:** the project was learning rich, and resulted in 20% reduction in utility savings and approximately 30% in reduced GHG emissions.

- **Significance**: with 2200 multi-residential buildings, the TCHC is the biggest single owner of residential apartments in the Toronto region. Over 50% of its stock requires renewal. A successful pilot here could catalyze action by apartment owners.

- **High Contribution**: the Tower Renewal Partnership efforts appeared to have (a) increased the probabilities of the pilot and (b) shaped design of the pilot. The CEO of TCHC public reported Tower Renewal Partnership was a significant reason for the pilot: his team and board were inspired Tower Renewal Call to Action and guided by much of the Partnerships research findings and recommendations.

This is a fictional statements used to illustrate what it could look like if TCHC and TAF were interviewed for substantiation.

Steps in outcome harvesting

1. Design the harvest

2. Review documentation and draft outcomes

Evaluator prepares draft statements of outcomes based on their perspectives and documents.

3. Engage with informants

Evaluator engages social innovators review, discuss and upgrade statements..

4. Substantiate

Evaluator engages 3rd parties to review, discuss and upgrade 'select' statements.

5. Analyse, interpret

6. Support use of findings

Outcome harvest

Reporting

Figure 1. Map of outcomes showing how changes connected and built over a two years

(1)* Reform team, with members from the two utilities and municipality, collaborated to analyze their goal to expand solid waste collection and increase collection fees in Bijeljina

(2) Reform team understood the deeper problems that blocked expanded waste collection, related to citizens paying for services, collection from dispersed households and income from collection

(3) Reform team agreed to create database of waste generators and increase the amount of waste collected by the end of one year

(4) In Bijeljina, reform team continued to meet monthly to discuss issues such as pricing, budget and deficits

(5) Reform team struggled to set up the database and increase waste collection and decided to form team in collection utility to find solutions

(6)* New implementation team formed plan to pilot increased waste collection in one village and one urban area; reform team agreed to provide oversight of new teams

(7)* Implementation team conducted citizen survey to find out under which conditions they would pay higher tariffs and identified their household location

(8) Collection utility collaborated with another utility to gain starter database, with municipality approving use

(9) Team leader re-organized field worker schedules by removing other priority activities so they could complete survey with wider household coverage

(10) Collection utility used survey findings to calculate realistic price for citizens to pay for waste collection

(11) Citizens in the pilot area became involved in collection through survey and expressed demand for better service

(12) Municipality agreed to negotiated increase of 10%

(13) Households in pilot area paid the new tariff

(14) Team decided to remain operational, hired two staff to expand efforts

(15) Member of Bijeljina police force joined collection team to help deal with citizens who do not pay their fees

(16) Dumpsite utility had a deficit of revenues and received assistance from municipality to cover part of it; collection utility met its deficit from other activities

(17)* Municipality drafts new policy to guide utility operations

(18) Collection utility and dump provide input into policy

2011	2012

Institutional changes

Outcomes related to societal, policy and organizational changes

—— Political commitment, social norms and citizen demand for service improvements

~~ Policy improvement for utilities

--- Operational efficiency/responsiveness/financial viability of utility

Learning/capacity changes

Other outcomes related to awareness, knowledge or skills, collaborative action, or the use of knowledge or innovative solutions.

* Outcomes selected for substantiation: see sidebar.

Reporting

Figure 4. Pilot II: Accelerating payment of teachers and reducing corruption, Sept 2007–March 2008
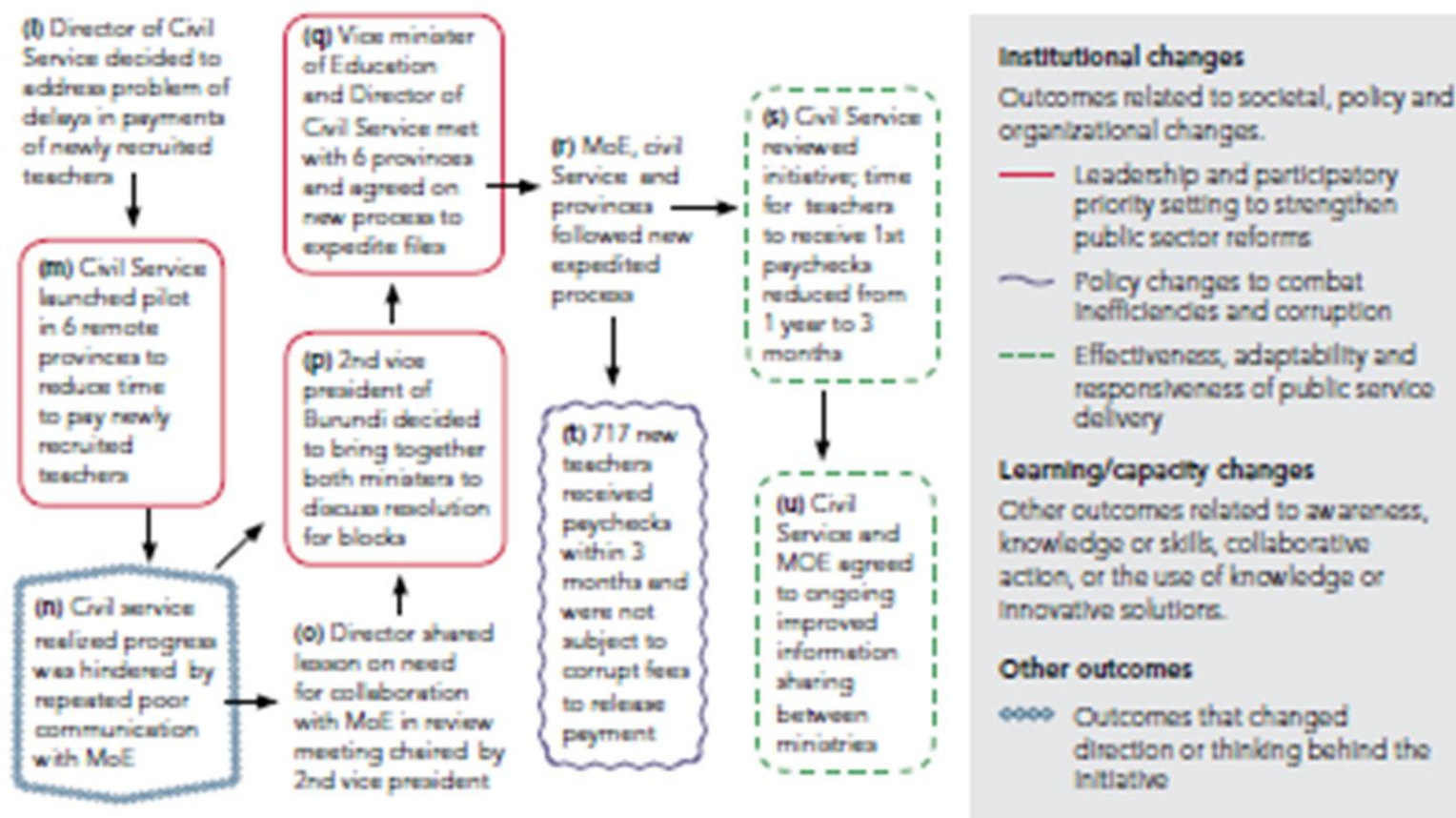
#2: The General Elimination Method
(aka Detectives)

Aim

- To trace the 'factors' that may have led to an outcome or event and then systematically eliminating factors – one by one - until the most compelling explanation(s), supported by the evidence, remains.

Techniques

1. Causal Mapping
2. Process Tracing

Method: Process Tracing

#1: Set Context & Surface Hypotheses

Table 2

Overview of "Silver Blaze"

Causal Puzzle

To explain the murder of John Straker and, secondarily, the disappearance and whereabouts of the racehorse Silver Blaze.

Main Characters

Silver Blaze, the racehorse that is the favorite for the Essex Cup, has disappeared.

John Straker, the horse's trainer, has been killed by a terrible blow that shattered his head.

Fitzroy Simpson, a prime suspect, has been lurking around the stable seeking inside information about the race.

Ned Hunter, a stable boy, has been drugged with opium concealed in curried mutton. He therefore fails to guard Silver Blaze on the night of the horse's disappearance.

Colonel Ross is the owner of King's Pyland Stables and of Silver Blaze.

Hypotheses

Independent Variables	*Intervening Variables*	*Dependent Variables*
H1. Romantic entanglement started chain of events	H3. Straker abducted horse	H6. Simpson killed Straker
H2. Chain of events started in Straker household	H4. Straker planned to harm horse	H7. Straker killed himself
	H5. Straker practiced the injury	H8. Horse killed Straker

#2: Review evidence, spot clues and dig.

#3: Draw Conclusions
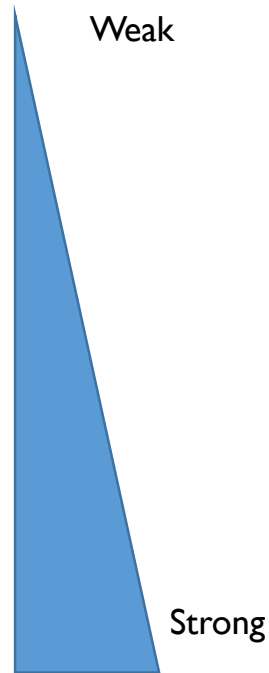
Straw in the Wind: maybe, investigate further.

Hoop Test: promising, keep looking.

Smoking Gun: points in this direction.

Doubly Decisive: appears conclusive

Weak

Strong

Example 1:
NGO Efforts to Advocate For a Specific Supreme Court Decision in the USA

Evaluation Conclusion

Based on a thorough review of the campaign's activities, interviews with key informants and key knowledgeables, and careful analysis of the Supreme Court decision, we conclude that:

The coordinated final-push campaign contributed significantly to the Court's decision.

Example 2

Chakua Hatua: Tanzania 2012/13

The Chukua Hatua (CH) is a five-year governance and accountability initiative being implemented by Oxfam GB and partners in five regions in Tanzania. The goal of Chukua Hatua is to increase the accountability and responsiveness of government to its citizens. The programme aims to achieve this by creating active citizenship; that is citizens who know their rights and responsibilities, are demanding them, and are able to search for and access information. The programme's approach rests on three key assumptions:

1. If we build citizen's awareness and capacity, assist them to overcome fear, and action is in the interest of their livelihoods, then they will act.
2. If there is increased pressure from citizens, then duty bearers will be increasingly compelled to respond.
3. If we increase capacity of local elected leaders then the proportion of positive responses to citizens will increase.

The Chukua Hatua programme has been continuously evolving since its inception, in response to changes in the context and learning about what works and what doesn't.

Sample of Outcome Contributions

Outcome	Rating	Commentary	Contribution of other evidenced explanations (high, medium, low)
Outcome 1: Councillors more responsive and aware	🟢	Outcome realised in full & evidence that intervention made a crucial contribution	The outcome would not have occurred without CH. **Other contributing factors:** High profile of public accountability issues (medium) Existence of traditional accountability systems (medium) Other NGOs (medium) Implementing partner experience (medium) Laws and guidelines (medium) Community project funds (low) Timely planning guidelines (low)
Outcome 2: Animator mobilisation	🟢🟡	Outcome realised in part & evidence that intervention made a crucial contribution	The project was crucial in securing the outcome and for pace and extent of outcome achievement, building on base of past training of animators **Other contributing factors:** Past and current inputs of other NGOs (medium) Animator experience (medium) Responsive leaders (medium) Existence of traditional accountability systems (medium) High profile of public accountability issues (low)
Outcome 3: Community forest ownership	🟢	Outcome realised in full & evidence that intervention made a crucial contribution	The outcome would not have happened without CH. **Other contributing factors:** Prior NGO inputs on land rights (medium) Councillor inputs (medium) High profile of public accountability (low) Prior village sensitisation / mobilisation (low)

Method #3: Counterfactual Scenarios
(aka Time Machine Travelers)

Tested in refugee resettlement programs, climate change, sustainable
development, public health, with the
Federal government.

Aim

- To explore 'counter-factual scenarios' that are logical, plausible, feasible and likely to imagine what else may or may not have occurred by 'triangulating' the perspectives of stakeholders, experts and decision-makers.

Techniques

1. Attribution-Contribution Scales

2. Rapid Impact Evaluation

Example: Rapid Impact Evaluation

RIE Overview

RIE Has Three Stages

Rapid Impact Evaluation

I Create the Summary

Working with key decision-making parties to enumerate and describe:

- Intervention
- Counterfactuals
- Direct effects
- Interests involved
- Time and location

II Triangulate judgments of effects for intervention and alternative

Triangulate Measures (different experts and knowledge, same procedures)

- Decision makers (using web survey)
- Panel of experts (using facilitated workshop)
- Technical advisors (using web survey)

Decision-maker judgments weighted, one vote per interest

III Use and verification

Validate, synthesis, test quality

- Synthesis of judgments
- Test validity and reliability
- Test external validity

Consultation with users

Example: Addressing Collapse of Fish Stocks In a Region of Fiji

Do Nothing

There is an ad-hoc approach to fishery management, with community piggeries generating waste into water system, the uncontrolled cutting of mango trees, and mismanaged local and regional harvesting of fish.

Local Fisheries Mgmt

Establish and enforce a (no take) zone on the reefs, prevent poaching by local and outside fishers, stop dynamic fishing, yet allow for ceremonial harvests of select species.

Offer fishing community technical assistance for resource management and new harvesting methods, conduct regular stock assessments on reel and shoulder areas.

Conservation

International NGO funded to enforce a no-take zone, with support from conservation authorities.

Entry would be permitted for traditional or ceremonial purposes, but no harvesting would be allowed.

National government is cooperative, with resistance – and possibly non-compliance – from national fisheries, local community and national politicians..

	Stakeholder Assessment	General Elimination Method	Counterfactual Scenarios
EVALUATOR ROLE	Journalist	Detective	Time Traveler
UNIQUE METHODS	Stakeholder Estimates	Causal Mapping	Attribution/Contribution Scale
	Outcome Harvesting	Process Tracing	Rapid Impact Evaluation
STRENGTHS	Easy to understand; can handle a lot of outcomes; flexibility in approach.	Thorough process that is culturally credible in western cultures.	Very useful when a group faced with different strategies.
LIMITATIONS	Sensitive to stakeholder biases; not thorough in addressing other factors.	Can take a long time to complete.	Important to follow model with high fidelity; may not perceived as credible by external people.
EXPERTISE	Modest expertise required; effort varies.	Specialist skills in GEM and process tracing required.	Requires multiple types of 'content' expertise.

Coming in 2019:
Five Scoping Questions To Help Choose Methods

1. What is the intervention and outcomes we want to assess?

2. How simple or complex is the intervention and outcomes?

3. What is the purpose of the evaluation?

4. What is the level of analysis required?

5. Will it be theory-based or non-theory based assessment?

Scoping Questions

Optimal Method & Technique

Reflection

TAMARACK
INSTITUTE
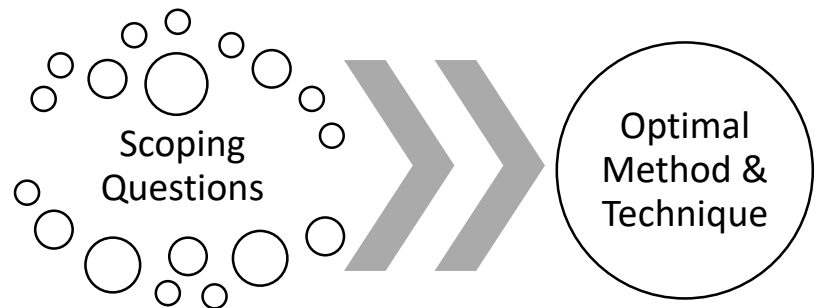
Small Group Discussion

What will you tell your colleagues about contribution analysis?

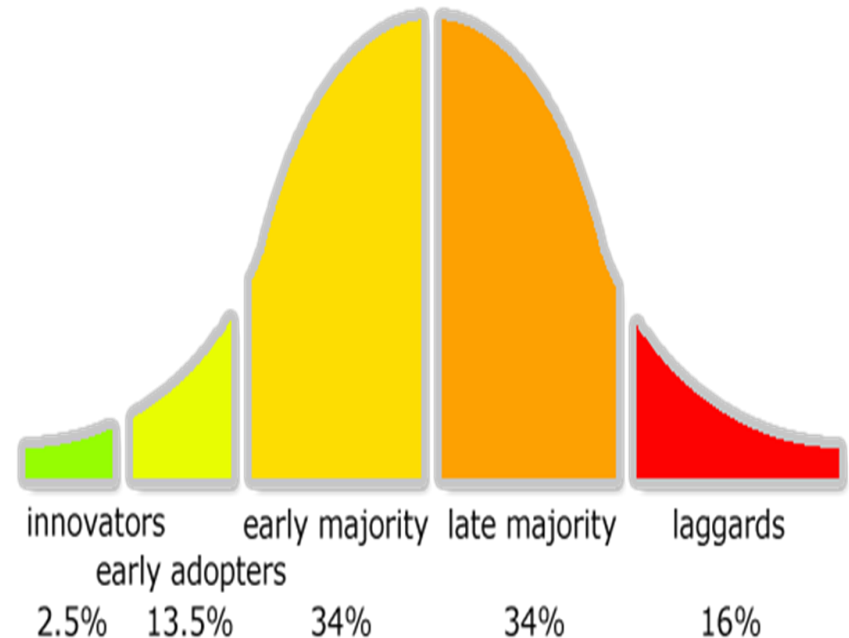# Where are you on the contribution analysis adoption curve?

Innovator - I get it, I like it, I want to experiment with new ways to use it.

Adopter – I will adopt it once the practices are more developed and accessible.

Early majority – I like it, but want codified practices and funders, policy makers and decision-makers to support it.

Late majority – I don't fully understand why its important or how to do it: I will wait until it becomes mainstream.

Laggards – I don't understand, like it and will resist.

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