

Complex Evaluation Methods – The Evaluator as Objective Analyst and Salesperson (and Occasional Punching Bag)

Presentation at the
2009 Environmental Evaluators Networking Forum
Washington, DC

June 8, 2008

Lou Nadeau, PhD
Eastern Research Group, Inc.
lou.nadeau@erg.com
781.674.7316



Purpose

- Talk about the use of complex methods in program evaluation
- Not a method discussion
 - No formulas...promise
- Focus: The use of these methods in evaluations when the methods are not well understood
 - Especially in cases where the results show the program is ineffective or not meeting its objectives

Cast of characters

- Program managers/champions
 - Usually involved in the evaluation
 - Usually have a vested interest in seeing success of the program
- Evaluator
 - Provide an *objective* answer to the evaluation questions
- Method
 - A conduit to answer the evaluation questions

A matter of interpretation

- Will the method work?
- Evaluator
 - Can the method be applied to the available data to generate a valid estimate of the program impact?
- Program manager
 - Will the method show my program is successful?

What are complex methods?

- Often involve advanced statistical techniques
 - Limited understanding by program managers
 - The evaluator becomes the sole expert
- Specific techniques
 - Regression analysis adjusting for selectivity
 - Propensity score matching

When do we use them?

- Prerequisites
 - Good data!
 - Know how to apply the method
- Often employed to adjust for or overcome data issues
 - Selectivity
 - Missing data
- Overcome a roadblock

Success story: Value of the Energy Star Program

- What's the monetary value of the program to members?
 - Among REITs in the Buildings Program
- Issues
 - Self-selection
 - Intangible value
- Approach: Statistical model that accounted for self-selection using a theoretical measure of intangible value (Tobin's Q)
- Evaluation showed a significant value of participation
 - However, no value for participation in an important program component

Success story: Impact of enforcement on water quality

- What impact does enforcement have on water quality?
- Issues
 - Complex path to the outcome
 - Two-way relationship
- Approach: two stage statistical model followed by use of a water quality engineering model
- Significant impacts were found
 - Lots of questions from program managers

Painful story #1

- Program collected data before and after the program
 - Some selectivity in collected data
- Used PSM to estimate program effects
 - Program manager agreed on the method
- Found small impacts
- Lots of push back from program
 - Focused on method used

Painful story #2

- Program needed two things:
 - Number to report to OMB under GPRA in the near-term
 - Valid method for the use over the longer term
- Near-term method: based on member self-assessments
- Longer-term method: accounted for missing data and selectivity
 - Meant to be the valid approach
- Problem: Near-term method found bigger impact
 - Guess which method was axed

What happened?

- Energy Star
 - Good education: lots of time spent educating the program managers
 - Precedence
- Enforcement and Water Quality
 - Peer review
 - Willing to explain approach / do re-analysis
 - Precedence
- Painful story #1
 - Agreement on method... not acceptance
 - Didn't educate well enough
- Painful story #2
 - Didn't educate well enough
 - Peer review done too late

Lessons

- Don't rely on the “wow” factor
 - Program managers may or may not be impressed with the method
 - Don't really care about method unless the results show the program is ineffective
- When using complex methods, the method is ALWAYS under scrutiny
 - Method is never in the background as it should be
- Agreement is not the same as acceptance
- Within-project peer review is valuable
 - Get reviewer as close to the program as possible

Best practices

- Cross-validate
- Show precedence
- Push for use of peer review
- Develop your plain English method descriptions
 - Translate method into English
 - Help manager understand that the method is the most appropriate technique

What's our role?

- Objective analyst
 - Apply the most appropriate method to answer the evaluation questions
- “Salesperson”. Be able to explain:
 - The method
 - WHY the method is needed
 - Why the method “works”
- Punching bag
 - More accurately, the person who will be put to task to explain why “the method” found the program was not meeting its objectives

Value-added of evaluation

- Objectivity
- Appropriate method
 - Apply a method that will provide a valid answer to the question
- What should be the value-added?
 - Education on method (be a salesperson!)
 - Buy-in on method up front
 - Agreement plus acceptance