101 Sources of Spillover
An Analysis of Unclaimed Savings at the Portfolio Level

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Opinion Dynamics

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Contributors

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- Navigant evaluation team
- Commonwealth Edison
Agenda

- Study Background
- Spillover Logic Model
- Cognitive interviewing
Study Background

- Assessed various sources of spillover for Commonwealth Edison’s portfolio of C&I programs (Program Year 6: June 2013 – May 2014)

- Methodology
  - Development of spillover logic model
  - Primary data collection
  - Integration of spillover results from individual PY6 program evaluations

- Study Report
  - Summary memo available
  - Final report is forthcoming
Logic Models

[Diagram showing various activities, outputs, short-term outcomes, and long-term outcomes related to logic models, with nodes and arrows illustrating the relationships between them.]

Key:

*This outcome also leads to participation in SIYB programs, i.e., the installation of energy efficient equipment with a SIYB incentive.
Spillover Logic Model

- Focuses on activities that might lead to spillover
- At the portfolio level
- Identify sources of spillover that
  - Have been addressed by the individual program evaluations
  - Will be addressed with new primary research
  - Will not be included in the study
Logic Model – Marketing & Outreach Activities

- **Activities:** Various marketing and outreach activities conducted through the programs

- **Outputs:** Various marketing and outreach-related outputs
## Logic Model – Activities and Outcomes

<table>
<thead>
<tr>
<th>Activity</th>
<th>Short-Term Outcome</th>
<th>Spillover Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marketing and Outreach</td>
<td>Customers learn about the programs and energy efficient options</td>
<td>Participant spillover</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Drop-out spillover</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Non-participant spillover</td>
</tr>
<tr>
<td>Assessment Tools and Services</td>
<td>Energy savings opportunities are identified for customers</td>
<td>Assessment spillover</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Business Energy Analyzer spillover</td>
</tr>
<tr>
<td>Trade Ally Training and Support</td>
<td>Trade allies change business practices</td>
<td>Trade ally-induced spillover</td>
</tr>
<tr>
<td>Mid-stream Lighting Distributor Network</td>
<td>Distributors stock more efficient lighting products</td>
<td>Distributor-induced spillover</td>
</tr>
<tr>
<td>Follow-Up with Past Participants</td>
<td>Customers remain focused on energy efficiency opportunities</td>
<td>Delayed participant spillover</td>
</tr>
</tbody>
</table>
Final Study Design

- Individual Program Evaluations
  - Participant SO
  - Distributor-induced SO

- New Primary Data Collection
  - TA-induced SO
  - Drop-out SO
  - Assessment SO

- Not Included
  - Non-participant SO
  - Business Energy Analyzer SO
  - Delayed Participant SO
Conclusions – Logic Model

- Logic model was a useful tool in research planning
  - Identify potential sources of spillover
  - Develop testable hypotheses
  - Prioritize research activities
  - Facilitate discussion with client
Cognitive Interviewing – What is it?

“the administration of draft survey questions while collecting additional verbal information about the survey responses, which is used to evaluate the quality of the response or to help determine whether the question is generating the information that its author intends.”

Cognitive Interviewing – What is it?

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- Survey pretest method
Cognitive Interviewing – What is it?

“the administration of draft survey questions while collecting additional verbal information about the survey responses, which is used to evaluate the quality of the response or to help determine whether the question is generating the information that its author intends.”

- More than monitoring
- Two major methods
  - Think-aloud
  - Verbal probing
Cognitive Interviewing – What is it?

“the administration of draft survey questions while collecting additional verbal information about the survey responses, which is used to evaluate the quality of the response or to help determine whether the question is generating the information that its author intends.”

- Quality of the response
- Is respondent providing the intended information?
Cognitive Interviewing – TA Survey

- Why?
  - Online survey
  - New question design/algorithm
  - Complex, multi-faceted topic

- What?
  - Four interviews: two using the original survey design, two with modified questions
  - Participants received a $125 incentive

- How?
  - Set up a webinar and observed their progress taking the survey
  - Blend of think-aloud and verbal probing
Cognitive Interviewing – Example

- Algorithm input: Percentage of high efficiency installations that received an incentive
- Original questions

Approximately what percentage of your total sales of equipment in ComEd's service territory (in terms of dollars) qualifies for a ComEd Smart Ideas incentive?

[Blank input field] %

- Don't know

Of the equipment that *qualifies* for a ComEd incentive, for what percentage do customers receive an incentive from ComEd?

[Blank input field] %

- Don't know
Cognitive Interviewing – Example

- Revised question

For the next question, please think about all of your jobs in ComEd’s service territory during ComEd’s Program Year 6 (i.e., between June 1, 2013 and May 31, 2014).

Approximately what percentage of your total equipment installations (in terms of dollars) was... (Please provide your best estimate, if unsure of exact percentages.)

<table>
<thead>
<tr>
<th></th>
<th>Percentage</th>
<th>Don't Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Efficiency</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Efficiency - that DID RECEIVE an incentive from ComEd</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Efficiency - that DID NOT RECEIVE an incentive from ComEd</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Conclusions – Cognitive Interviewing

- Very valuable tool for testing new questions
- Ask questions in a way that matches how respondents think about a concept, rather than how the responses best fit into an algorithm
- Ask questions in a way that enables trouble-shooting responses
  - In-survey consistency check
  - Data cleaning during analysis phase
Questions?

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## Primary Data Collection

<table>
<thead>
<tr>
<th></th>
<th>TA Survey</th>
<th>Drop-out Survey</th>
<th>Assessment Survey</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Smart Ideas Opportunity Assessment</td>
</tr>
<tr>
<td>Mode</td>
<td>On-line</td>
<td>CATI</td>
<td>CATI</td>
</tr>
<tr>
<td>Population</td>
<td>218</td>
<td>539</td>
<td>855</td>
</tr>
<tr>
<td>Completes</td>
<td>48</td>
<td>87</td>
<td>72</td>
</tr>
<tr>
<td></td>
<td>(census attempt)</td>
<td></td>
<td>(census attempt)</td>
</tr>
<tr>
<td>Response Rate</td>
<td>29%</td>
<td>19%</td>
<td>11%</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>27%</td>
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</table>
## Spillover Results

<table>
<thead>
<tr>
<th>Program</th>
<th>Spillover (% of Verified Gross Savings)</th>
<th>Sources of Spillover</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>TA Survey</td>
</tr>
<tr>
<td>Standard</td>
<td>1.1%</td>
<td>✓</td>
</tr>
<tr>
<td>Custom</td>
<td>0.5%</td>
<td>✓</td>
</tr>
<tr>
<td>Industrial Systems</td>
<td>1.5%</td>
<td>✓</td>
</tr>
<tr>
<td>Data Centers</td>
<td>0.0%</td>
<td>✓</td>
</tr>
<tr>
<td>Small Business</td>
<td>2.0%</td>
<td>✓</td>
</tr>
<tr>
<td>New Construction</td>
<td>0.0%</td>
<td></td>
</tr>
<tr>
<td>RCx</td>
<td>4.0%</td>
<td></td>
</tr>
<tr>
<td>BILD</td>
<td>7.0%</td>
<td></td>
</tr>
<tr>
<td><strong>C&amp;I TOTAL</strong></td>
<td><strong>3.2%</strong></td>
<td></td>
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