

Growing a Program from Scratch: Planting the Seeds of Evaluation in a Small Business Program

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ABSTRACT

This paper examines how developmental evaluation helped launch, support, and guide an innovative program from birth to maturity. The evaluation industry is shifting away from traditional summative process evaluation and moving toward real-time research efforts that develop alongside the program. In the coming years, early developmental evaluation will be crucial to delivering successful energy efficiency programs as increasing codes and standards make it harder for utilities to find cost-effective energy savings. Examining situations in which it has worked well, and discussing potential challenges, can help other utilities, program administrators, and evaluators consider their options when planning future evaluations.

In January 2015, Consumers Energy wanted to launch a broad-reaching on-site energy assessment and direct install program to make a substantial impact on energy use, education, and customer satisfaction among small businesses, but recognized the potential barriers and challenges. Historically, small businesses have been hard to reach and difficult to engage, and Consumers Energy was looking to use this program to better serve these customers. This paper examines each step of the program lifecycle – from conception to maturity – and maps the unique considerations and challenges evaluators need to address at each step.

Background

Consumers Energy, one of the nation's largest combination utilities, provides electric and natural gas service to approximately 320,000 commercial and industrial (C&I) customers in the state of Michigan. Of these, about 90% are classified as small business customers, with less than 400,000 kWh and 6,000 MCF in annual consumption. As is the case for most utilities, though small businesses comprise the vast majority of the company's C&I customer base, they have typically been more difficult to engage in energy efficiency initiatives than midsize and large business customers.

In January 2015, Consumers Energy started examining options for expanding their small business offerings to reach a greater number of these businesses, with the goal of engaging more customers, deepening the impacts of their energy efficiency programs, and providing additional support and outreach to small business customers. To achieve these goals, Consumers Energy created the Small Business Assessment program: a broad-reaching on-site energy assessment and direct install program, which would build on the successes of the extant small business offerings (including a trade-ally driven program and a direct install program) while expanding participation to a larger set of customers. From the first concept, Consumers Energy worked with EMI Consulting to help research and test potential program designs. Once launched, EMI Consulting employed numerous quantitative and qualitative evaluation strategies that extended far beyond typical retrospective surveys to assess reactions to each iteration of program design and inform the next set of needed improvements. This marriage of utility know-how with evaluation expertise allowed Consumers Energy to be nimble and responsive to small business needs and quickly adapt the program accordingly. This agility has also been instrumental to the program's successes; by the end of 2017, just the third year of the program's existence, Consumers Energy will have delivered over 16,700 energy assessments to small businesses across the company's large service territory.

To best serve the needs of this program, EMI Consulting utilized a developmental evaluation approach. *Developmental evaluation* describes an evaluation approach coined by Michael Quinn Patton that supports the development of innovations occurring in dynamic, complex environments, where knowing "what to do to solve

problems is uncertain and key stakeholders are in conflict about how to proceed” (Crohn, Steiner and Galen 2014; Patton 2011). Patton describes five purposes and uses of developmental evaluation, including: (1) “ongoing development”, (2) “adapting effective general principles to a new context”, (3) “developing a rapid response in the face of a sudden major change”, (4) “preformative development of a potentially scalable intervention”, and (5) “major systems change and cross-scale developmental evaluation,” (Patton 2011). The evaluation of the Small Business Assessment program was developed for uses (1), (2), and (4), which will be highlighted throughout this paper. This evaluation was not simply designed to respond to program needs on an ad-hoc basis, but rather to proactively use the research to shape the planning and design process, adjust the program using the results of the research, and then adapt the evaluation plan to accommodate the next iteration of the program. In this way, the evaluation team acts as a research partner who can inform planning and adaptations throughout the program.

Additionally, EMI Consulting utilized *real-time evaluation* as part of the Small Business Assessment program. Real-time evaluation is a general term that refers to evaluations involving rapid feedback and quick response, “linking data and action as close together in time as possible.” Though developmental evaluations often include real-time feedback, not all real-time evaluation is developmental. Real-time feedback can be used to simply monitor a program, or to identify situations when pre-determined actions are warranted. Developmental evaluation uses real-time feedback to adapt response to what emerges in real time.

This paper will examine each phase of the Small Business Assessment program’s life – including planning, pilot, adolescence, and maturity – and highlight key evaluation activities used as part of the developmental evaluation approach EMI Consulting implemented. These include peer utility interviews, usability testing, auditor ride-alongs, customer in-depth interviews, and a monthly rapid-feedback online survey with a dashboard of results for program staff. This paper will also examine the lessons learned in providing this type of support, including the challenges in evaluating a constantly-evolving program. Finally, we will consider potential benefits and challenges to implementing developmental evaluation for other programs and customer segments.

Methodology

This section describes the various evaluation efforts utilized during the evaluation of the Small Business Assessment program. This section is divided into phases of the program’s life, including planning and design, pilot, adolescence, and maturity. For each phase, the section highlights the timing of the evaluation phase, key evaluation activities and potential challenges, and the research objectives that each activity addressed.

Program Planning and Design (5 months prior to piloting)




Consumers Energy worked with EMI Consulting from the conception of the Small Business Assessment program. EMI Consulting met with Consumers Energy program staff multiple times during the early program design phase to advise on program evaluability and help understand the key decisions and uncertainties Consumers Energy faced regarding program design. To help Consumers Energy make these decisions, EMI Consulting conducted a literature review and peer utility interviews. The literature review was designed to identify programs whose design, objectives, and customers were similar to Consumers Energy’s proposed program. Then, the evaluation team used these results to select six programs for comparison. EMI Consulting conducted 30-minute in-depth interviews with each of the six programs’ managers to identify key program processes, outcomes, challenges, lessons learned, and barriers to participation, with a focus on Consumers Energy’s priorities and decision points. When speaking with the program managers, EMI Consulting framed the research as a knowledge-sharing opportunity, and each program manager received an anonymized report detailing the research results. The peer utility interviews conducted during the program planning phase are an example of using developmental evaluation to adapt effective general principles to a new context.

Through conducting peer utility interviews, the evaluation team identified potential challenges to the program and proactively developed strategies to address these challenges. One important finding from this research was that, while most peer utilities integrated direct install measures into their small business offering, several program managers noted that the inclusion of these measures could lead to dissatisfaction among trade

allies. These program managers noted that trade allies who work with their other energy efficiency programs were upset that the utility was providing direct installs, thus diminishing their potential market. The peer utility program managers had developed different strategies to addressing this issue, and through this research, Consumers Energy was able to anticipate a potential challenge to the program and develop strategies for minimizing its effect, using the experience of other utilities as a guide.

As a result of the peer utility interviews, the evaluation team identified a few key strategies and lessons learned for developmental evaluations at the program planning and design phase. Table 1 highlights these lessons, which are described in more detail below.

Table 1. Key Evaluation Activities during Program Planning and Design

	Key Evaluation Activities	Literature Review and Peer Utility Interviews
	Benefits	<ul style="list-style-type: none"> • Learned about program designs that have been effective at peer utilities • Identified potential challenges and pitfalls and developed strategies to avoid them
	Key Strategies and Lessons Learned	<ul style="list-style-type: none"> • Select each utility carefully, and provide a benefit for participating • Gather as much documentation on the program’s processes and materials as possible • Conduct the research early and follow up with program staff on recommendations prior to finalizing program design

As demonstrated in Table 1, the evaluation team identified three key strategies and lessons from the peer utility interviews. These lessons include:

1. **Select each peer utility carefully and utilize the research for mutual benefit.** When conducting peer utility research, it is important consider the comparability of the program designs, objectives, and target customers to ensure that research results are relevant. EMI Consulting conducted a literature review prior to peer utility interviews to identify programs that would be a good fit for the research. The evaluation team also found that utilizing the research as a knowledge-sharing opportunity can be an effective way to encourage peer utilities to participate in interviews, increasing the likelihood of reaching comparable programs, and for ensuring a productive dialogue and information exchange among all parties.
2. **Gather as much documentation on the program’s processes and materials as possible.** The peer utility interviews can be helpful not only for initial planning, but also for benchmarking the program and making revisions as the program continues to mature. EMI Consulting was often asked to identify how other utilities approached particular program processes throughout the year after the interviews, so having detailed information on each program’s design can be extremely helpful even after the program has matured. When possible, EMI Consulting recommends gathering as much hard information on the program (including program planning documents, process maps, example reports, and marketing materials) as the interviewees are willing to share.
3. **Conduct the research early and follow up on any potential recommendations prior to finalizing the program’s design.** To maximize the effectiveness of the research, interviews should be conducted and completed prior to any program planning or design. Once the program planning has begun, it can be more difficult to implement changes or to consider more innovative program designs. Additionally, it is important to follow up on recommendations to ensure they are properly incorporated in the program design before the program is launched.

As a result of the literature review and peer utility interviews, CE program staff created a design for the Small Business Assessment program. Figure 1 shows the overall program design and processes for the Small Business Assessment program. For ease, we have demonstrated the final program design, with notes on where program design evolved over the course of the evaluation.



1. In program piloting and adolescence, some assessments were scheduled through a call center, rather than by door-to-door solicitations. However, Consumers Energy found that sending auditors door-to-door was much more effective, and switched entirely to door-to-door scheduling mid-way through program adolescence. The program only screened customers based on annual energy use; all small business customers were eligible.
2. Only some customers received direct install measures, as they needed to have eligible baseline equipment installed in their facility for the auditor to replace it. Direct install equipment included LEDs (both screw-in and tube LEDs), LED exit signs, faucet aerators, and pre-rinse sprayers.
3. Energy kit was introduced midway through program adolescence. The program had several variations of the kit, including some or all of the following measures: two LEDs, one advanced powerstrip, one filter alarm, one energy monitor, and one thermal gun.

Figure 1. Small Business Assessment Program Design and Processes

Program Piloting (first 6 months after program launch)

The next phase in the Small Business Assessment program's development was to pilot the program. During the pilot phase, the program's processes were still in development, and the program was rapidly changing and adapting to best suit customer needs. Consumers Energy started piloting the program with a select group of customers in May 2015. EMI Consulting designed the evaluation during this period to utilize developmental evaluation as preformative development. Preformative development "works with emerging ideas" to "shape them into a potential model that is a more fully conceptualized, potentially scalable intervention" (Patton 2011). The goal of research during this period was to optimize the program's processes and design prior to opening the program up to the full set of small business customers. Evaluation activities during the piloting phase included a rapid-feedback online survey and ride-alongs with the Small Business Assessment program auditors.

Quickly after the first piloted launch of the program, EMI Consulting designed a continuous, rapid-feedback online survey with a dashboard tool.¹ The survey was intentionally short so as not to over-burden customers and to encourage maximum participation. Every two weeks, Consumers Energy sent EMI Consulting a list of all new completed assessments, and EMI Consulting sent all new program participants invitations to the online survey. All participants on this list had completed their participation in the program, including receiving the audit and any direct install measures, and receiving the follow-up energy report with any recommendations to save energy. To provide Consumers Energy rapid feedback on the program, EMI Consulting set up an online dashboard, where Consumers Energy staff could see live analysis of the quantitative results; an example of some of the results shown in this dashboard is provided in Figure 2. At the end of each week, the evaluation team also sent Consumers Energy a summary of new qualitative results and a synthesis of key findings.

The rapid-feedback survey allowed Consumers Energy to troubleshoot any issues with the program and make adjustments before the program was fully launched by providing snapshots of program satisfaction and key program processes, such as whether customers were receiving and reading the energy report. For example, Consumers Energy was able to see customer satisfaction with the program through the dashboard, and then learn about why any customers were dissatisfied through weekly emails that summarized qualitative open-end findings. Through this research, EMI Consulting discovered that some customers were disappointed that they

¹ Survey achieved 7.3% response rate and 90% confidence +/- 10% precision, limiting bias by contacting customers multiple times at different times and days of the week. Program staff were cautioned about over-interpreting interim results.

did not receive any recommendations that would result in significant energy savings for their business. As a result, EMI Consulting planned auditor ride-alongs to determine if the auditors could improve their language around customers' next steps, and to identify why customers might not receive relevant recommendations.

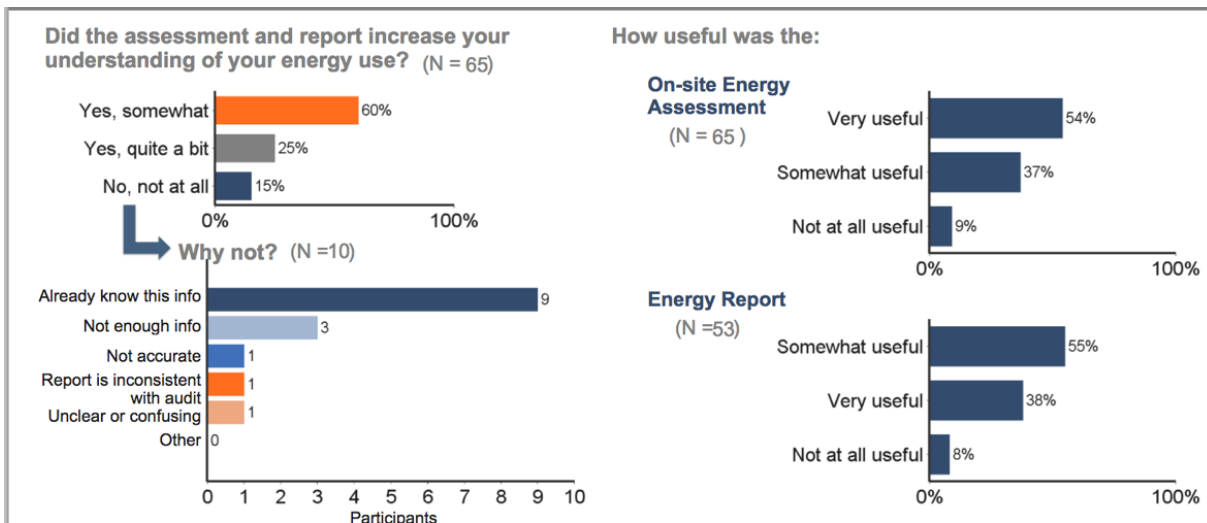


Figure 2. Example of Small Business Assessment Online Survey Dashboard




The auditor ride-alongs were conducted approximately two months after the start of the pilot assessments, to allow time for the auditors to be trained in the program and work out any initial kinks. The ride-alongs took place over two days, and included four assessments conducted by two auditors. During these assessments, two EMI Consulting evaluators took note of the overall processes and talked with the auditors about their experiences with the program and any suggestions for improvement. In addition to helping understand how to improve energy savings recommendations, these ride-alongs helped to identify any potential issues in the program's processes, understand barriers to participation in the program, and gather suggestions from the boots-on-the-ground auditors.

The evaluation team found the auditor ride-alongs to be one of the most valuable evaluation activities conducted. After framing the ride-alongs as a way for the evaluation team to understand the program and help identify ways to make their jobs easier, rather than an assessment of their personal performance, the auditors were very open with their feedback. The auditors were extremely knowledgeable, and their unique perspective and experience with a variety of customers was helpful in identifying which customers might have barriers to participating in the program. The experience also gave evaluators a first-hand look at program processes, allowing for observational evaluation of the program. As the program developed, the evaluation team continued to refer back to the auditor on-sites as a source of information, as the findings established from that activity continued to be reinforced throughout other research.

As previously mentioned, one key research objective for the auditor ride-alongs was to identify why customers might not receive relevant recommendations for their business. During the ride-alongs, the evaluation team noted that while auditors were highly trained and excellent at finding energy efficiency opportunities, some participants' facilities had recently received extensive retrofits, limiting the opportunities for cost-effective improvements. As a result, Consumers Energy developed an "energy savings kit", which included two free LEDs, an advanced powerstrip, and other energy efficiency equipment. This kit was offered to every customer who completed an assessment to ensure that all participants in the program could save energy and receive a valuable experience.

As a result of the rapid-feedback survey and auditor ride-alongs, the evaluation team identified a few key strategies and lessons learned for developmental evaluations at the program piloting phase. Table 2 highlights these lessons, as well as the benefits of each evaluation activity. Additional detail on each of the key strategies and lessons is also provided below.

Table 2. Key Evaluation Activities during Program Piloting

	Key Evaluation Activities	Rapid-feedback Online Survey and Dashboard	Auditor Ride-alongs
	Benefits	<ul style="list-style-type: none"> • Tested program design on small group of customers • Identified areas for improvement and proactively addressed 	<ul style="list-style-type: none"> • Provided first-hand look at program processes • Received feedback from auditors on program processes
	Key Strategies and Lessons Learned	<ul style="list-style-type: none"> • Establish clear expectations about data quality, reliability, and interpretability • Use clear data visualizations to guide users to answers to key research questions • Provide frequent updates of key themes and interpretations of the data 	<ul style="list-style-type: none"> • Timing is important and depends on the goals of the research • Do not ignore the importance of in-person observational research • Understand that the goals and motivations of auditors are different than those of customers, and link findings to other research efforts

As demonstrated in Table 2, the evaluation team identified several key strategies and lessons from the rapid-feedback survey and auditor ride-alongs. These lessons include:

1. **When using real-time results, establish clear expectations about data quality, reliability, and interpretability.** One challenge with real-time results is that the evaluation team does not have the ability to clean and analyze data before the utility sees results. This can cause confusion if results are not automatically cleaned or filtered properly. For example, our team’s live survey dashboard was not properly filtering out people who reported “don’t know” or skipped a question when calculating means, which caused means to be artificially deflated. Once identified, this was an easy fix, but one that caused some confusion and alarm prior to being resolved. Another potential challenge with real-time results is that data presented with small sample sizes can cause rash decision making if utility staff are not properly cautioned about over-interpreting early results. To avoid this issue, evaluators should have clear conversations with the utility staff about how many respondents will be needed to draw conclusions from the data, and should provide support in interpreting data.
2. **Know your research questions and set up clear data visualization cues to help with initial interpretations.** Dashboards should be set up to answer the utility’s key research questions, and may not need to include every question in the survey. The dashboard should also include clear data visualization and cues to ensure that customers know how to interpret the initial results.
3. **Provide frequent updates with key findings and themes and assistance in understanding what the data means.** Though the technology exists to provide real-time results to clients, evaluators should not assume there is no need for further insights or analysis. The evaluation team discovered that the most useful findings from the survey were not from one question in the dashboard, but rather were cross-cutting themes—such as some customers not finding the program useful—that involved interconnections between questions and common themes within qualitative data. EMI Consulting provided this analysis on a weekly basis, sending key themes and findings to Consumers Energy.
4. **Do not ignore the importance of in-person observational research.** The auditor ride-alongs were extremely useful to the evaluation team. During the auditor ride-alongs, the evaluation team witnessed conversations between the auditors and the customers, noted the technical expertise and sales acumen of the auditors, viewed the electronic tool that the auditors were using, and observed the variation in participating customers. These findings were useful for better understanding the program and designing research that captured the program’s needs, and would not have surfaced through conversations with auditors over the phone.
5. **Timing of the auditor ride-alongs is important and depends on the goals of the research.** The ride-alongs for the Small Business Assessment program were conducted during the pilot phase, but after

about two months of conducting assessments. The reason for this timing was that during the initial assessments, the program's processes were still in flux (as program staff responded to rapid feedback from the online survey). However, the evaluation team wanted to conduct the ride-alongs early, so that the auditors were able to be engaged in the program design process and so that any major changes were made prior to the full launch.

6. **Understand that the goals and motivations of auditors are different than those of customers.** One potential challenge for real-time evaluations is that each piece of the evaluation is collected and reported separately, which can lead to recommendations that are based on only one perspective. Auditors will have different experiences and motivations than customers, and their concerns may or may not be shared by customers. When providing initial feedback, evaluators should be certain to link findings across different research efforts to develop synthesized recommendations.

Program Adolescence (6 months after launch to 1.5 years after program launch)

The next phase in the Small Business Assessment program's development was program adolescence, which occurred about six months after the initial pilot launch of the program. During the adolescence phase, the program's processes were relatively well-developed, though the program was still adapting processes as needed based on continued developmental research. The evaluation team developed several research activities during program adolescence to provide continual feedback on the evolving program, thus using developmental research as a tool for on-going program development. These research activities were designed sequentially, so that the findings from each effort could help shape the research objectives and design of the next task.

First, EMI Consulting conducted a participant survey that included questions about the program's processes, barriers to participation, and satisfaction with the program. This survey yielded two key findings. First, some customers expressed a need for additional information on how to pursue energy efficiency upgrades, including where to buy products and how to find a contractor; this finding was supported by results from the rapid-feedback surveys and the auditor ride-alongs. Second, customers rated their post-assessment energy reports slightly less useful than other program elements. As a result, Consumers Energy added a "next steps" section to the report, which included links to the program's website and their approved contractor list, and EMI Consulting developed usability research to test which parts of the report could be improved.

The online report usability testing survey presented customers with a generic report and prompted them to click which aspects of the report were useful, not useful, or confusing. Respondents were also asked to rank what they most wanted to learn from the report and provide qualitative comments on how to improve the reports. The research identified several key findings. Most notably, the research indicated that participants were most interested in cost savings, and wanted more specific cost estimates and payback information before deciding to install the equipment. Additionally, the research indicated that some small business customers were unfamiliar with terminology in the report. EMI Consulting used these findings to recommend several detailed changes to the report that would not have been apparent from less targeted research.

Next, the evaluation team fielded a second wave of the participant survey, with some changes in questions to follow up on topics identified through the research described above or changes in the program. For example, the survey included questions about the energy savings kits that Consumers Energy had recently added to the program. Based on survey results, Consumers Energy was able to identify specific equipment (a filter alarm) that was not useful to a majority of customers and remove the equipment from the kit, reducing the cost of delivering the program. In addition, the survey showed that customers who were first contacted in-person, rather than over the phone, were less satisfied with scheduling process. In response, Consumers Energy made sure their auditors informed customers that they could reschedule the assessment if needed.

Additionally, the evaluation team identified a few topics from the surveys for which warranted increased qualitative research. To address these questions, the evaluation team conducted 30 minute in-depth interviews with program auditors and participants. First, the evaluation team found the auditor interviews to be extremely useful, as with the ride-alongs. The interviews included questions about program processes, screening for eligible customers, auditors' sales pitch, free equipment provided to customers, training processes, and




challenges auditors had faced. One key finding from this research was that the agility of the program, which had often been seen as a benefit to customers, had been difficult for auditors. Some of the auditors had trouble adapting their processes to the rapidly-changing program, especially during the pilot program stage. Auditors recommended having a standard process for program changes and open communication for the reasons behind the changes, as well as additional support on how to adapt their practices.

Next, EMI Consulting conducted interviews with nine program participants. This research proved difficult, as small business customers are extremely busy. The evaluation team was also looking to answer specific qualitative research questions, which were hard to answer with the small sample size. However, the customer interviews were very useful in providing detailed case studies of particular types of customers, including a non-profit organization in a historic building, a large chain store where key decisions happened at the corporate level, and a small mom-and-pop store. These case studies highlighted the wide variation in small business customers, the difficulty of tailoring the program to each business type, and recommendations on how to engage them. The case studies would not have been possible without qualitative research with customers.

Though the customer interviews resulted in fewer revelations than the auditor interviews, the evaluation team did find that comparing results across the two sets of interviews yielded some interesting analysis. For example, as mentioned above, Consumers Energy wanted to know which of the free equipment provided to customers was considered the most useful. The auditors and customer survey respondents gave conflicting answers to this question, indicating that what the auditors perceived as being useful to participants did not match what was actually useful to participants. The in-depth interviews with participants helped provide clarity on this distinction, as some indicated that their initial impressions of the equipment (when the auditor was present) were different from their ultimate assessment of the equipment. This finding stressed this importance of connecting the various research efforts together to provide a more holistic view of the program.

As a result of the bi-annual process surveys, report usability testing, and in-depth interviews with auditors and customers, the evaluation team identified a few key strategies and lessons learned for developmental evaluations at the program adolescence phase. Table 3 highlights these lessons, as well as the benefits of each evaluation activity, with additional detail provided below.

Table 3. Key Evaluation Activities during Program Adolescence

	Key Evaluation Activities	Bi-Annual Participant Process Surveys	Report Usability Testing	In-depth Interviews with Auditors and Customers
	Benefits	<ul style="list-style-type: none"> • Provided a high-level, quantitative assessment of the program’s processes 	<ul style="list-style-type: none"> • Provided targeted information on reports • Allowed for rapid feedback on recommended changes from participant survey 	<ul style="list-style-type: none"> • Captured auditor’s experiences with program • Provided qualitative feedback on questions resulting from surveys
	Key Strategies and Lessons Learned	<ul style="list-style-type: none"> • Utilize surveys to design follow-up research to address unanswered questions or provide qualitative detail 	<ul style="list-style-type: none"> • Identify key priority areas of the report to test to answer key research questions and ensure results are detailed and targeted 	<ul style="list-style-type: none"> • Gather information from various sources and synthesize results across sources

As demonstrated in Table 3, the evaluation team identified several key strategies and lessons from the rapid-feedback survey and auditor ride-alongs. These lessons include:

1. **Utilize surveys to design follow-up research to address unanswered questions or provide additional qualitative detail.** The participant surveys are useful sources of quantitative data, but during program adolescence, the nuances of the program’s processes are very important. Thus, collecting qualitative data on customers’ experiences should not be overlooked. Evaluators can use the quantitative surveys to identify topics where qualitative research would be helpful, and design the research to address those questions.

2. **Identify key priority areas of the report to test to answer key research questions and ensure results are detailed and targeted.** Designing report-testing surveys is more complicated than simple multiple choice questions, but the results can also be more useful if the research questions are targeted. To be useful, the document or report being tested should have distinct areas to test, and research questions should be targeted so that customers know what feedback they need to give for each segment.
3. **Gather research from various sources and synthesize results across sources.** As previously mentioned, a common challenge with conducting developmental evaluations is that each evaluation effort contains only one perspective on the program. By conducting in-depth interviews with both auditors and customers, the evaluation team was able to gain a more holistic view of the program and understand where each perspective might be useful. For evaluations that cannot afford to do two sets of interviews, EMI Consulting recommends conducting auditor interviews and tying the research back into the quantitative survey results for the customer's perspective.

Program Maturity (1.5 years after program launch and onward)

After the program had been running for about a year and a half, the program's processes were relatively stable and the program had reached maturity. Because the program's processes had been fine-tuned and were not changing frequently, the evaluation team moved away from the frequent cycle of developmental evaluation activities and toward less frequent, more standard evaluation approaches. During program maturity, the evaluation team continued to perform participant surveys to monitor program performance. These surveys remained similar in scope and methodology to the surveys completed during the program's adolescence.

Additionally, the evaluation team conducted an impact evaluation during program maturity to assess installation rates and baseline equipment efficiency for measures installed or provided through the program. The impact evaluation relied on self-report data from the above participant survey, which was designed to provide 90% confidence and +/- 10% precision. The impact evaluation occurred during program maturity to ensure that results reflected the most stable implementation of the program. As the program continues to mature, EMI Consulting will conduct periodic research to assess program performance and verify savings.

Results

This section details results related to the application of developmental evaluations to other projects. Specifically, this section includes details on the challenges of conducting developmental evaluations and keys to success that were identified through the evaluation of the Small Business Assessment program. These challenges and keys to success are based on the experience of evaluating the Small Business Assessment program, and thus may not be applicable to every developmental evaluation. However, examining the specific challenges and successes of this program as a case study in developmental evaluation can help evaluators to design and implement more effective research.









Challenges of Developmental Evaluations

While the developmental evaluation of Consumers Energy's Small Business Assessment program was very successful, EMI Consulting identified several challenges for replicating this framework. Key challenges included: the strain on the evaluation budget caused by pursuing several evaluation activities, the risk of over-contacting customers as a result of frequent research, the balance between providing rapid feedback and providing adequate quality control (QC) on results, the risk of making program-altering decisions based on one evaluation effort that does not capture the needs of all of the program actors, and the uncertainty in revenue and workload forecasting due to the flexibility of the evaluation design. These challenges are detailed in Table 4, along with potential strategies to minimize the impact of these challenges.

In particular, EMI Consulting recognizes that developmental evaluations require more time, research efforts, and budget than standard, year-end evaluations, and that evaluators and utilities may be wary of this

additional effort. However, developmental evaluations can also minimize program risk, as involving evaluators early in the design process may help utilities identify potential program challenges prior to the program’s launch. Additionally, developmental evaluations can be adapted to suit client needs, and are thus more customizable than the standard evaluation approach.

Table 4. Challenges to Developmental Evaluations and Strategies for Minimizing Impact

Challenges		Strategies to Minimize Challenges	
	Number of evaluation activities can strain budget		Prioritize evaluation activities based on research goals
	Frequent research can lead to over-contacting customers		Carefully plan sampling efforts to minimize customer contact Stagger participant research efforts with research with program actors
	Rapid feedback can leave little time for analysis and QC		Set clear guidelines and expectations about the appropriate interpretation of findings
	More fragmented program evaluation creates risk of making decisions based on narrow view		Synthesize findings across evaluation efforts, and continue to refer to past evaluation efforts for comparisons of results
	Flexibility in evaluation design can lead to uncertainty in budgets		Establish target timelines and budgets with flexible research questions and methods

EMI Consulting utilized seven different evaluation methods during this developmental evaluation, from program planning to adolescence. To assist other evaluators in prioritizing evaluation activities, Table 5 lists each evaluation activity, what the activity is best suited to accomplish, and its usefulness and cost, and then ranks the activities from 1 to 7, where 1 is the highest rank, based on the importance of including them in a comparable developmental evaluation. Table 5 does not include the two activities associated with program maturity: on-going participant surveys and impact evaluations. The evaluators chose not to include these activities because these are not part of the developmental evaluation used to support the design of a new program, but rather are important on-going activities for monitoring performance and verifying program savings.

Table 5. Developmental Evaluation Activities Ranked by Importance



Phase	Evaluation Activity	Months from Program Launch	Best For...	Value	Cost	Rank
Planning and Design	Literature Review and Peer Utility Interviews	5 months prior to launch	Designing program processes and identifying potential challenges	High	Low	4
Piloting	Rapid-feedback Survey with Dashboard	Continuous; first 4 months	Providing quick feedback from customers prior to launching program	Medium	Medium	5
	Auditor Ride-alongs	3 months after launch	Providing first-hand look at program processes	High	Low	3
Adolescence	Bi-annual Participant Surveys	6 months and 1 year after launch	Collecting experiences from large number of customers	High	High	2
	Report Usability Testing	1 year after launch	Gathering targeted feedback on report	Medium	Medium	6
	In-depth Interviews with Auditors	1.25 year after launch	Using auditors’ experience to identify program successes and challenges	High	Low	1
	In-depth Interviews with Customers	1.5 year after launch	Gathering targeted qualitative data from customers	Low	Medium	7

Keys to Successful Development Evaluations

Though a developmental evaluation was a good fit for the Small Business Assessment program, developmental evaluations are not a perfect match to every situation. Throughout their work on this program, EMI Consulting developed several keys to success for evaluators who are considering pursuing a developmental evaluation. These keys to success—both in terms of program evaluation qualities—are detailed in Table 6.

Key program qualities answer the question of what programs will be a good fit for developmental evaluations. Developmental evaluations work best with new or developing programs, where program processes are still in development and can be altered quickly as a result of evaluation work. To be able to pursue a developmental evaluation, the relationship between the utility client and the evaluator must be strong, as the client should be engaged in the evaluation process, value the feedback provided, and be willing to make changes to the program as a result of the research. Additionally, developmental evaluations often consist of real-time work, requiring access to up-to-date data several times throughout the process; utility clients who can only provide data one time per year would not be a good fit for this work.

Table 6. Keys to Successful Developmental Evaluations

 <p>Program Qualities What programs will be a good fit?</p>	<ul style="list-style-type: none"> • Program is new, or program processes are still in development • Utility and evaluator relationship is well-developed • Ability to receive program data quickly and frequently
 <p>Evaluation Qualities How can evaluators design successful development evaluations?</p>	<ul style="list-style-type: none"> • Engage client frequently and keep open channels of communication • Involve program actors in process • Connect various evaluation efforts into synthesized, holistic findings • Match research goals to appropriate evaluation methods, and carefully select timing of each effort • Allow for flexibility in scope and methods so research can adapt to best suit client's needs

By contrast, key evaluation qualities answer the question of how evaluators can design successful developmental evaluations. As mentioned above, developmental evaluations work best where the utility and evaluator relationship is strongly developed. Because developmental evaluations lead to more frequent feedback for the clients, they may also mean that the program's processes are ever-evolving. It is important that the evaluators stay aware of and engaged in the program's changes as the program adapts. During the evaluation of the Small Business Assessment program, EMI Consulting and Consumers Energy staff met bi-weekly to discuss the status of evaluation efforts, program changes, and new research needs. This partnership allowed EMI Consulting to craft more actionable research that addressed the ever-changing program needs.

Additionally, developmental evaluations benefit from engaging program actors in the process. EMI Consulting found the research with the auditors to be incredibly useful, both because the auditors had experience with a variety of different customers, and because the auditors were extremely familiar with the program's processes, what worked well, and what could be improved. During interviews with the program's auditors, EMI Consulting also heard that they wanted to be kept aware not only of what changes were being made to the program, but the reasons behind the changes. Sharing results with program actors and engaging them in the evaluation process can lead to smoother process changes, and a common understanding of why program processes may be adjusted.

EMI Consulting also found that it is important for evaluators to think carefully about the research questions, methods, and timing for each evaluation effort. EMI Consulting found that timing was especially crucial for several of the research efforts. For example, the peer utility interviews should be conducted prior to the creation of program plans and processes for maximum impact, and the rapid-feedback survey should be conducted continuously during the pilot phase to provide real-time evaluation of the initial processes.

Finally, evaluators pursuing developmental evaluations should allow for flexibility in the planned scope and methods so that the research can adapt to suit the client's needs. As the program developed, EMI

Consulting often found that the plans developed at the beginning of the year were not relevant to the program's current research needs. Just as the program needs to be able to adapt to real-time evaluation feedback, evaluators need to be able to adapt to ever-changing client needs.

Conclusions

Though developmental evaluation has challenges and limitations to success, EMI Consulting believes that it will play an increasingly important role in the energy efficiency industry in the coming years. Energy efficiency savings will likely continue to become harder to achieve, as the low-hanging fruit is picked and minimum energy codes and standards increase. As codes and standards increase, utility savings goals will become more difficult to meet, and some utilities may struggle to find cost-effective energy savings.

Developmental evaluations will be crucial in developing programs that can continue to deliver cost-effective savings. One key feature of developmental evaluations is that they are more adept at dealing with complexity and systems change, as they "aim to aid continuous improvement and rapid adaptation to a changing market" (Crohn, Steiner, and Galen 2014). As equipment standards increase, utilities will find that savings from their traditional rebate programs – many of which are heavily dependent on lighting – will decrease dramatically due to increasing baseline assumptions. As these savings decrease, many utilities will find that the savings from their traditional rebate programs will not be enough to meet their energy targets. Thus, utilities that have typically relied upon standard rebate programs will need to develop new approaches to reaching their energy targets. Developmental evaluation can assist utilities in designing highly effective programs that can supplement their traditional rebate programs through early program planning assistance, pilot evaluations, and development of the program into a mature offering.

Additionally, as utilities begin to design new programs to meet energy targets, it will be important to ensure these programs are successful early on, rather than waiting to do retroactive evaluations. Retrospective evaluations will open utilities up to greater risk, as the program's energy savings and processes won't be evaluated until after the program has already been designed and active. Thus, utilities run the risk that energy savings will be lower than anticipated, which could be problematic if the utility is struggling to meet energy savings targets. Additionally, utilities running retrospective evaluations run the risk that program processes could have been improved prior to receiving the results, increasing cost efficiencies or participation in the program. Developmental evaluations can be designed to evaluate both the energy savings potential and the program processes throughout the program's development to minimize these risks.

As utilities and evaluators move away from traditional retroactive evaluations and toward developmental research, it is important to understand the benefits of this research approach as well as the challenges and keys to success. Case studies of successful developmental evaluations, like the Small Business Assessment program evaluation presented in this paper, are critical learning opportunities for examining how developmental evaluations can work in practice, and how this approach can guide new programs into maturity.

References

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