

PROGRAM PLANNING:

A GUIDEBOOK FOR COLORADO STATE UNIVERSITY EXTENSION



COLORADO STATE UNIVERSITY
EXTENSION

Table of Contents

List of Acronyms	3
Introduction.....	4
How to Use this Guidebook.....	5
Program Planning for Impact Framework	6
Concepts Behind the Framework.....	7
Steps of Program Planning.....	8
Step 1: Form a diverse network	8
Step 2: Environmental scan & needs assessment	9
Step 3: Select issues	11
Step 4: Define scope of work.....	13
Step 5: Develop (co-create) your program.....	16
Step 6: Choose key indicators.....	20
Step 7: Evaluation.....	22
Reporting Impact	30
Summary	31
References.....	32
Working Group Contributors.....	33
Appendices.....	34
Appendix A: Stakeholder Engagement Wheel	34
Appendix B: Community Engagement Resource Chart	35
Appendix C: Introduction to SOAR	37
Appendix D: Strategy Canvas Template.....	39
Appendix E: Sample Focus Group Protocol.....	41
Appendix F: Sample Key Informant Interview Protocol.....	44
Appendix G: Nominal Group Technique.....	46
Appendix H: Core Competency Identification Tool.....	48
Appendix I: Cut Before You Add Tool	50
Appendix J: 2x2 Prioritization Matrix	51
Appendix K: eXtension Idea Selection Tool	53
Appendix L: Creating a Persona	54
Appendix M: Issue Canvas Template and Examples	55
Appendix N: Cheat Sheet for CSU Extension Program Planning	58
Appendix O: Summary Table of Program Planning Tools.....	59

List of Acronyms

CHG	Community Health Governance
CPP	County Program Plan
CSUE	Colorado State University Extension
DM	Digital Measures
FSAS	Faculty/Staff Activity System
KASA	Knowledge, awareness, skills, attitudes
NIC	Networked Improvement Community
PESTLE	Political, economic, social, technological, legal, environmental
PPI	Program Planning for Impact
PRU	Planning & Reporting Unit
ROI	Return on investment
SMART	Specific, Measurable, Attainable, Relevant, Time-Bound/Timely
SWOT	Strengths, weaknesses, opportunities, threats

Introduction

Program planning in Extension has a host of benefits that can help you maximize your impact in communities. According to Dr. Michael Duttweiler of Cornell Cooperative Extension, these benefits include:

- a way to prioritize resources;
- a greater focus on intended outcomes;
- a higher rate of outcome achievement;
- developing a shared understanding with team members and supervisors for accountability;
- an avenue for reflection and assessment for personal and organizational growth;
- context for diagnosing a program's shortcomings and successes; and
- a basis for Extension professionals to communicate impact to key stakeholders (Duttweiler, 2012).

This guidebook presents a framework and description of program planning for Colorado State University Extension. The intention is to provide a common set of concepts and tools to help individuals, county Extension offices, and program teams as they plan for impact. (Note that in this guidebook, "program planning" refers to the entire process of needs assessment, program development, evaluating, and reporting programs.)

This guidebook is also intended to address specific concerns that have been raised with regards to our previous program planning efforts. One of those concerns is that Extension agents don't always know how to access resources that have already been developed. Although that concern is somewhat outside the scope of this document, the program planning framework introduced can help. By formally selecting issues to address in individual, county, or program area plans, we can establish more transparency in the organization that should result in better access to and sharing of resources.

Another concern stems from a desire to build on our areas of expertise and to support what we're already doing well. The introduction of a core competency identification tool in this guidebook can result in leveraging of our expertise and unique strengths to maximize impact.

A third, longstanding, challenge of program planning at CSUE has been the meaningful integration of specialists and agents. While this guidebook stops short of delineating certain roles for specialists and agents out of respect for individual's different strengths and interests, it does identify certain pieces of the program planning process that would benefit from specialist insight. These pieces include helping teams with environmental scans, articulating a theory of change based on evidence and/or research, and evaluation planning and analysis.

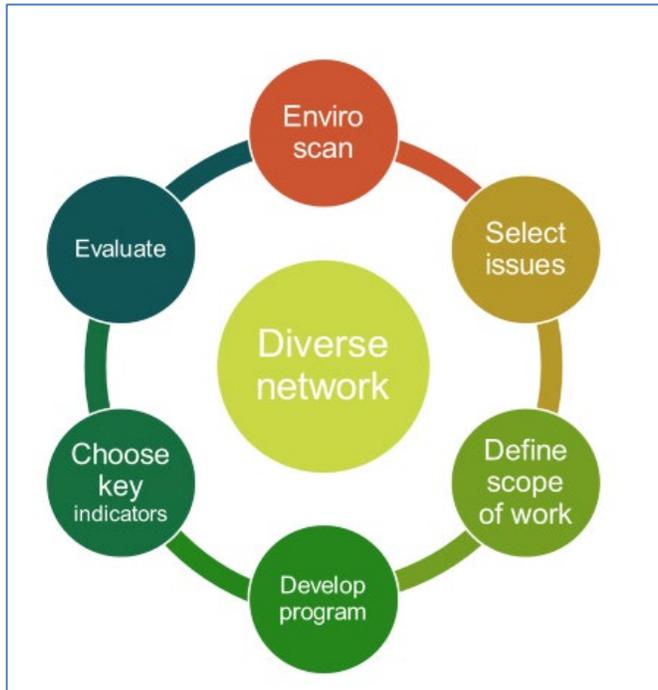
How to Use this Guidebook

The guidebook can be used both to create new programs as well as to enhance existing programs. New staff in particular may be able to use the guidebook to find some initial grounding in how to proceed with Extension work. You may find particular value in one piece of the program planning process at a given point in time. This guidebook can help individuals and teams regardless of where they are in the program planning process by providing a full picture of the process, connecting the dots between the steps, and allowing for choice in what is most useful in the moment.

The guidebook is useful for engaging in the more strategic and formal program planning process associated with individual Plans to Invest, County Program Plans, and PRU Plans of Work. (The concepts behind the program planning framework introduced in this guidebook will flow through all three types of program plans.) At the same time, the guidebook can also provide a quick reference for Extension professionals when adjusting to emerging issues and feedback on the fly. Examples of how to apply the concepts in this document to both formal and informal program planning efforts are found throughout. A Cheat Sheet to the CSUE program planning process is found in [Appendix N](#).

Finally, the guidebook introduces a number of topics such as needs assessment, program development, and evaluation for which entire books have been written. The intention here is to whet the appetite and to provide tools to Extension staff given the practical demands on their time and effort. Tools that are relevant to each part of the CSUE program planning process (i.e. core competency identification, strategy canvas, etc.) are described and/or linked to throughout this guidebook, and a summary of those tools is provided in [Appendix O](#). CSUE staff can explore these topics and tools further according to their own needs and interests.

Program Planning for Impact Framework



The CSU Extension Program Planning for Impact (PPI) framework is illustrated here in its most basic form. In this form, the essential pieces of the framework are included in a connected ring outside of the central element – **diverse network**. Diverse network refers to the ever-evolving web of internal and external partners, strategic and casual informants, and key stakeholders that serve as references for your Extension work. This diverse network can influence every piece of the program planning process shown in the connected ring.

The ring is shown here without arrows to indicate that you can enter the program planning process at any point. The lack of arrows also indicates that the pieces of the process are interconnected and that working on one piece of the process can result in the need to move either backwards or forwards along the ring.

That said, if you are “beginning at the beginning” with program planning, you would start at the top of the framework (**environmental scan**) and start to move *clockwise* through the pieces until you reach Evaluate. An environmental scan can help you better understand how your network is positioned in the context of external opportunities for impact. Informed by an environmental scan, you can narrow down and **select issues** to address using tools such as a core competency analysis and a 2x2 prioritization matrix. Within a selected issue, it helps to define your **scope of work** – the focal problem you are addressing, your goal, and your target audience. Once you have identified a scope of work, you are set up to **develop your program** using a theory of change or logic model that is ideally rooted in evidence or research. When developing your theory of change or logic model, you are also implicitly **choosing key indicators** that speak to how well your program is achieving your goal. Finally, an **evaluation** strategy is built so that you can evaluate each of the prior steps.

When applying the framework to evaluation instead of program planning, you can imagine arrows that start at Evaluate and move *counterclockwise* instead of clockwise. At the same time, the evaluation step includes getting general feedback about your efforts that blends into techniques commonly used in environmental scans. In that way, the Evaluate step also connects clockwise to Environmental scan and the cycle starts again.

Concepts Behind the Framework

The PPI framework and related guidance was produced by a working group consisting of various program leaders throughout CSU Extension (see the Working Group section for a list of contributors). This group combed through a wide variety of literature and concepts related to Extension programming, strategic planning, networked improvement communities, engaged scholarship, community health governance, and value creation.

The PPI framework adopted many of the program planning elements common to other Extension program development models such as participant-driven needs assessment, program design, and evaluation (Diaz, Gusto, & Diehl, 2018). The program development and program performance “staircase” concept from Rockwell and Bennett’s Targeting Outcomes of Programs model was applied to the clockwise (planning) and counterclockwise (evaluation) applications of the PPI framework (Rockwell & Bennett, 2004). Tools from generally accepted strategic planning efforts, such as SWOT/SOAR analysis, core competency identification, and development of performance indicators were taken extensively from CSUE staff participation in George Washington University’s Strategic Management & Performance Systems certificate program.

Of particular influence on the PPI framework is ongoing work around Networked Improvement Communities, sponsored in part by the [Carnegie Foundation for the Advancement of Teaching](#). NICs are characterized by five domains that attend to: “developing a theory of practice improvement; building a measurement and analytics infrastructure; learning and using improvement research methods; leading, organizing, and operating the network; and fostering the emergence of culture, norms, and identity (Carnegie Foundation for the Advancement of Teaching, 2017). The PPI framework elements of “diverse network” and formative evaluation focused on testing a theory of change pull from work on NICs.

Similarly, both CSU’s [Continuum of Engaged Scholarship](#) and Lasker and Weiss’s 2003 article on [Community Health Governance](#) (CHG) informed the PPI framework’s use of a Diverse network to co-create CSUE programming. The CHG model proposes that individual empowerment, bridging social ties, and creating synergy (breakthroughs in thinking and action produced from successful collaboration) are critical to collaborative problem-solving and thus community health (Lasker & Weiss, 2003).

Finally, the [Value Creation framework](#) presented by Wenger and Trayner has influenced multiple pieces of the PPI framework. That framework posits five types of value offered by social learning networks (articulated as Diverse networks in the PPI framework) which helped us frame guidance on Defining a scope of work and Choosing key indicators (Wenger, Trayner, & de Laat, 2011).

Steps of Program Planning

Although the PPI framework can be applied in a number of different ways, the following guidance is intended for those who are “beginning at the beginning” with program planning. The pieces of the framework are presented as interconnected steps that you can follow throughout your program planning journey.

Step 1: Form a diverse network

The PPI framework focuses on impact because that is the ultimate goal of Extension programming. In order to maximize impact in Colorado communities, it helps to engage (and eventually co-create programs with) a wide variety of people. The set of individuals who you engage in the program planning process are referred to here as your network. The purpose of a network here is to provide important perspectives and firsthand knowledge of the community and more specifically, the needs of the community. Network members can help you understand why something is happening or the history and context of an issue.

A ‘diverse’ network in this context refers to individuals that bring different perspectives. In involving a diverse network, it is important to seek out individuals who may not be familiar with CSUE. Broad participation in program planning beyond the “usual suspects” can: (1) empower people who have not previously been involved in community-level problem solving; (2) create relationships between people from various backgrounds, disciplines, sectors, and levels; and (3) bring together people and organizations with a sufficient range of knowledge, skills, and resources so the group, as a whole, can achieve the breakthroughs in thinking and action that are needed to understand and solve complex problems (Lasker & Weiss, 2003).

A diverse network is not valuable just to inform needs at the beginning of the program planning process. Rather, a diverse network can also help select community issues to address from among those needs, help define appropriate interventions, develop programs and resources alongside CSUE, and even refine approaches over time based on evaluation data. This is embedded in CSU’s concept of a [Continuum of Engaged Scholarship](#). This continuum holds that we can move from “outreach” to “engagement” when we switch from simply informing, consulting, or involving our community members in activities to collaborating and eventually co-creating activities with them. Examples of co-creation include citizen science, participatory research, and co-hosting of events. Results of true community engagement include the emergence of new perspectives, capacity-building, innovation through trust, and the production of joint and mutually beneficial outcomes by university and community.

Practically speaking, census data can help you ensure that the demographics of your network align with the demographics of the community you are serving, whether that is a geographic community or an issue-based community (such as agriculture). A Stakeholder Engagement Wheel ([Appendix A](#)) identifies different types of individuals and groups to be represented in a diverse network. This includes your planning team, community members with lived experience, content experts, decision-makers, elected officials, funders, traditionally marginalized voices, potential opponents, and action partners. Use of a community engagement resource chart ([Appendix B](#)) can help you figure out how to engage individuals that have been traditionally underrepresented in your network.

Tools for forming diverse networks

- Stakeholder Engagement Wheel – [Appendix A](#)
- Community Engagement Resource Chart – [Appendix B](#)
- [CSU Extension County Profiles](#)
- [US Census](#) and [American Community Survey](#) data

Step 2: Environmental scan & needs assessment

Understanding the landscape of needs and issues in your diverse network and how we are positioned to address them is key to fulfilling our CSUE mission. This can be done through environmental scans. An environmental scan (or environmental assessment) is a thoughtful analysis and evaluation of the strategic environment facing the organization (George Washington University's Strategic Management & Performance Systems Certificate Program, 2019). Environmental scans can focus both externally (who we serve) and internally (how we operate). Environmental scan work may include:

- PESTLE analysis (political, economic, social, technological, legal, environmental)
- Secondary data/literature review
- Strategy canvas
- SWOT (strengths, weaknesses, opportunities, threats) or SOAR (strengths, opportunities, aspirations, results) analysis

Needs assessment can be considered another type of environmental scan. A needs assessment is a process of understanding needs and how to meet them (Donaldson & Franck, 2016). They can take on many forms such as:

- Advisory boards
- Focus groups
- Informal conversations with clientele, stakeholders
- Internal needs assessment (of CSUE professionals)
- Key informant interviews
- Program participant feedback
- Surveys

Each type of **environmental scan** and **needs assessment** has pros and cons as illustrated for select tools in the table below (adapted from Donaldson & Franck (2016)).

Tool	Description	Pros	Cons	When to Use
PESTLE analysis	An analysis of relevant political, economic, social, technological, legal, environmental forces that may impact your strategy	Comprehensive overview of external factors that may affect your work; Can help you identify emerging issues	Does not account for internal (organizational) factors; Typically relies on staff perspectives rather than diverse informants	When a group is in need of a step back to the bigger picture/macro environment to drive and refine programming
Secondary data/ literature review	A review of existing reports, data, and publications to increase your awareness and knowledge of issues	Utilize existing data; Can allow you to plan programs that meet documented needs; Easy access to information for individuals and teams	May require significant time to find the most relevant data	When you can benefit from a deeper understanding of current research or the priorities of other stakeholders
Strategy Canvas	A tool to identify factors that drive success in your field and how you differentiate from competitors	Helps you pursue a strategy based on your unique competencies relative to other organizations	Does not explicitly account for external factors	When you have a good understanding of external factors and need to differentiate your offerings from other orgs
SWOT/SOAR analysis	An analysis of strengths, weaknesses, opportunities, and threats (or strengths, opportunities, aspirations, and results) facing an organization	Takes both external and internal (organizational) factors into account to maximize strategy	Typically relies on staff perspectives rather than diverse informants	When a group needs a single tool to account for key external and internal factors to drive programs
Focus groups	A group interview exercise in which participants share perspectives with one another and a moderator	Provides firsthand knowledge of a situation and insight into potential causes; Can provide some sense of the breadth of an issue compared to interviews; One individual's contributions can spark new ideas and contributions from others	One person can dominate a group; People are not always willing to share sensitive information in a group setting	When rich qualitative data are needed from targeted informants to better understand issues, opportunities, and barriers; Enough participants (5 or more) can be recruited to participate
Key informant interviews	Interviews of stakeholders thought to have critical knowledge and insight on an issue	Provides firsthand knowledge of a situation and insight into potential causes	Knowledge of situation can be limited to their own context; Not reliable sources of information about the actual number or distribution of persons affected by a social problem	When rich qualitative data are needed from targeted informants to better understand issues, opportunities, and barriers
Surveys	Questionnaires delivered to targeted or random populations	Can provide accurate information on the extent and distribution of a social problem; Easy to distribute; Can be affordable and quick	Unless good survey methods are used, the results can be skewed, particularly marginalized groups are underrepresented; Difficult to get complex information; Might not answer questions about sensitive topics	Want to understand the scope/breadth of an issue; Limited time to collect data; Access to a significant number of email/physical addresses

In general, environmental scans provide a broad perspective of organizational opportunities based on existing (secondary) data and staff perceptions. Needs assessments provide detailed information about what existing and potential clients may want out of an organization (primary data). Using multiple tools can provide a more comprehensive and inclusive set of insights. Use of multiple tools also allows for **triangulation** of data between difference sources. For example, conducting key informant interviews in conjunction with surveys can provide both depth and breadth to a formal needs assessment effort. The two needs assessment methods may come to similar conclusions and build confidence in your interpretation. On the other hand, they may reveal seemingly contradictory data that requires deeper analysis. Adding a SWOT (or SOAR) analysis could bring together various external needs with your internal strengths and opportunities. Using a needs assessment to inform a strategy canvas exercise can help you be strategic on how to meet needs while giving you a head start on actual program development.

The tools you choose will depend on whether you are working as an individual or with a team, where you already feel confident in your understanding, and the time and resources you have at your disposal. While more formal tools were highlighted in the table, also keep in mind that less formal ways of understanding your strategic environment and needs (such as having conversations with clientele) can and do provide significant program planning insights. Environmental scans are important because they serve to inform all subsequent parts of the program planning process. The most effective environmental scans combine everyday, casual assessment with periodic, more strategic efforts.

Tools for environmental scans

- Introduction to SOAR (strengths, opportunities, aspirations, results) – [Appendix C](#)
- Strategy canvas template – [Appendix D](#)
- Sample focus group protocol – [Appendix E](#)
- Sample key informant interview protocol – [Appendix F](#)
- [PESTLE \(political, economic, social, technological, legal, environmental\) analysis](#)
- [CSUE Community Needs Assessment Guidebook](#)
- [Nevada Extension Needs Assessment Annotated Bibliography](#)
- [Tennessee Extension Needs Assessment Guidebook for Extension Professionals](#)

Step 3: Select issues

Environmental scans and needs assessments are excellent tools to uncover a range of possible issues that Extension staff may address. Ultimately, staff must choose which issues to take on, and this step doesn't always involve picking the most commonly cited issues. Instead, selecting issues involves putting your list of potential issues through filters such as your core competencies and return-on-investment (ROI). The table below lists tools that may assist you with this filtering process.

Tool	Description	Pros	Cons	When to Use
Core competency identification	Identify your unique set of competencies that drive success	Aligns potential issues with our strengths, expertise, and what makes us unique compared to other organizations in a program space	Can sometimes be difficult to clearly define specific individual or group competencies	When you need to narrow down the issues you choose to address and want to leverage your strengths to do so
Cut Before You Add	Reflect on current (and potential) offerings to see where to invest and where to cut back	Helps you prioritize both new and existing programs; Straightforward and intuitive	Benefits from a broad understanding of you or your team’s overall strategy; Implies that you already know your core competencies	When you are considering taking on new initiatives but may need to cut back on existing initiatives first; When you already understand your broader strategy and core competencies
2x2 Prioritization Matrix	Consider current and potential offerings from the perspective of what is impactful and feasible	Helps you prioritize both new and existing programs;	Consider current and potential offerings from the perspective of what is impactful and feasible	When you need a simple tool to help you prioritize which issues to address; When there is already broad agreement on your mission

Identifying [core competencies](#) can be an important first step. Leveraging these core competencies can solidify your niche in providing educational resources and can allow you to maximize your ROI on program development, as the time and effort (inputs) required to generate a certain output or outcome may be relatively low. That said, just because an issue is outside of your core competencies doesn’t mean that you shouldn’t pursue it. The important point is to weigh the costs and benefits of developing or refining a given program/resource with the costs and benefits of developing or refining a different program or resource. If you already have a good understanding of your competencies and this understanding is shared across your team (if applicable), the Cut Before You Add and 2x2 Prioritization Matrix can help you make more pointed decisions about issues to address.

Other tools to help with issue selection are included at the end of this section. Note that the Nominal Group Technique ([Appendix G](#)) can be used in conjunction with many other tools presented throughout this guidebook in order to gather individual input for group decision-making, including input from your diverse network. The Strategy Canvas introduced in the environmental scan section can also help with issue selection and other parts of the program planning process.

County Extension offices can identify the issues they plan to address in a County Program Plan or similar document in order to provide a shared and transparent strategy across the office. PRUs can utilize county-identified issues to narrow down the list of issues they plan to address in Plan of Work documents. Individuals can identify issues in Plans to Invest based on County Program Plans, PRU Plans of Work, and their own inclinations.

Note that once issues have been identified, particularly by PRUs, opportunities for collaboration are likely to present themselves. For example, if one program team identifies mental health as an issue to address, and 4-H identifies youth mental health as an issue, those two groups may collaborate. Similarly, business management may apply across community development, food systems, and agricultural program teams. Although issues may emerge after planning documents are completed – especially since “triggering events” such as wildfires or insect outbreaks can present great opportunities for Extension interventions - formally identifying issues in the planning process provides a key opportunity for collaboration across the organization (Donaldson J. L., 2020).

Tools for selecting issues

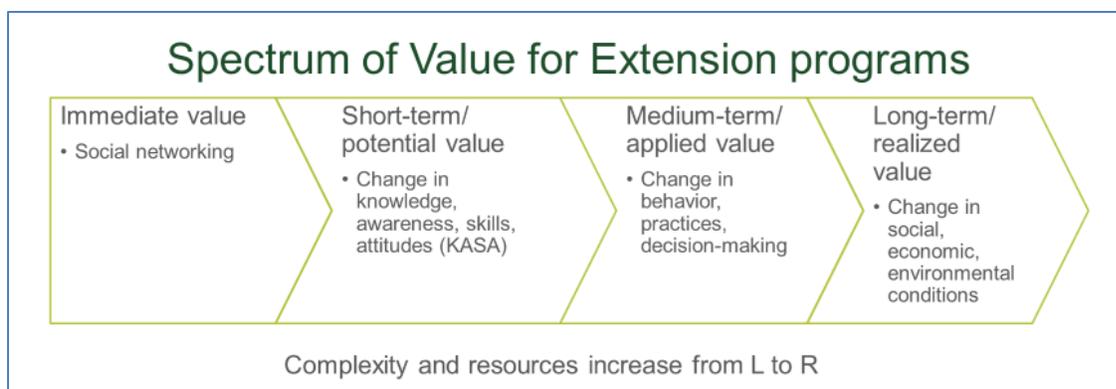
- Nominal group technique – [Appendix G](#)
- Core competency identification tool – [Appendix H](#)
- Cut Before You Add tool – [Appendix I](#)
- 2x2 Prioritization Matrix tool – [Appendix J](#)
- eXtension Idea Selection tool – [Appendix K](#)
- [University of California Extension Priority-Setting Filters](#)

Step 4: Define scope of work

While individuals and teams are responsive to changing needs and emerging issues on an ongoing basis, formally identifying issues to address provides an important sense of focus for program planning efforts. Then within an issue you’ve selected, it’s important to be clear about your scope of work and how that scope of work might be related to the efforts of partners in your diverse network. In this context, a scope of work consists of three elements:

1. a **problem statement**;
2. a **goal** (or intended outcome) associated with that problem statement; and
3. identification of a **target audience**.

Many problems, goals, and target audiences may exist for a given issue, so it is helpful to define a scope of work that is both impactful and realistic for your Extension work. One way to start defining a scope is to consider whether you have the core competencies and resources to provide immediate, short-term, medium-term, or long-term value. Another way of thinking about this is whether you have the resources to deliver immediate, potential, applied, or realized value for your target audience (Wenger, Trayner, & de Laat, 2011). These concepts are represented in the Spectrum of Value below.

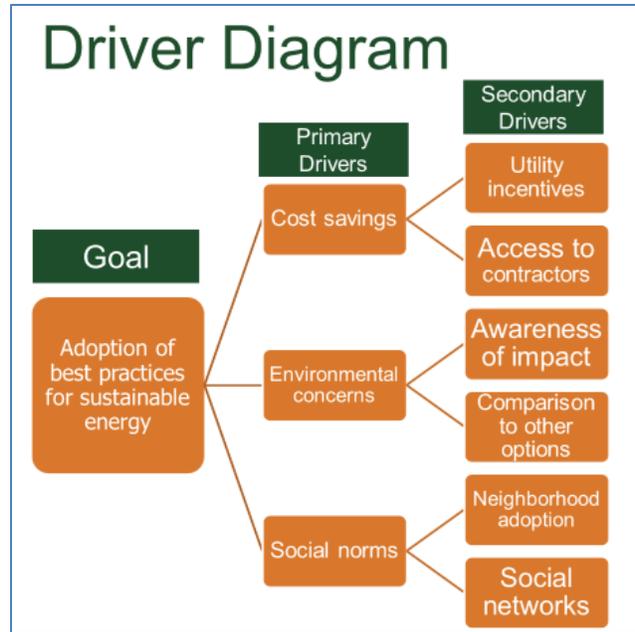


As you move along the spectrum from immediate to long-term/realized value, the complexity of your program increases along with the resources you need to deliver that type of value. Let's now look at how being able to place your goal or outcome on this spectrum of value can clarify Extension's scope of work on the issue of **sustainable energy**.

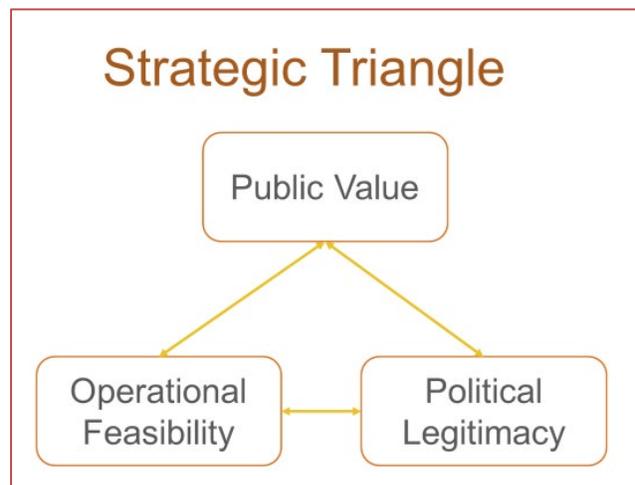
Type of Value	Problem	Goal	Target Audience
Long-term/ Realized	Climate change due to anthropogenic greenhouse gas emissions	Reduce GHG emissions	Electric utilities dependent on fossil fuels
Medium-term/ Applied	Coloradans are wasting energy and money through energy inefficient behaviors	Adoption of best practices for sustainable energy	Households with high energy costs
Short-term/ Potential	Farmers do not understand best practices for sustainable energy	Increase knowledge around best practices for sustainable energy	Farms with powered irrigation
Immediate	Coloradans are not connected to resources that could help them save energy and money	Connect people to sustainable energy resources	Households with high energy costs

As you can imagine, the specific problems, goals, and target audiences identified can vary widely even within each type of value. This highlights the importance of identifying problems, goals, and target audiences in collaboration **with your diverse network**. Having a diverse and effective network can also increase the value you collectively provide and clarify each member's contributing role. (The Colorado Energy Office may have authority or funding to address condition change, but those efforts may be complemented by Extension's role in facilitating behavior change or knowledge increase, for instance.) What's important is that you are clear about whether you are intending to increase connections, change knowledge/awareness/skills/attitudes (KASA), change behavior, or change a condition in your work.

You can also utilize an environmental scan, core competencies, a driver/fishbone diagram, and/or Mark Moore’s strategic triangle to help you define your scope of work. This driver diagram, for example, illustrates the goal of “adoption of best practices for sustainable energy”. The Extension program team may decide to focus on addressing certain primary or secondary drivers and to let other members of its diverse network address the others. Selected drivers would become the “problems” the Extension team (or its network partners) would address for the target audience. In sketching out drivers for various goals, you can see where an Extension program could make the most impact.



Mark Moore’s strategic triangle can help you define a scope of work by framing potential goals and problems through the lenses of: 1) public value; 2) operational feasibility; and 3) political legitimacy. A potential scope of work must have significant public value, be feasible, and have support from key stakeholders to be worth pursuing (Moore, 1995). Going back to the sustainable energy example, it could be that while reducing greenhouse gas emissions has public value and certain activities to help achieve that goal are operationally feasible, political support for doing so is mixed. Therefore a different scope of work may be more appropriate.



Tool	Description	Pros	Cons	When to Use
Driver/fishbone diagram	Map out primary and secondary drivers behind issues in order to define potential focal problems and target audiences	Visualization makes it easy to understand and share with groups	Identifying all drivers can be difficult and may rely on a potentially time-consuming literature review to be effective	When you would benefit from a clear and shared understanding of drivers behind an issue in order to choose an appropriate intervention
Strategic triangle	Possible interventions must meet three criteria to move forward: they have public value, are operationally feasible, and have political legitimacy/support	The three criteria are fairly straightforward and easy to apply	It can be difficult to compare interventions to one another if they each meet the criteria	When you want to select a focal problem and goal for your efforts

Note that it's possible that in process of defining your scope of work that you discover that an issue needs further refinement or is simply not in your wheelhouse. Conversely, you may decide to address a certain issue because you already have a good sense of your scope of work based on conversations with your diverse network. Again, the pieces (or steps) along the outer ring of the PPI framework diagram are all connected to represent that the program planning process is often not linear.

To end this section, let's imagine that the sustainable energy team used the Strategic Triangle to help define a scope of work as follows:

Households (target audience) adopt sustainable energy best practices (goal/outcome) in order to save energy and money (problem).

Program teams such as PRUs should be able to articulate such a scope of work for each issue they choose to address. In this way, the scope of work can serve as a reference that galvanizes teamwork and informs key stakeholders about the essence of why we do what we do.

Tools for defining your scope of work

- Spectrum of value
- Strategic triangle
- Driver diagram and related [Fishbone diagram article](#)
- [RACI diagram example](#) and [RACI+F article](#) (to delineate CSUE vs. partner roles as Responsible, Accountable, Consulted, Informed)
- ESRI LifeMode descriptions in [CSUE County Profiles](#) (to gain insight into target audiences)

Step 5: Develop (co-create) your program

As you define your scope of work, the program development process naturally begins to take shape. (This is especially true if you create a driver diagram since that will help you think about specific ideas to achieve your goal.) Program development here refers to building a set of activities or resources in order to achieve a desired outcome or goal. Ensuring that your program is developed in a way that is directly

related to your desired outcome is best done through a *theory of change* or a *logic model*. While there is significant overlap between these two approaches, there are also subtle differences.

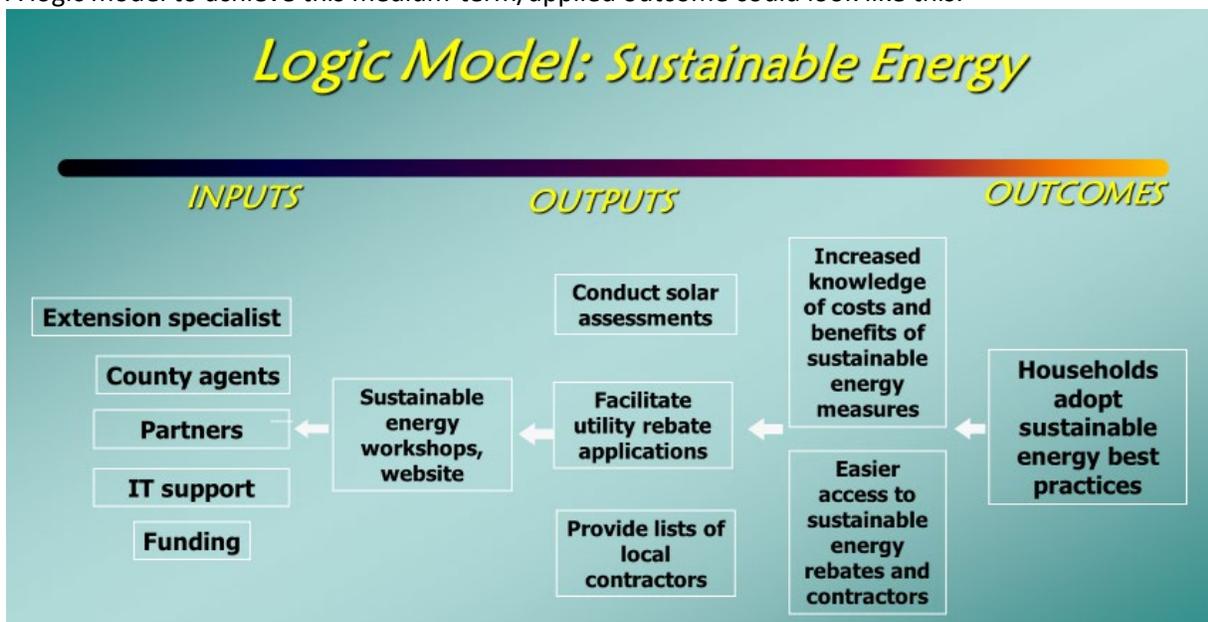
A theory of change here refers to a description of: 1) the way in which the desired change comes about; and 2) what actions need to happen for the program to reach its intended outcomes (sometimes referred to as a theory of *action*) (Funnell & Rodgers, 2011). Logic models have tended to focus solely on simply describing the actions that need to happen for the program to reach its intended outcomes (#2). Because theories of change more explicitly call for thinking through the evidence, research, or hypotheses (assumptions) that will lead to a desired change, it is wise to employ them when developing programs that require a significant investment of resources.

Logic models may suffice for developing programs that require a lesser investment of resources. *Both theories of change and logic models can be depicted visually or as text*, although many find visual displays easier to follow.

To illustrate, let's go back to the sustainable energy team's scope of work:

Households (target audience) adopt sustainable energy best practices (goal/outcome) in order to save energy and money (problem).

A logic model to achieve this medium-term/applied outcome could look like this:



The logic model starts with the medium-term goal/outcome on the right and “works backward” to short-term outcomes (changes in knowledge and awareness), outputs/activities, and inputs/resources needed to achieve this outcome. By working backwards, logic models can ensure a focus on outcomes rather than starting with the status quo of inputs and activities/outputs put forth by a program team in the past (McCawley). As suggested by the United Way in its description of a logic model, it’s “not how many worms the bird feeds its young, but how well the fledgling flies” (United Way of America, 1996).

In this case, the logic model illustrates the program team’s belief that in order for households to adopt sustainable energy best practices, they need more knowledge and easier access to resources. Solar assessments would provide some of that knowledge, and facilitating rebate applications and providing local lists of contractors would provide easier access to resources. People might attend workshops or

visit a website to get educated about costs, benefits, and resources. In order to provide workshops, a website, and services, the team would need a specialist, agents, partners, technology support, and funding. Creating a logic model involves a process of deduction that should be easy to follow. And although it is created by working backwards, members of the team should still be able to be read forwards as a series of “if-then” statements. (IF a certain input is committed to the effort, THEN a certain output should be produced. IF that output is produced, THEN the result will be a certain outcome, etc.)

A theory of change related to this same scope of work would more explicitly cite the specific evidence, research, or hypotheses the team used connect its program outputs to the outcomes. For example, research from an Extension specialist or engaged faculty member may reveal that there is correlation or causation between solar assessments and solar installations. Thus the theory of change may be articulated in this table. (It could also be presented as a visual display like the logic model, with the arrows that connect outcomes to outputs filled in with citations of evidence, research, or hypotheses.)

Outcome	Output	Evidence/research/hypothesis
Households adopt sustainable energy best practices		
Increased knowledge of costs and benefits of sustainable energy measures	Conduct solar assessments Sustainable energy workshops Website	Link to study showing that solar assessments increase solar installations
Easier access to sustainable energy rebates and contractors	Facilitate utility rebate applications Provide local lists of contractors Website	Link to study showing easy access to resources increases solar adoption

The stronger the evidence, the more confidence the program team can have in achieving its outcomes through the program it develops. This is referred to as the “degree of belief” in a theory of change (Bennett & Miller, 2020).

Degree of Belief	Description
Very Strong	Evidence generated by the authoring team, presence in research literature or in practice elsewhere (with reference)
Strong	Locally generated evidence by the authoring team only. Often, this level of evidence is very good, but ideas may require adaptation elsewhere as the context shifts in a scaling effort
Weak	Present in the literature, but either untried locally by the authoring team or without demonstrable quantitative evidence of improvement in the local setting
Very Weak	Belief and anecdote, often a good starting place, based in clinical knowledge or experience but with a word of caution that is yet to be proven at all in practice (either locally or in the literature).

In the absence of a strong degree of belief in support of developing your specific program, referencing general behavior change literature is advisable. Rockwell and Bennett’s work on Targeting Outcomes of Programs, Rogers’ Diffusion of Innovations, Lindeman’s work on adult learning, Hiatt’s ADKAR model, and Prochaska’s Stages of Change may all have relevance to your programming. Key points from each of these general theories of change are summarized in the table below.

Theory	Synopsis
ADKAR model (Hiatt, 2006)	Change requires awareness, desire, knowledge, ability, and reinforcement
Adult learning theory (Lindeman E. , 1926)	<p>Adult learning should be based on the following assumptions:</p> <ol style="list-style-type: none"> 1. Adults are motivated to learn as they experience needs and interests that learning will satisfy. 2. Adults’ orientation to learning is life-centered. 3. Experience is the richest source for adult learning. 4. Adults have a deep need to be self-directing. 5. Individual differences among people increase with age.
Diffusion of Innovations (Rogers, 2003)	<p>A proposed change needs to have five characteristics for adoption:</p> <ol style="list-style-type: none"> 1. Relative Advantage: Is it perceived as better? 2. Compatibility: Is it consistent with the needs of participants? 3. Complexity: Is it relatively easy to understand and use? 4. Trialability: Can they experiment with the change before commitment? 5. Observability: Are the benefits easily visible?
Stages of Change (Prochaska, 1979)	<p>A change is subject to five stages:</p> <ol style="list-style-type: none"> 1. Pre-contemplation - people have no intention to change their behavior in the foreseeable future. 2. Contemplation - people are aware that a problem exists and are seriously thinking about addressing it, but have not yet made a commitment to take action. 3. Preparation - individuals in this stage are intending to take action in the near future. 4. Action - individuals modify their behavior, experiences, or environment in order to overcome their problems. 5. Maintenance - people work to prevent relapse and consolidate the gains they made during the action phase.
Targeting Outcomes of Programs (Rockwell & Bennett, 2004)	Achieving medium-term outcomes like changing behavior, practices, or decisions requires short-term changes to knowledge, awareness, skills, and attitudes (KASA)

In all cases of program development, being able to [empathize with your target audience](#) can lead to insights into how best to develop a program that will achieve your intended outcome. This speaks to the importance of keeping a diverse network engaged with all aspects of the program planning process, including program development. **Co-creation** of programs alongside your diverse network is the pinnacle of true engagement because it can be so impactful. Key informant interviews can help with this, as can *observation of* and general *engagement with* your target audience. [Generating a “persona”](#) to represent a hypothetical person in your target audience is another tool to help you put your learnings into a form that you can reference as you develop your program (see [Appendix L](#)).

A logic model or theory of change should go as deep as needed to help the individual or team think through the connections between its ultimate goal and its activities. In some cases, establishing a robust logic model or theory of change based on a strong degree of belief may be required or at least beneficial for grant applications. If you or your team go through the program development process and decide that the resources/inputs required to achieve your goal are too rich, revisit your scope of work from Step 4.

Tools for program development

- Logic model
- Theory of change (including general behavior change theories)
- “Degree of belief” assessment
- [Wisconsin Extension](#) logic model resources
- [Creating a Persona article](#) and [tool](#)

Step 6: Choose key indicators

When the goal or intended outcome of your program is immediate, short-term, or medium-term, you can often measure your success directly. Long-term outcomes, on the other hand, are often difficult to measure and are subject to a greater influence from external factors that are out of your control. For this reason, we have the concept of ‘indicators’ of success. An ‘indicator’ is a quantitative measurement that provides some degree of evidence that you are achieving your goal. It is what people would “see, hear, feel, or do” if your goal was being reached (George Washington University’s Strategic Management & Performance Systems Certificate Program, 2019).

Just as defining a scope of work should lead naturally to program development, the development of your logic model or theory of change should lead naturally to a pool of potential indicators you can use to gauge your success. A slight modification to SMART (Specific, Measurable, Attainable, Relevant, Time-Bound) criteria can help you develop meaningful indicators related to your program:

- Specific – narrow enough to represent your specific program
- Measurable – data can be collected in a reliable way with a reasonable amount of effort
- Attainable – the indicator captures something achievable by you or your team
- Relevant – they reflect your scope of work
- Timely – indicators are representative of current events and important issues

(Switching *Time-Bound* to *Timely* reflects the fact that CSUE does not currently employ time-bound target-setting for most of our program efforts, yet it is important that our work aligns with current events.) Let’s consider these SMART criteria when looking at potential indicators related to our sustainable energy example.

Potential Indicator	Specific	Measurable	Attainable	Relevant	Timely
Number of households that have implemented sustainable energy best practices (m-t outcome)	?	x	x	x	x
Number of households with increased knowledge of costs and benefits of sustainable energy measures (s-t outcome)	x	x	x	x	x
Number of solar assessments conducted (output)	x	x	x	x	x
Number of utility rebate applications facilitated (output)	x	?	x	x	x
Number of sustainable energy workshops provided (output)	x	x	x	x	x
Number of hits to sustainable energy website (output)	x	x	x	x	x

Most of these potential indicators meet the SMART criteria. The “Number of households that have implemented sustainable energy best practices” is the **actual goal** trying to be achieved. It can also serve as an “indicator” if it can be directly measured, as will likely be the case with immediate, short-term, and some medium-term outcomes. This particular indicator may be questionable, however, because it does not identify what qualifies as a “sustainable energy best practice”. The team can instead use something like “cost-effective solar energy” in place of “sustainable energy best practices” if solar is a focus of the team’s efforts.

An individual or program team may choose to track some or all of these sample indicators. However, in order to maintain focus on achieving your goal or intended outcome, it is suggested that you choose no more than three of them as **key indicators**. A **key indicator** is one that communicates the most significant results of your work to key stakeholders/funders. (Key indicators by themselves do not usually tell a complete story of your impact, but they can help round out a story in combination with strong qualitative evidence.)

Because the purpose of a key indicator is to communicate significant results to key stakeholders, it is critical to think about what is relevant to County Commissioners, legislators, and others who provide funding to Extension. Most of these stakeholders are interested in medium-term/applied value (i.e. changes in behavior, practices, and decision-making) and long-term/realized value (i.e. changes in social, economic, and environmental conditions). Realistically, they also may be interested in more traditional measures of outputs. When considering use of an output as a key indicator, the following guidelines can be helpful:

- **Is the output unique to Extension?**
- **Could it have special significance or meaning to key stakeholders?** (This is where, as part of your diverse network, you might ask Commissioners what they want to know about your Extension programming.)

- **Does it pass the “do you believe me test”?**

The “Do You Believe Me?” test is a question you can ask yourself before finalizing indicators/key indicators. To take the test, simply complete the sentence: “Do you believe that [*insert goal/outcome*] because [*insert indicator*]” (Chemonics, 2018). For example, would you believe that [households adopted sustainable energy best practices] because [Extension facilitated 30 utility rebate applications]? Maybe; maybe not. This sole output is likely not sufficient to convince stakeholders that Extension achieved its goal. But would you believe that [households adopted sustainable energy best practices] because [Extension facilitated 30 utility rebate applications] **and** because [30 households installed cost-effective solar energy]? That is hard to argue with.

Even if you can’t measure your intended outcome directly, using a theory of change to ensure that outputs or short-term outcomes are evidence of medium- or long-term outcomes can help you pass the “do you believe me” test. For PRUs, only **key indicator** data would be collected in Digital Measures so as to limit the statewide reporting burden and so that Extension’s collective story can remain more focused and digestible. (Other indicator data can be collected internally by PRUs.)

Tools for choosing key indicators

- SMART goals
- “Do you believe me” test

Step 7: Evaluation

Why Evaluate?

The final step in the PPI framework is to evaluate your efforts. Evaluation is a tool that enables you to:

1. measure your impact;
2. improve your program;
3. adjust your scope of work; and
4. refine the issues you address.

In essence, you go through the steps of the PPI framework clockwise when planning your program and then you go through the steps of the PPI framework **counter-clockwise** to evaluate your efforts. In order to accomplish these four purposes of evaluation, you need to be strategic about **who to evaluate, what to evaluate, when to evaluate, and how to evaluate**. It is also important to understand how to analyze and make use of evaluation data.

Who to Evaluate

Before diving in, we can again acknowledge that the PPI framework applies more to formally planned programs and less to impromptu or “reactive” services such as phonecalls and emails. Therefore to the extent feasible, you will want to evaluate those who have participated in formally planned activities that are part of an overall program strategy. This would include activities such as classes, workshops, demonstrations, consultations, online content development/delivery, newsletters, etc.

Of course if being available for incoming calls and emails makes up part of your overall strategy to achieve an outcome, you may also be able to evaluate those activities at some level. This could range from providing a link to a very short survey immediately following the interaction all the way to contacting all phone/email clients at the end of a calendar year with a more in-depth survey about the impact of Extension services provided.

What to Evaluate: Indicators

When evaluating indicators, it is imperative to have a firm understanding of how data for that indicator are to be collected and reported. In particular, when evaluating a team program effort the team should be clear on the source of data, any type of formula or method needed to calculate indicator data, and who is responsible for collecting and reporting data (George Washington University's Strategic Management & Performance Systems Certificate Program, 2019). Let's look at the sample key indicators from the sustainable energy team:

Indicator	Data Source	Method for Calculating	Responsibility
Number of utility rebate applications facilitated	Client confirmation	Count when receive a confirmation that a rebate application has been submitted by the client	Individual staff who facilitate applications
Number of households implementing cost-effective solar energy	Client self-reporting via survey	Count when surveys indicate a household has installed solar with an expected payback period of <10 years	Extension specialist on behalf of program team

While more detail is needed for a member of the program team to be able to collect indicator data (like which survey is referenced and how is it accessed), this table should give you a sense of what will ensure the reliable collecting of indicator data. It should be also noted that more mature programs are likely to benefit from thorough collection of indicator data because indicators tend to be used more for measuring impact and telling stories (summative) than for improving programs (formative).

What to Evaluate: Program

While collecting indicator data can help you measure your impact, program evaluation allows you to gain insight into your logic model/theory of change and client satisfaction. To test your logic model/theory of change, you'll want to understand whether a certain output may have led to a short- or medium-term outcome or whether a certain short-term outcome may have led to a certain medium- or long-term outcome. In the sustainable energy example, you may wish to test whether your list of contractors helped clients find a contractor or whether easier access to rebates facilitated installation of a cost-effective solar energy system. Similarly, you can gauge whether your sustainable energy workshops, website, and assessments increased knowledge of sustainable energy best practices. In another example, you may want to test whether your Extension newsletter had its intended impact of referring clients to funding opportunities. Although typically you can only establish causation with a well-funded, robust research effort and in-depth data analysis, you can ask evaluation questions that may start to establish correlations regarding your theory of change.

In addition to testing your logic model or theory of change, you can also gauge client satisfaction with the various elements of your program. For instance, you can try to understand how easy it was to navigate the sustainable energy website, how satisfied clients were with the solar assessments, and what else they would recommend for your program. It is essential to allow for open and honest feedback and suggestions to come forward during this piece of the evaluation so that you can continually improve and grow your impact. Providing your clients space to share open-ended feedback is a great way to do this, and quoting clients anonymously or with consent can be an effective way to show support for Extension programs.

What to Evaluate: Scope of Work and Issues

Evaluation offers an opportunity to check in with your clients about the appropriateness and effectiveness of your scope of work. Did you define the problem, goal, and target audience in a way that aligns with the reality on-the-ground, or do you need to calibrate?

In our sustainable energy example, we had defined the scope of work as **Households (target audience) adopt sustainable energy best practices (goal/outcome) in order to save energy and money (problem)**. To understand whether or not you reached your target audience, you can find out if you served clientele representing a household, business, or the energy industry. You may choose to go deeper to understand whether the households that participated rent or own their homes. Evaluating your target audience also includes asking demographic questions such as race, ethnicity, and gender. Although these demographic questions are required for reporting to USDA, answers can also shed light on who you are reaching well and who else you may want to target for future programming efforts. It may take extra effort to reach traditionally underrepresented/marginalized populations with Extension programming, and evaluation can help gauge your success.

A simple inquiry into client motivation for programming can help you evaluate the appropriateness of your goal/outcome and focal problem. For example, did the households attend the sustainable energy program in order to save energy and money, or were they motivated by something else like climate change? You can also inquire as to whether clients are interested in Extension programming on other issues. Questions such as these can take place as part of a formal evaluation or through less formal methods associated with an environmental scan. In evaluating your scope of work and issues, you are really connecting the evaluation at the end of the program planning process back to Environmental scan at the beginning of the process.

What to Evaluate: Checklist

To summarize, a comprehensive evaluation will collect information on:

- ✓ Indicators
- ✓ Your logic model/theory of change
- ✓ Client satisfaction (including open-ended feedback)
- ✓ Client demographics and attributes
- ✓ Your scope of work
- ✓ Other issues that may be of interest to your clientele

When to Evaluate

With a better understanding of who and what to evaluate, we can move on to *when* to evaluate clientele. There are many options for when to deliver an evaluation, and each option has pros and cons.

When to deliver an evaluation depends on:

- Purpose – is it for program improvement (formative) or measuring impact (summative)?
- Program dosage (how long and how often participants were part of a program)
- Evaluation of immediate/short-term indicators vs. medium-/long-term indicators
- Desire for statistical analysis

The table below compares and contrasts different evaluation designs based on when the evaluations are delivered. It utilizes information from University of California Extension's Key Survey Design Considerations for Program Evaluation in Cooperative Extension (Alviz, 2015).

Evaluation design	Description	Pros	Cons	When to use
During the program	Delivered in the midst of a one-off or multi-part program	Can improve the remainder of your program	Clients may request program changes that aren't feasible	For one-off programs, use to adjust the remainder of your program to ensure client satisfaction. For multi-part programs, use for this purpose and/or to assess immediate or short-term value in line with your logic model/theory of change.
After-only (immediate)	Delivered immediately after a program	Can capture most elements of a comprehensive evaluation	Cannot capture medium- and long-term indicators. No comparison data.	When wanting to deliver a fairly comprehensive evaluation that targets immediate and short-term indicators without the need for comparison data
After-only (follow up)	Delivered weeks to months after a program is completed	Can capture all elements of a comprehensive evaluation	Depending on "program dosage" (time spent in the program) and the time interval following program completion, clients may not be able to provide accurate feedback. No comparison data.	When wanting to deliver a comprehensive evaluation for a resource-intensive program that targets medium- and long-term indicators. Can be used in conjunction with after-only evaluations to more accurately capture feedback on client satisfaction and immediate and short-term indicators.
Pre-post (immediate or follow up)	Delivered both before and after a program	Can statistically assess indicators	Requires delivery of the same evaluation questions at two different times. Certain pre-post tests may be subject to "response shift bias" wherein clients may underestimate program effects. Requires tracking of pre- and post-program evaluation by respondent.	When delivering a resource-intensive program that would warrant robust comparison data. Commonly used when trying to statistically assess short-term indicators such as knowledge gain.
Retrospective pre-post (immediate or follow up)	Delivered once following a program	Can statistically assess indicators in a single evaluation	Is subject to "motivational bias" wherein clients may overestimate program effects in order to consciously or subconsciously please program administrators	When wanting to deliver a comprehensive evaluation for which statistical analysis would be beneficial. More appropriate for examination of subjective experiences of program-related change (i.e. participant interests) (Hill & Betz, 2005).

In the sustainable energy example, let's say you delivered a workshop that was part of an overall goal to increase installations of cost-effective solar energy. While an immediate after-only evaluation could gauge increases in knowledge of sustainable energy and awareness of contractor lists, a follow up evaluation could also gauge whether increases in knowledge and/or awareness may be correlated with installation of cost-effective solar energy. It would take two separate evaluations to accomplish this with pre-post methodology, but only one with a follow-up retrospective pre-post evaluation. Note, however, that a retrospective pre-post test is limited by the potential for motivational bias on behalf of respondents and may not be accepted for publication in some instances (Taylor, Russ-Eft, & Taylor, 2009).

The time interval to wait before disseminating a follow up evaluation should depend both on program dosage and when you reasonably expect that a desired change could occur. Follow up evaluation for low dosage programs (i.e. a single 1-hour workshop) could be disseminated within three months of the program, for example, whereas follow up evaluations for high dosage programs (i.e. a series of six 3-hour classes) could be disseminated 12 months after the program has ended.

How to Evaluate: Methods

Formal evaluations can take on different forms such as focus groups, interviews, and surveys. Because each of these methods can be delivered before, during, or after a program, your choice of method largely depends on "what" and "who" you are evaluating. As mentioned in the table from Step 2 (Environmental scan), resource-intensive focus groups and interviews allow you to collect richer sets of qualitative data, whereas surveys allow you to collect a large quantitative data set relatively quickly and easily.

If using a survey, you have to choose between delivering it in-person, via mail, or online. This decision may be influenced by a number of factors, but one of those factors should be "who" you are evaluating. Seniors, for example may be less inclined to respond to online surveys whereas there is some evidence that the opposite may be true of youth (Olson, 2018). Online surveys tend to be more efficient because you do not have to enter paper survey responses by hand and because online survey platforms like Qualtrics can do much of the analysis and presentation of data for you.

How to Evaluate: Survey Validity and Reliability

With the utility and ease of surveys making them an especially common method of evaluation in Extension, it's important that you consider validity and reliability when constructing them. **Validity** refers to the extent to which an evaluation actually measures what it intends to measure. A tape measure is valid, for example, because when you compare it to a ruler you can verify that it will measure the length, width, or height of an object according to accepted units of measurement (i.e. feet and inches). **Reliability** refers to the extent to which an evaluation measures information consistently. The tape measure is reliable because it will measure the length, width, or height of an object the same way every time (Michigan State University, 2018).

In our sustainable energy example, asking survey respondents whether they applied for a utility rebate may provide reliable responses but this would not be a valid way of measuring implementation of cost-effective solar energy. This is because applications may be rejected, the rebate may have been for a different sustainable energy project, or applicants may not have followed through with a project. Conversely, asking survey respondents whether they installed cost-effective solar energy may be a valid way to collect information, but it would not be reliable unless a clear definition of "cost-effective" is provided.

Validity can be determined by statistical analysis, expert review, or comparison with other data. Reliability is often determined by administering the same survey questions at two different points in time and comparing results, but it can also be determined through statistical analysis. Note that validity and reliability are often determined by sets of survey questions, not just a single survey question. Use of whole surveys that have been peer-reviewed and published (referred to as *validated surveys*) can ensure that your surveys are valid and reliable. Such surveys can be found through 4-H Common Measures, the Journal of Extension, Google Scholar, and other means (Michigan State University, 2018). If no such survey is appropriate and available, Extension specialists or CSU faculty may be able to help determine the validity and reliability of a survey.

Keep in mind that for many Extension programs, surveys should be *subjectively* valid and reliable but they don't always need to be *statistically* valid and reliable. The level of rigor that you use to determine survey validity and reliability should be a function of resource availability, stakeholder expectations, and utility (whether or not you want to publish results, for example).

How to Evaluate: Writing Survey Questions

In addition to ensuring surveys and the questions within them are both valid and reliable, a number of other considerations come into play when writing survey questions. These include the following:

- **Necessary and useful.** Only include questions that serve a distinct, defensible purpose in your evaluation.
- **Accessibility.** This means that potential respondents with different abilities and attributes should be able to answer the questions. In general, questions should be written at a 5th – 6th grade literacy level (Michigan State University, 2018). Having questions available in other languages that may be relevant to your potential respondents (i.e. Spanish) is also important.
- **Level of specificity.** Questions that are too general may not provide you with useful information and may be difficult to respond to accurately. On the other hand, questions that are too specific may not apply to many respondents.
- **Unbiased.** Questions should not lead a respondent to provide an answer they think you want to hear.
- **Sensitive.** It is important to avoid being too direct when asking questions, especially if you are asking about potentially sensitive topics. Only ask questions to which you think respondents will respond truthfully. When asking a potentially sensitive question, consider using response brackets that cover a range of responses (i.e. income between \$25,000-\$50,000).
- **Not double-barreled.** Avoid posing questions that cover multiple topics or traits simultaneously. For example, do not ask respondents if they agree that “the length and content of the workshop was appropriate” because they may have different opinions about the length vs. the content.

In some cases, you may also wish to clarify the **time parameters** of a question. For example, instead of asking whether someone has installed solar energy, asking whether they installed solar energy *in the last year or since your workshop* may help you better understand the context of their response (Trochim, 2005). As a practical matter, you may also want to find a balance of open-ended and closed-ended (i.e. multiple choice, scales, etc.) questions. While open-ended questions allow for input of any kind to come forward, they require much more work to analyze.

Once you have developed questions, you generally want to order them from easier-to-answer to harder-to-answer. Related to this, you also want to start with more general questions before inserting more

specific questions (an approach called “funneling”). This provides some level of comfort to the respondent and may even help jostle information from the respondent as the survey progresses. If you are using an online platform such as Qualtrics, you can use “display logic” to only show more specific questions based on responses to the general questions. When moving from one topic to the next, consider inserting text that explains the transition clearly to the respondent. (“Now we’re going to ask you questions about your experience at the workshop”, for example.) Always keep in mind the Golden Rule when constructing surveys and survey questions: is this survey one that you would feel good about responding to (Trochim, 2005)?

How to Evaluate: Survey Response Types

There are many different ways that survey questions and responses can be framed, including multiple choice, ranked order, and open-ended. Each one of these question/response types allows for different types of quantitative analysis based on levels of measurement referred to as scales.

Nominal scales refer to scales in “name only”. For example, when asking “Did you apply for a utility rebate” you may assign numbers 1-2 to multiple choice responses of Yes or No. The numbers have no meaning but simply serve as identifiers. Coding responses to open-ended questions is another example of using a nominal scale. Nominal scales lend themselves to calculations of frequency and percentage, such as calculating the most common responses and the percentage associated with each response.

Ordinal scales refer to scales that are associated with a certain “order”. When asking respondents to self-identify an increase in knowledge of sustainable energy best practices from 1 (Very low) to 4 (Very high), you are using an ordinal scale. Ordinal scales lend themselves to calculating frequencies, percentages, and median responses such as the median for knowledge increase = 3.1.

Interval scales are similar to ordinal scales but also imply that the interval between all responses is the same. When asking respondents to identify their annual energy savings in dollars, you are using an interval scale. Interval scales lend themselves to calculate everything from the previously mentioned scales plus means and standard deviations. **Ratio** scales are the same as interval scales but include a potential value of true zero (a complete lack of the variable of interest) (Trochim, 2005).

In Extension, we often ask questions about level of increase, level of agreement, or level of satisfaction. While statisticians generally label these as ordinal scales, it is common practice to treat them as quasi-interval. This means that although the differences between Extremely Satisfied, Satisfied, Dissatisfied, and Extremely Dissatisfied may not be exactly the same (for example), you can still calculate means and standard deviations. Note, however, that ***analyzing means and standard deviations from quasi-interval scales may not be acceptable if trying to publish data in an academic journal***. Thinking in advance about what you want from the data and how you plan to use the data will help you choose appropriate response types for your questions.

Survey Response Rates

Surveys can be very useful in Extension work, but surveys with low response rates may be more limited in what they reveal from their data. (They may tell you about your respondents, but you will be less able to generalize conclusions to a broader population (Boyd, 2002).) A response rate is simply the number of responses divided by the number of people who received the survey. If you received 40 responses out of the 100 people to whom you had sent the survey, you would have a 40% response rate.

It is difficult to provide an expectation for survey response rates because they depend on many different factors. However, recent research has shown that online academic surveys are likely to receive higher response rates if they follow these recommendations (Saleh & Bista, 2017):

1. Request the aid of authority figures, known personnel, or organizations to the target population to distribute the survey when possible.
2. Target a population that is more likely to have an interest in the research.
3. Offer an incentive for completing the survey.
4. Make every effort to write a survey that is short and concise.
5. Inform the population of the approximate time it will take to complete the survey. (Qualtrics provides this, or you can time yourself completing the survey.)
6. Whenever possible, reduce the number of or eliminate open-ended survey questions.
7. Assure the participants of the anonymity and confidentiality of their responses.
8. Explain how the collected data will be handled, accessed, and stored (and/or disposed of) after the study is completed.
9. Personalize invitations to participate in the study and make them look professional.
10. Send at least one - but not more than three - reminders to the target population to motivate them to complete the survey.
11. Be aware of the time constraints related to time-of-year for the target population (i.e. farmers are busier during the growing season).

Data Analysis

After receiving responses from an evaluation, the next step is to analyze the data. When considering evaluations that are comprehensive in nature, analyzing nominal and ordinal data concerning other issues that may be of interest to your clientele, your scope of work, client demographics and attributes, and client satisfaction typically involves calculating frequencies, percentages, and medians or means. These kinds of quantitative analyses that describe or summarize the basic features of data are referred to as **descriptive statistics** (Trochim, 2005). For example, you may want to know how many times different issues of interest were raised by clientele, what percentage of your clientele were Latinx, or the mean level of satisfaction with your program.

Analysis of your logic model/theory of change and your indicators may be as simple as applying descriptive statistics, but it could also involve a deeper dive that is intended to uncover more meaning from the data. **Visualization** of the data (i.e. through charts and graphs) is one way to “see more” and go deeper with your analysis. Beyond that, **inferential statistics** are a kind of quantitative analysis that is used to reach conclusions that extend beyond the immediate data, such as causation between variables (Trochim, 2005). Extension specialists and [CSU's Stat Lab](#) can be consulted about inferential statistics. The Stat Lab provides general consulting for free and other consulting through hourly fees.

Evaluation Plan: Putting It All Together

With all there is to consider regarding evaluation in Extension, it may be helpful to bring it together in an evaluation plan. Using our sustainable energy example, we can imagine that the program team administered a retrospective pre-post (**when**) online survey (**how**) to all workshop attendees (**who**) one week after the workshop. The program team also decided to administer a second online survey to clients for whom they facilitated utility rebate applications during the previous year. An evaluation plan would capture this along with **what** the team wants to evaluate as follows:

Who to evaluate	What	When	How
Workshop attendees	<p>Client satisfaction</p> <p>Increased knowledge of sustainable energy best practices (indicator)</p> <p>Motivation for attending (focal problem/goal)</p> <p>Other issues of interest</p> <p>Demographics & attributes (including target audience)</p>	Retrospective pre-post one week following workshop	Online
Clients receiving rebate facilitation	<p>Client satisfaction</p> <p>Effectiveness of contractor list (logic model)</p> <p>Effectiveness of rebate facilitation (logic model)</p> <p>Installation of cost-effective solar (indicator)</p> <p>Demographics & attributes (including target audience)</p>	Early in the calendar year following rebate facilitation	Online

As you can see, the two evaluations collectively cover all recommended evaluation content: **indicators**, **logic model/theory of change**, **client satisfaction**, **client demographics and attributes**, **scope of work**, and **other issues that may be of interest to clientele**.

Resources for evaluation

- [4-H Common Measures](#)
- [CSU Stat Lab](#)
- [Michigan State University Evaluation course](#)
- [Wisconsin Extension evaluation resources](#)

Reporting Impact

The collection and analysis of evaluation data is essential for both program improvement and sharing of results with your network, including key stakeholders. The impact of your programs can be reported quantitatively and qualitatively. Specifically, data for key indicators can be reported through CSU’s Digital Measures (DM) reporting system, otherwise known as the Faculty/Staff Activity System (FSAS). Narratives can also be reported in DM and can be used to describe the issue you addressed, what was done to address the issue (your program), the results, and participant feedback. To the degree possible, include your theory of change/logic model in your narrative in such a way that a stakeholder could understand why your activities are important in the context of achieving a larger goal/outcome. Narratives in DM can then be readily converted into impact stories and media releases to be shared with others.

Program activities (outputs) can also be reported in DM, including consultations, presentations, publications & media, material distribution, and more. Although DM is limited in its capacity to produce data visualizations, some Extension personnel have used it to conduct some form of analysis. For example, you can categorize your consultations by topic/issue and compare the numbers of consultations you provided on each issue at the end of a calendar year. In this way not only are you able to report on your program efforts for accountability purposes, but you are also able to see where needs were and adjust future program offerings accordingly.

Summary

The CSU Extension Program Planning for Impact framework is a tool to help both individuals and teams maximize the impact of programming in communities. It works by helping you to first identify the issues where you can have the greatest impact, and then to plan for and execute impactful programming by clearly defining your goal and theory of change to achieve that goal. The PPI framework has a built-in evaluation component that extends naturally from the program planning process and that can help you both improve programs and demonstrate impact.

Program planning efforts for individuals are captured in Plans to Invest. For PRUs, they are captured in Plans of Work. New for 2021, county Extension offices can create County Program Plans (CPPs). PRU Plans of Work can utilize CPPs as a form of environmental scan when choosing issues to work on statewide. Individuals can connect their Plans to Invest to both PRU Plans of Work and CPPs. In this way, the relationship between individual, local, and statewide efforts can be formalized and efficient.

While the PPI framework is especially useful for more strategically planned programs, it can also be used when planning quick responses to issues that arise suddenly. A snapshot of your program plans can be captured in what's called an Issue Canvas ([Appendix M](#)). Use of an Issue Canvas can be particularly helpful when a program team needs to come to agreement on a strategic or spontaneous program plan. It can be applied when developing new programs or in order to clarify goals and other program planning elements for existing programs. The sustainable energy program plan as well as another sample Issue Canvas are provided that Appendix.

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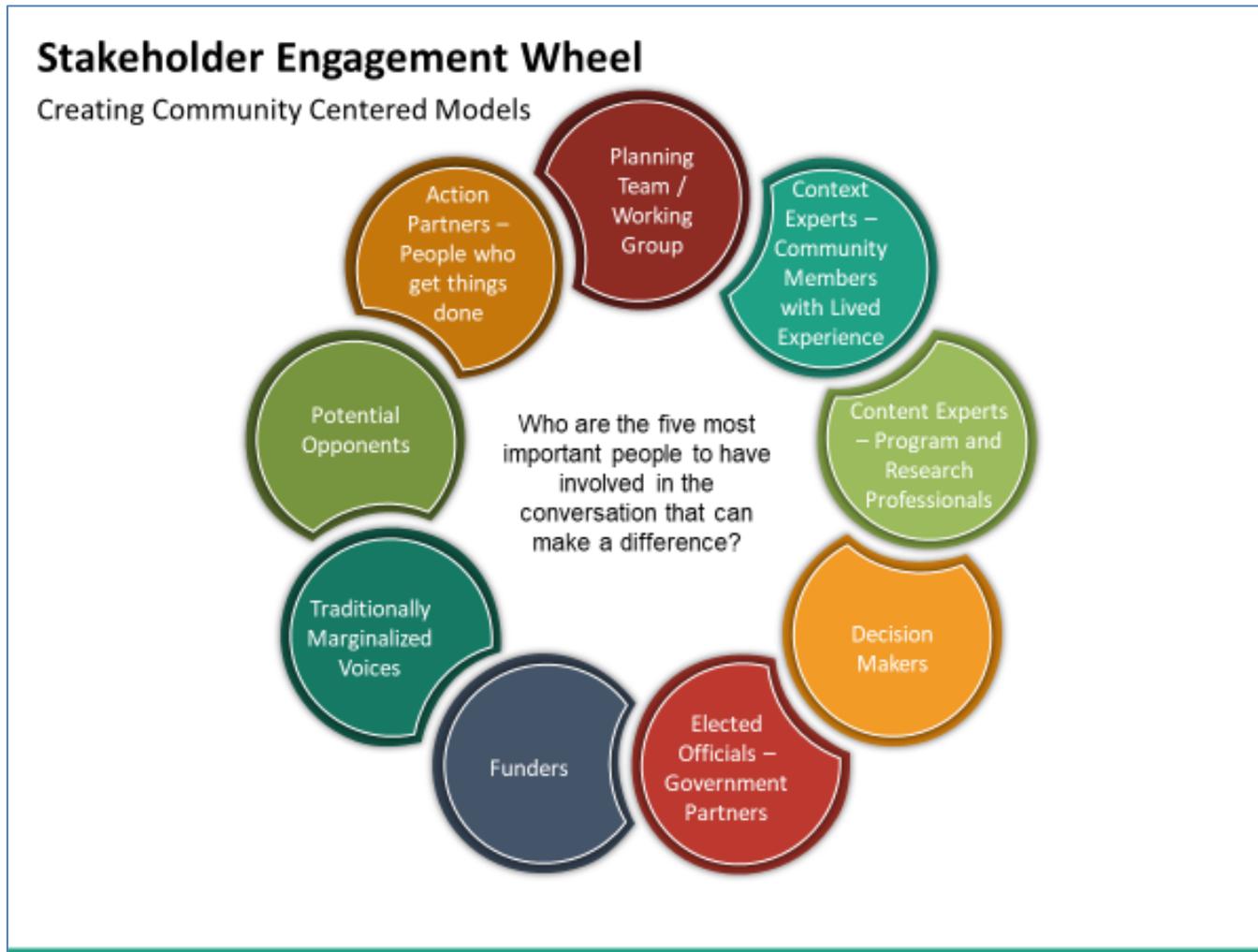
Working Group Contributors

This guidebook is the result of a team effort over an eight-month period in 2020. The lead author is Cary Weiner, Assistant Director of Program Support for CSU Extension. Other contributors included Susan Carter, Jessica Clifford, Deryn Davidson, Christine Fruhauf, Jean Glowacki, Michael Martin, Marvin Reynolds, and Seth Urbanowitz. Professor Emeritus David MacPhee made significant contributions to the Evaluation section.

Appendices

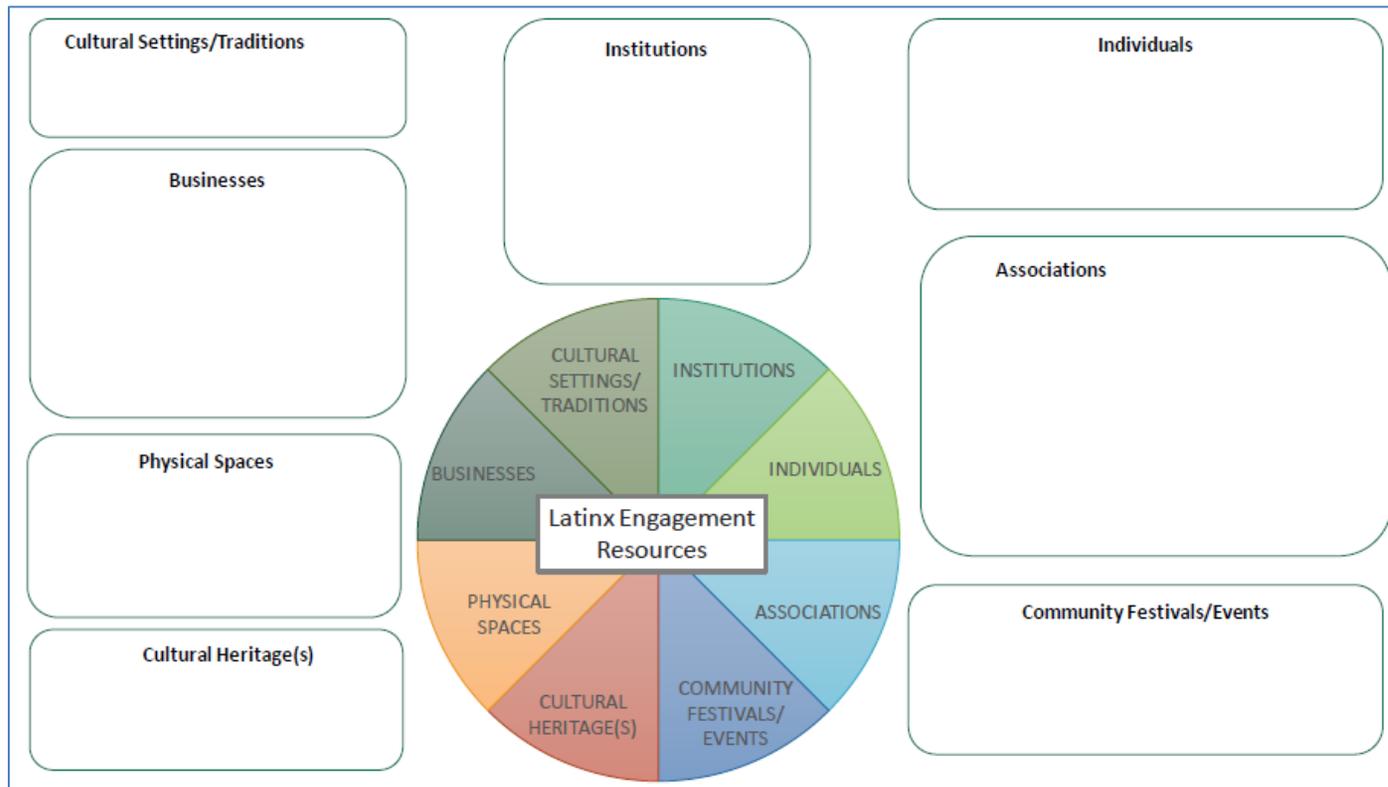
Appendix A: Stakeholder Engagement Wheel

Credit: Patti Schmitt, Director of the Family Leadership Training Institute



Appendix B: Community Engagement Resource Chart

This chart helps to identify local resources that may be tapped in order to engage with the Latinx community, such as cultural settings, traditions, businesses, physical spaces, cultural heritage(s), institutions, individuals, associations, and community festivals and events. The chart can be completed with information gathered from local partners and ***it can be adapted to engage other groups that have been underrepresented in CSUE programming***. Staff have also used online databases of nonprofit organizations and service providers, as well as individual program websites, to research and record information about various resources on this chart. Examples of resources for the Latinx community are provided below (*courtesy of Erika Sandoval, Diversity & Inclusive Engagement Specialist, Front Range Region, CSUE*).



Latinx Community Engagement Resource List

Cultural Settings/Traditions

Home, church, special gatherings, cultural group performances

Businesses

Spanish language media, (Hispanic) Chamber of Commerce, business associates, restaurants, food trucks, specialized stores, travel agencies, banks/credit unions, remittance locations, farmers markets, Latinx-owned, run companies

Physical Spaces

Gardens, parks, playgrounds, parking lots, bike paths, walking paths, forest (s), preserves, picnic areas, campsites, fishing spots

Cultural Heritage(s)

Rites of passage, special holidays, hometown assistance, family stories, artistic traditions, traditional agricultural knowledge, special recipes

Institutions

Schools, afterschool programs, universities, Community Colleges/Technical Training Programs, libraries, community-based organizations, museums, local government, hospitals, social service agencies

Individuals

Elders, parents, youth leaders, youth workers, respected yard duty/security, Latinx-serving program leaders, artists, entrepreneurs/business owners, activists, extended family networks, (in)formal Latinx community leaders

Associations

Hometown associations, unions, tenant/neighborhood associations, business associations, health/fitness groups, cultural groups, elder groups, advocacy networks, family support groups, heritage groups, hobby & collectors groups, charitable groups, Latinx fraternities/sororities, mutual/immigrant support groups, political organizations, service clubs, veterans' groups, youth groups, civic events groups

Community Festivals/Events

Sports tournaments, health fairs, special holiday gatherings, locally specific gatherings

Appendix C: Introduction to SOAR

Adapted from Colorado State University Talent Development

SOAR stands for strengths, opportunities, aspirations, and results. It is alternative to SWOT analysis that is rooted in a philosophy of appreciative inquiry. Appreciative inquiry uses questions to direct the focus of an individual or group toward the positive, actionable aspects of a situation. While SWOT analyses tend to be based on competition, iteration, and gaps, the SOAR model is based on possibility, innovation, and results (Newhard, 2020). The SOAR model was first put forth by Stavros and Hinrichs in 2019 (Stavros & Hinrichs, 2019).

To go through a SOAR analysis with a team:

1. Ask the **basic** or **expanded** set of SOAR questions (below)
2. Create a shared vision
3. Design strategic initiatives
4. Implement based on inspiration

SOAR Questions (Basic)

Strengths

- What are we good at?
- What can we build on?

Opportunities

- What are the possibilities?
- What is our diverse network of stakeholders asking for?

Aspirations

- What are our dreams and wishes?
- What do we care deeply about?

Results

- What are meaningful outcomes?
- How do we know we're succeeding?

SOAR Questions (Expanded)

Strengths

- What are we most proud of as an organization (division, department)? How does that reflect our greatest strength?
- What makes us unique? From this, what can we build on?
- What is our proudest achievement in the last year or two?
- How do we use our strengths to get results?
- How do our strengths fit with the realities of the marketplace?
- What do we do or provide that is world class for our customers, our industry, and other potential stakeholders?

Opportunities

- How do we make sense of opportunities provided by the external forces and trends?
- What are the top three opportunities on which we should focus our efforts?
- How can we best meet the needs of our stakeholders, including customers, employees, shareholders, and community?
- Who are possible new customers?
- How can we distinctively differentiate ourselves from existing, or potential competitors?
- What are possible new markets, products, services, or processes?
- How can we reframe challenges to be seen as exciting opportunities?
- What new skills do we need to move forward?

Aspirations

- What do we care deeply about?
- What can we be best at in our world?
- Reflecting on *Strengths* and *Opportunities* conversations, who are we, who should we become, and where should we go in the future?
- What is our most compelling aspiration?
- What strategic initiatives (i.e. projects, programs, and processes) would support our aspirations?

Results

- Considering our *Strengths*, *Opportunities* and *Aspirations*, what meaningful measures would indicate that we are on track to achieving our goals?
- What are 3-5 indicators that would create a scorecard that addresses a triple bottom line of profit, people, and planet?
- How do we know we are making a difference? Succeeding? Completing strategic initiatives?
- What resources are needed to implement our most vital projects?
- What are the best rewards to support those who achieve our goals?

Appendix D: Strategy Canvas Template

Adapted from George Washington University's Strategic Management & Performance Systems Certificate Program, 2019.

How to use this template

Why use it?

1. To visualize your niche against your other organizations working on similar issues
2. To visualize your current emphasis on specific "competitive factors" against your desired future emphasis (short-term and long-term)
3. To innovate/create a "Blue Ocean" of uncontested market space (niche)

When to use it?

At any time deemed appropriate to conduct a competitive environmental scan.

Instructions:

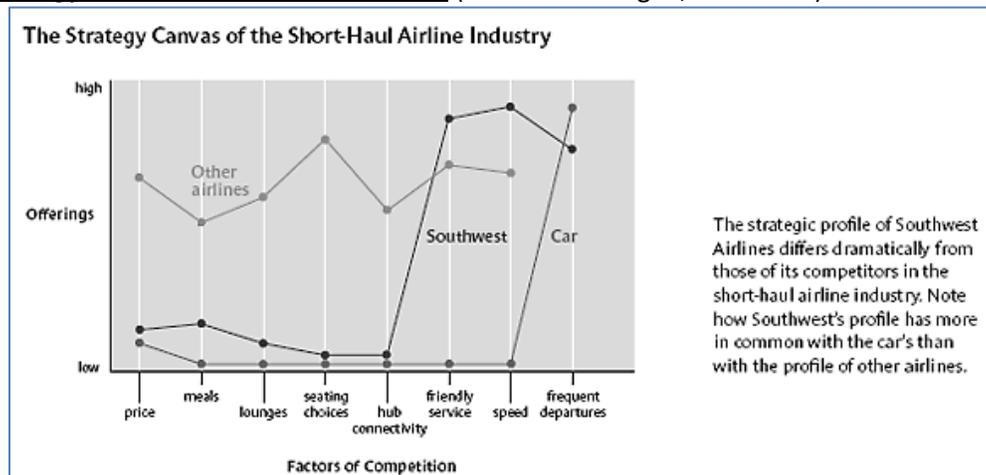
1. Read background information on Strategy Canvas [here](#).
2. Research, brainstorm and come to consensus on the key competitive factors in the issue space.
3. Create a Strategy Canvas. Plot the relative intensity of each competitive factor (scale 1-5) for your organization and other organizations in the issue space. Circle the factors in which significant differentiations are recognized.

COMPETITIVE FACTORS -

Use the brainstorming guidelines below to identify the key competitive factors.

- What are the factors your clientele consider when working with an organization on this issue?
- If you are a new entrant to the issue space, what factors would you include in your offering to differentiate yourself?
- Are there any attributes from services that other organizations provide that you would include in your competitive factors?
- Are there any unmet client needs in this issue space?
- Are there potential factors that your client may not even be aware of that, if met, might create uncontested space on this issue for your organization? (i.e. A circus with acrobats rather than animals, etc.)

Sample Strategy Canvas for Southwest Airlines (Kim & Mauborgne, June 2002)



STRATEGY CANVAS



Implications:

Appendix E: Sample Focus Group Protocol

Much of the following protocol comes directly from Donaldson and Franck's "Needs Assessment Guidebook for Extension Professionals" (2016).

Preparation

When planning and preparing for focus groups, consider the following:

- Secure a location that will be comfortable for the specific group you're expecting. Some groups may not be comfortable in a government building, for example, so be sensitive to those dynamics when selecting a location.
- Set up the room so that groups of seven to 10 people plus a moderator and recorder/note taker can interact comfortably. Round tables are good options for this. Also provide name tags and refreshments.
- Ensure that you have at least one recorder or note taker per group, and that these individuals have the equipment or supplies they need to record or take notes.
- If you think the focus groups may go longer than one hour, plan for a break after an hour.
- Review the list of "Moderator Best Practices" at the end of this protocol.

Introduction

The introduction sets the tone for the focus group. The moderator introduces her/himself and any others who are playing a working role in the activities (i.e., recorders, moderators). Also cover the following:

- Background: provide a high-level background about CSUE, including our mission to "empower Coloradans to address important and emerging community issues using dynamic, science-based educational resources."
- Purpose of the event: explain that the purpose of the focus group is to understand your perspectives on the issue or populations they've been chosen to represent so that CSUE can more clearly understand specific community needs.
- Confidentiality: explain that we have recorders/note takers because we want to make sure to capture your experiences and ideas. **That said, everything that you say is confidential. We ask that you do not share what others have discussed with people outside of this group.**
- Length of the focus group: Reiterate the agenda and time boundaries of the focus group, including any planned breaks.

Ground Rules

1. First, there are no right or wrong answers. We are interested in your opinions and perspectives on the needs of your community.
2. Second, you do not have to agree with everyone else in this room if that is not how you really feel. We expect people will have different views on these questions.
3. Third, we want you to feel comfortable saying good things as well as critical things. We are not here to promote a particular way of thinking. We just want to understand your viewpoints.
4. Fourth, we ask that you talk one at a time.
5. Consider other ground rules (such as turning cell phones off if possible) or opening it up to the group to suggest other ground rules (time permitting).

Sample Questions for an Issues-based Focus Group

1. I would like to start by learning more about each other. Can you introduce yourself and provide a little background on your work or experience with X issue?
2. Based on your background and experience, what do you see as some of the contributing factors associated with this particular issue in our community?
3. Are you aware of others who are working to address this issue/these issues, including potential partners for CSUE?
4. Knowing what you do about CSUE, can you suggest any kinds of strategies for us to develop and/or deliver educational resources to address this issue? Please feel free to suggest bold opportunities for how we might work in new ways.
5. If we were to develop and/or deliver these educational resources, what kinds of barriers come to mind about how people may find and access them?

Sample Questions for a Demographic-based Focus Group

1. I would like to start by learning more about each other. Can you introduce yourself and provide a little background on your work or experience with Y demographic?
2. Based on your background and experience, what do you see as some of the main issues facing this demographic in our community?
3. Can you think of any contributing factors associated with these issues (such as mental health being one possible contributing factor to homelessness)?
4. Are you aware of others who are working to address these issues, including potential partners for CSUE?
5. Knowing what you do about CSUE, can you suggest any kinds of strategies for us to develop and/or deliver educational resources to address these issues? Please feel free to suggest bold opportunities for how we might work in new ways.
6. If we were to develop and/or deliver these educational resources, what kinds of barriers come to mind about how people may find and access them?

When developing your own custom questions to ask, open-ended questions are best. For example:

- “Where does your child do homework?” rather than “Does your child do homework in your car on the way to school?”
- “What do you like best about...?” and “Think back...” questions usually work well.
- Question order needs to be logical; ordering questions from general to specific works well.
- Many focus groups use fewer than 10 questions.
- Avoid “Why” questions — Instead of “Why did you attend the Grain Conference?” ask, “What prompted you to attend the Grain Conference?”

Closing

To close, thank the participants for sharing their experiences and perspectives. Thank the moderators and recorders/note takers. End with an opportunity for participants to ask questions of you, time permitting.

Moderator Skills

The person conducting the focus group will be referred to as the ‘moderator.’ The first skill in moderating is the ability to “initiate and maintain a conversation with a stranger” (Frey & Oishi, 1995). A good moderator uses the following skills:

- Be mentally prepared.
 - Be alert, friendly and free from distractions.
 - Listen.
 - Be completely familiar with questions.
- Discourage any controlling talkers.
 - Look at other participants.
 - Look down while they are talking.
 - Cross your hands.
 - Change your posture.
 - Shuffle your notes.
 - More direct techniques — “Let’s take the next four minutes to silently write ideas for this question. [After four minutes] Now, I would like each person to share one idea at a time.”
- Control your reactions.
 - Remain neutral; don’t evaluate or judge in any capacity.
 - Keep your opinion to yourself.
 - Never say “that’s good” or “excellent.” Nod your head to encourage dialogue but don’t show agreement with an idea.
 - Think about what you are communicating verbally and nonverbally.
- Keep listening.
 - Do not defend or justify.
 - If a participant seems especially emotional (angry, euphoric, etc.), ask the person to describe how they feel.
 - Validate by saying, “I understand why you would feel that way. Tell me more.”
 - Validate by saying, “We’re trying to get as much information as possible, so I appreciate you. Would anyone else like to share?”
- Offer appropriate questions.
 - Use pauses and probes.
 - Ask your question then pause.
 - Don’t talk to fill the silence — allow people to think about the question.
 - After someone stops speaking and no one else responds, wait 5 seconds, then call on someone else to comment.
 - Probes:
 - “Would you explain further?”
 - “Tell me more.” or “Would you provide an example?”
 - “I don’t understand. Tell me more.”
 - Repeat the question.
 - Repeat the reply.
- Be flexible and consistent.
 - Moderators balance flexibility in questioning with consistency between and among different focus groups.
 - If everyone has spoken, ask if there’s anything else, then move on to the next question.

Participants should be having a conversation with each other; you are listening to that conversation.

Appendix F: Sample Key Informant Interview Protocol

Much of the following protocol comes directly from Donaldson and Franck's "Needs Assessment Guidebook for Extension Professionals" (2016).

When conducting key informant interviews, preparation is extremely important because interviews can be challenging if you ask about highly personal topics. Interviews mainly provide qualitative data (such as perceptions, values, opinions, and information from personal observation) in contrast to quantitative data (quantities, amounts, percentages, proportions, facts, etc.) (Witkin & Altschuld, 1995).

Although the list of sample questions below can be useful for your interviews, you'll want to review and customize them before starting your interviews. When you contact the interviewee to invite them to participate in an interview, it's important to know how long the interview will last. Practicing questions in advance and thinking through possible answers can help you gain a sense of how long the interview will take. A useful step is to interview coworkers to help determine the approximate length of the interview, to help build confidence in the questions and the interview process, and to identify any questions that are unclear. To be considerate of people's time and attention spans, ideally the interview should not last more than 30 minutes. The following procedure can help you to stay on task and on time:

1. If recording, test equipment the day before the interview. Purchase any needed supplies (i.e., batteries for the recorder).
2. Engage in some small talk to put the interviewee at ease.
3. Inform the interviewee that the purpose of the interview is for CSU's OEE to collect information for our comprehensive, statewide community needs assessment. Information provided by the interviewee will be used to understand important issues facing local communities in order to help ensure that local and statewide OEE resources align with community priorities.
4. Assure the interviewee that the interview is confidential.
5. If recording, get the interviewee's verbal permission to before recording.
6. Ask if the interviewee is ready for you to begin recording.
7. Conduct the interview, being sure to record responses verbally or in written form.
8. If you do not understand an answer, be honest and ask the interviewee to clarify for you.
9. Resist the temptation to offer advice about how to answer (Creswell, 1998).
10. Watch the time and do not go over time.
11. Thank the interviewee for participating.
12. Return to the office to review notes and reflect on the interview. Reflecting is important because it can provide a context for the interview. What was the mood of the person being interviewed? Were they engaged or distracted? Did they have an agenda separate from the topic of interest? What were the key findings from the interview?
13. If recorded, listen back to the recording and takes notes as needed.

Sample Questions and Interview Form

Date:

Participant name:

- Make the interviewee feel comfortable by starting with some small talk.
 - Provide a high-level background about CSUE, including our mission to “empower Coloradans to address important and emerging community issues using dynamic, science-based educational resources”.
 - Explain that the purpose of the interview is to understand your perspective on the issue or population you’ve chosen them to represent so that CSUE can more clearly understand specific community needs.
1. I would like to learn more about your experience working on X issue or in the Y (demographic such as Latinx) community. Can you provide me a little personal background?
 2. Based on this experience, can you help me understand more about the particular issue (or issues facing this demographic) in our community?
 3. Can you think of any contributing factors associated with this issue (such as mental health being one possible contributing factor to homelessness)?
 4. Are you aware of others who are working to address this issue/these issues, including potential partners for CSUE?
 5. (If you are in need of more informants, consider asking for a good contact at this point.)
 6. Knowing what you do about CSUE, can you suggest any kinds of strategies for us to develop and/or deliver educational resources to address this issue/these issues? Please feel free to suggest bold opportunities for how we might work in new ways.
 7. If we were to develop and/or deliver these educational resources, what kinds of barriers come to mind about how people may find and access them?

When developing your own custom questions to ask, consider the following:

- Start with prompts, such as “Describe for me...”, “Tell me about a time when...”, “Can you give me an example of...”, and “Tell me about a situation that...” (Gupta, 1999).
- If asking about behaviors, more accurate information is obtained when you ask about a specific time period rather than asking people what they “usually” do.
- The time period you select should correspond to the topic. For example, the last 12 months would apply to home ownership or pregnancy, whereas the last 24 hours would apply to eating dairy products.

Appendix G: Nominal Group Technique

Adapted from George Washington University's Strategic Management & Performance Systems Certificate Program, 2019

Note that this application of the NGT is specific to a SWOT analysis but it can be applied in many other situations as well.

How to use this template

Why use it?

To consolidate, clarify and prioritize the Opportunities, Threats, Strengths and Weaknesses.

When to use it?

Anytime there is a need to prioritize Opportunities, Threats, Strengths and Weaknesses.

Instructions:

This is highly structured process involves full participation by all team members. It is a non-threatening four step process that provides anonymity for individuals while ensuring broad based collection of opinion and analysis of opportunities, threats, strengths and weaknesses. Follow the four steps described below to complete a paper and pencil SWOT ranking process. *If anonymity is of high value to a team, modify the process so that team members provide their input via online (or some other confidential method).* Meet as a leadership team to review the findings, discuss the implications and draw preliminary conclusions.

STEP 1: SILENT GENERATION OF IDEAS

Each person silently thinks about the Opportunities, Threats, Strengths and Weaknesses and writes his/her thoughts on a blank sheet of paper. These are usually short written phrases. Each area (such as Strengths) is done separately. Everyone works alone silently during this step. (Another option is to have the team members fill out the worksheets prior to the meeting and then bring the sheets with them to the meeting.)

STEP 2: ROUND ROBIN REPORTING OF IDEAS

Next begin the round robin reporting of ideas using individuals' notes made in Step 1. Start with a volunteer, ask for one Opportunity from the individual's list and record it on the flip chart. Ask the next person for one Opportunity from his/her list and add it to the flip chart.

Continue with this process by asking each person to contribute one Opportunity until everyone has made a contribution. A person can choose to pass if they want to in this first round but eventually everyone is encouraged to make some contribution.

The round robin process of collecting Opportunities and recording them on the flip chart continues as long as people have new Opportunities to contribute. No critical discussion of the Opportunities is done during this step. When all of the Opportunities are recorded label each one with a number or a letter...this will help in Step 4. Repeat the same round robin process for Threats, Strengths and Weaknesses.

STEP 3: DISCUSSION: LOOKING FOR CLARIFICATION AND DUPLICATION

Now open up the discussion for the purpose of clarifying any of the ideas that were contributed. Team members are encouraged to ask each other the meaning of words and phrases that were recorded on the flip chart. Also, at this point combine any ideas that are basically duplicates on any given list, and categorize the remaining items as necessary.

The purpose of this step is to provide individuals the opportunity to give fuller explanations of their ideas. And secondly to combine any duplicate ideas so as not to split the ranking points. Make sure that ideas are not evaluated and do not allow arguments to develop.

STEP 4: RANKING OF OPPORTUNITIES, THREATS, STRENGTHS AND WEAKNESSES

Give each team member a set of OTSW priority sheets - one for Opportunities, one for Threats, one for Strengths and one for Weaknesses. Each person is to write on the appropriate sheet the number (or letter) of the Opportunities, Threats, Strengths and Weaknesses he/she believes most important or highest priority.

For example: On the Opportunity priority sheet each person will write the number (or letter) of the Opportunity he/she feels is of highest priority in the "1st priority" box, the second highest in the "2nd priority" box, the third highest in the "3rd priority box", etc. down to the fifth priority.

Collect all of the priority sheets and tally the rankings on a master sheet. Add up the score for each item. The items with the highest scores can be considered *preliminarily*, the highest priority. There are usually 5-6 items that float to the top as the highest priorities for each of the four areas – Opportunities, Threats, Strengths and Weaknesses. Write the number or letter of the highest priorities at the bottom of each tally sheet.

Appendix H: Core Competency Identification Tool

Adapted from upBOARD (upBOARD, 2020).

Interactive Excel spreadsheet available [here](#).

Get helpful background information on core competencies [here](#).

Core Competence Analysis is the process of identifying a company’s fundamental strengths and attributes that are unique and serve to differentiate it from its competitors, as well as how to capitalize on these core capabilities to build sustained competitive advantage. To be a true core competency, it must be relevant to the needs of customers such that they are strongly compelled to purchase your product or service, it must be difficult for competitors to imitate, and it must be applicable to a wide variety of potential markets accessible to the company.

Competencies	Description	Importance	Defensibility	Competency Strength
What are our key strengths (technologies, assets, business models, capabilities, etc.)?	What does this competency allow us to do?	How strategic is it for the future? (1 = Low; 10 = High)	Can competitors copy it? (1=Easy; 10=Hard)	Score of 15 or higher indicates strategic capability & likely differentiator
				0
				0
				0
				0
				0

Sample core competency analysis for Amazon

Competencies	Description	Importance	Defensibility	Competency Strength
What are our key strengths (technologies, assets, business models, capabilities, etc.)?	What does this competency allow us to do?	How strategic is it for the future? (1 = Low; 10 = High)	Can competitors copy it? (1=Easy; 10=Hard)	Score of 15 or higher indicates strategic capability & likely differentiator
Innovative infrastructure and logistics	Provide fast delivery	10	7	17
Effective customer relationship management	Deliver excellent customer service	8	4	12
Effective supplier relationship management	Provide a wide range of products at cheaper price	9	6	15

Appendix I: Cut Before You Add Tool

Adapted from George Washington University's Strategic Management & Performance Systems Certificate Program, 2019

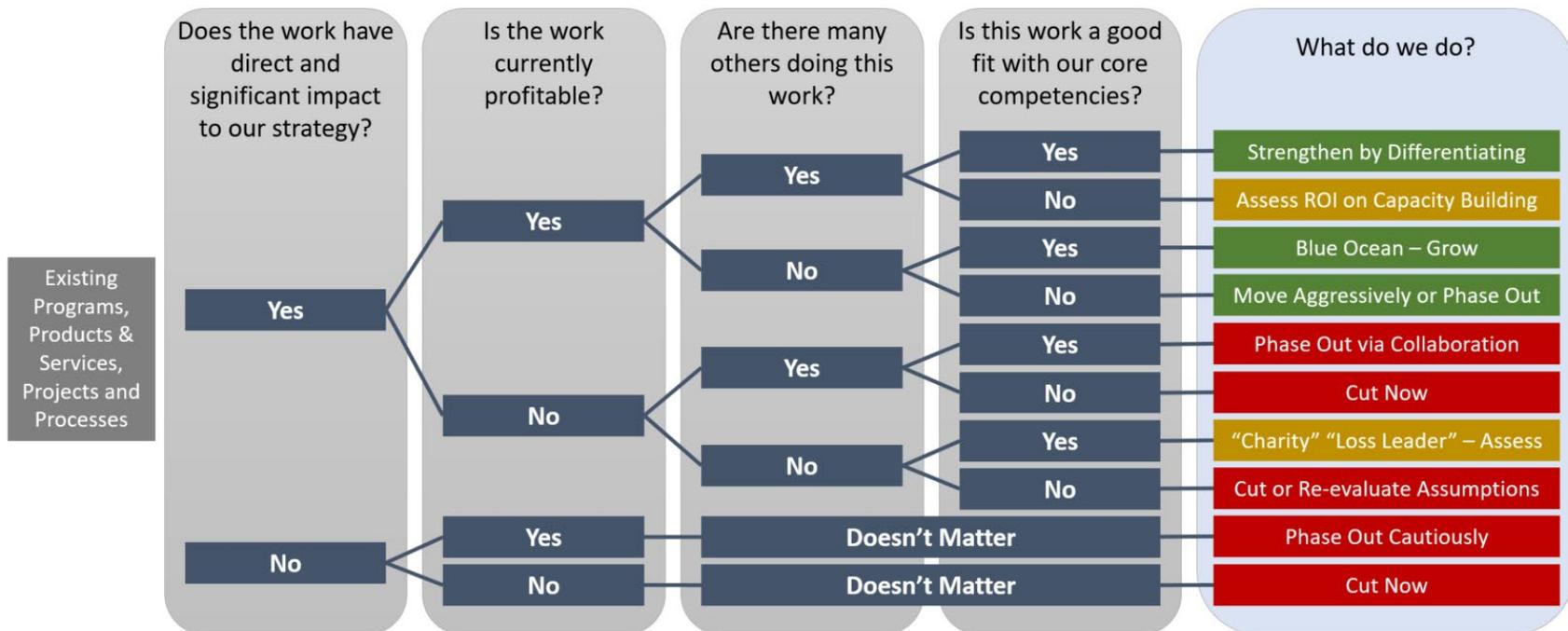
How to use this template

Why use it? – No matter how large or small, every organization has limited resources. Use this template to trim back current programs, products & services, projects and processes, so the team can focus on what's really important.

When to use it? – Prior to implementing new initiatives or when narrowing down areas of focus.

Instructions: Use this decision tree to evaluate your existing programs, products & services, projects and processes. Complete the Implications and Conclusions sections below. **NOTE: For public sector programs, instead of answering whether a program is "profitable", answer whether it is "successful" or "impactful".**

DECISION TREE



Modified from this article: <https://trinaisakson.com/wp-content/uploads/2014/04/27-Shift-MacMillan-Matrix-as-Decision-Tree.pdf>

Appendix J: 2x2 Prioritization Matrix

Adapted from George Washington University's Strategic Management & Performance Systems Certificate Program, 2019

How to use this template

Why use it?

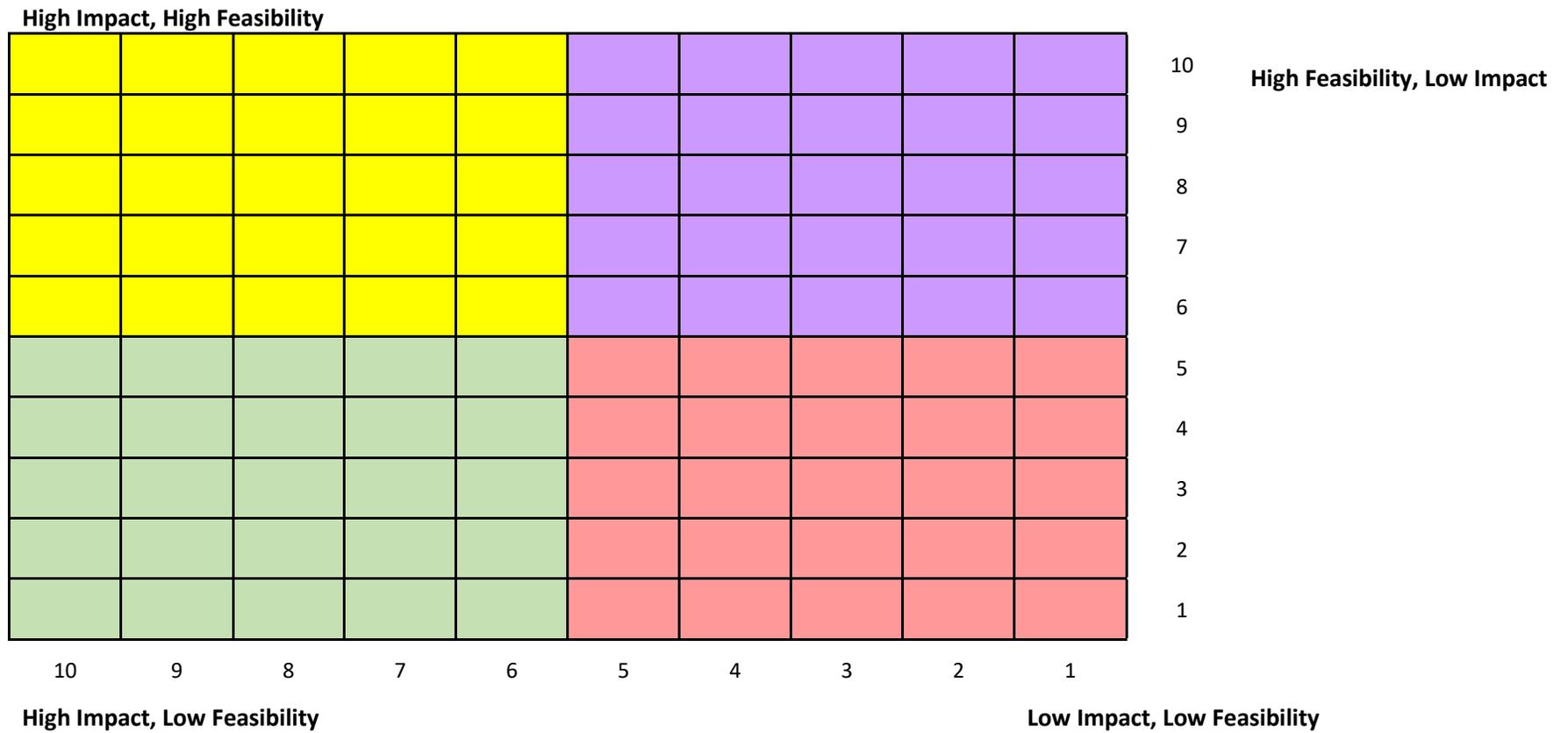
To help select strategic initiatives/issues that, through implementation, will help achieve impact/strategic results.

Instructions:

Team manager can use a three-step process (Compiling-Evaluating-Prioritizing) to facilitate group discussions. After a candidate list of issues/initiatives is defined, team members may use the prioritization technique (e.g. 2x2 matrix) to select the “vital few” issues/initiatives for implementation.

PRIORITIZATION QUESTIONS/TIPS

- Does this issue/initiative contribute in a significant way to the achievement of a strategic objective?
- Does this issue/initiative require significant “cross functional” support and therefore should be managed at a higher level?
- Does addressing this issue contribute to more than one objective?
(If an issue can contribute to more than one objective, that is a great use of resources and system thinking.)
- Does this issue/initiative have great potential for return on investment or impact?
- Does this issue/initiative have great benefits to clientele?



When running a 2x2 prioritization matrix as a team, individuals can assign ranks (1-10) for both Impact and Feasibility. Average the scores for each and plot each issue on a chart like the one above.

Appendix K: eXtension Idea Selection Tool (eXtension, 2020)

This tool can be used to help select issues or define a scope of work. It may also have some application in program development.

Example Idea: Farm-to-table fundraiser educational dinner with a scientist held at local research station locations around the state.



Instructions:

1. Rank issues (potential scopes of work, programs, etc.) on a scale for each factor shown above (a 1-10 scale can be used). Mark where each idea lands on the scale for level of potential for impact, innovation, urgency, ease, and passion.
2. Once all team members have had a chance to rank them individually, discuss as a team and come together on a shared ranking for each idea being considered.
3. Look for success by choosing an idea that trends high in all five measures.

The idea that trends the highest (when the x appears farther to the right) on the most factors, should be your priority idea and the one to try first.

Appendix L: Creating a Persona
(eXtension, 2020)

Persona¹² Name:

Picture:	Interests:	Powers:
Quote:		
Age:	Goals:	Daily Routine:
Profession:		
Bio:	Likes/Dislikes:	Motivation:

Objective

Identify your audience's characteristics to understand and build empathy.

Instructions

Identify your target audience(s). Use the template above to create at least one Persona for each audience identified. Refer to [this article](#) for additional information.

Appendix M: Issue Canvas Template and Examples

Issue Canvas

Note that some elements of the canvas may be more applicable to teams, strategic programs, etc. Use what is beneficial.

Issue:	Problem statement: (Brief description of the specific problem you are addressing)	Brief description of planned activities (outputs):	Key indicators: (Up to 3 that show unique value to key stakeholders)	How will data be collected and reported for each indicator?
How have you utilized a diverse network to plan programming on this issue?			(1)	(1)
	Goal/intended outcome: (Be clear on whether you are aiming for a change in knowledge/awareness /skills/attitudes (KASA), behavior, condition, etc.)	Theory of change: (How will your outputs result in achievement of your intended outcome? Cite/link to research/evidence if possible.)	(2)	(2)
			(3)	(3)
	Target audience:		Evaluation plan: (Who will be evaluated, when (after-only, pre-post, etc.), and how (i.e. online survey)?)	

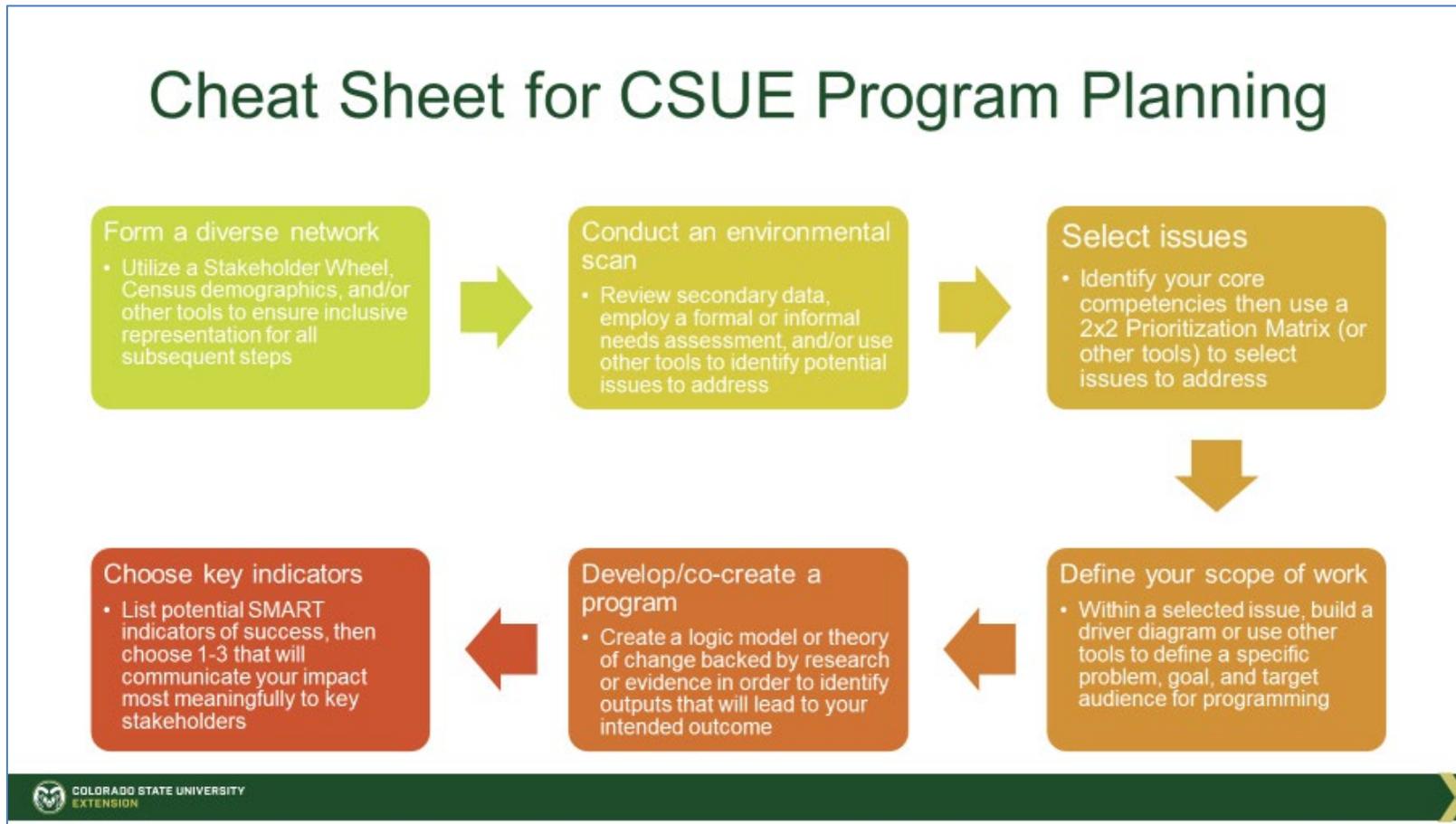
Sample Issue Canvas I

Issue:	Problem statement:	Brief description of planned activities (outputs):	Key indicators: (Up to 3 that show unique value to key stakeholders)	How will data be collected and reported for each indicator?
<p>Sustainable energy</p> <p>How have you utilized a diverse network to plan programming on this issue?</p> <p>Previous CSUE workshop participants, participants from the Low-Income Housing Energy Assistance Program (LIHEAP), the Colorado Energy Office, local sustainability non-profits, and rural electric cooperatives across Colorado formed a program team to establish a scope of work and theory of change of the program over the course of four months. This team also marketed to their own networks.</p>	<p>Coloradans are wasting energy and money through energy inefficient behaviors.</p>	<p>Development of workshops, a website, a list of sustainable energy contractors, and facilitation of utility rebates</p>	<p>(1) Number of utility rebate applications facilitated</p>	<p>(1) Count when receive a confirmation that a rebate application has been submitted by the client. Reported by individual who facilitates the application.</p>
	<p>Goal/intended outcome: (Be clear on whether you are aiming for a change in knowledge/awareness /skills/attitudes (KASA), behavior, condition, etc.)</p> <p>Adoption of cost-effective solar energy</p>	<p>Theory of change: (How will your outputs result in achievement of your intended outcome? Cite/link to research/evidence if possible.)</p> <p>Research has shown that making a list of contractors available and facilitation of rebates leads to the installation of cost-effective solar energy (Smith, 2009).</p>	<p>(2) Number of households that installed cost-effective solar energy</p>	<p>(2) Count when surveys indicate a household has installed solar with an expected payback period of <10 years. Reported by state staff aggregating data.</p>
	<p>Target audience:</p> <p>Households in utility service territories with high electricity rates as determined by Colorado utility rate schedules</p>	<p>Research has also shown that creating social networks and peer groups is essential to the adoption of new technology (Quinn, 2015).</p>	<p>(3) N/A</p>	<p>(3) N/A</p>
			<p>Evaluation plan: (Who will be evaluated, when (after-only, pre-post, etc.), and how (i.e. online survey)?)</p> <p>A retrospective pre-post online survey will be administered to all workshop attendees one week after the workshop. A second online survey will be administered to clients for whom utility rebate applications were facilitated during the previous year.</p>	

Sample Issue Canvas II (based on PRU Plan of Work template)

Courtesy of Deryn Davidson

Issue:	Problem statement: (Brief description of the specific problem you are addressing)	Brief description of planned activities (outputs):	Key indicators: (Up to 3 that show unique value to key stakeholders)	How will data be collected and reported for each indicator?
<p>HOA water use and landscape</p> <p>Do you plan to integrate Extension work on this issue with CSU research? If so, how?</p> <p>Yes. Research on water use and maintenance on conventional large acreage landscapes versus those on meadow/native grass landscapes will be integrated.</p> <p>Do you plan to collaborate with other states on this issue? If so, how?</p>	<p>HOAs are wasting water and other resources on highly managed landscapes.</p> <p>Goal/intended outcome: (Should be either a change in behavior/practice/decision-making or a change in long-term condition)</p> <p>Landscape conversion to less resource/maintenance intensive plant palette.</p>	<p>Development of BMPs including appropriate seed mixes; hold workshops with water providers for HOAs and others for Green Industry; and create list of area contractors who can provide this service. Offer to provide consultation/guidance on conversion.</p> <p>Theory of change: (How will your outputs result in achievement of your intended outcome? Cite/link to research/evidence if possible.)</p> <p>There is great interest in converting HOA landscapes to less water and resource intensive areas, however, there is a lack of contractors who know how do so successfully. By providing the research based information to both the HOAs and the Green Industry we will increase the opportunity and options for the work to be done.</p>	<p>(1) Number of HOAs that attend workshop</p> <p>(2) Number of HOAs that successfully convert landscape.</p> <p>(3)</p>	<p>(1) Collect number based on attendance.</p> <p>(2) Maintain list of HOAs and ask them to report when process begins and is complete.</p> <p>(3)</p>
	<p>Target audience:</p> <p>Colorado HOAs</p>		<p>Evaluation plan: (Who will be evaluated, when (after-only, pre-post, etc.), and how (i.e. online survey)?)</p> <p>Conduct post landscape conversion online survey with HOAs at 1, 3, 5 years and ask them to report out how much water savings they've experienced; cost savings on landscape maintenance. Conduct post landscape conversion survey with HOA residents on satisfaction of HOA managed property based on aesthetics and cost.</p>	



Note that this cheat sheet is intended to be an example of how to approach program planning at-a-glance. You may select tools for various steps of the program planning process that are not included here. This also does not show the step of Evaluation, which is an essential part of all programming efforts.

Appendix O: Summary Table of Program Planning Tools

Form a diverse network	Environmental scan	Select issues	Define your scope of work	Program development	Choose key indicators
American Community Survey	Secondary data/literature review	2x2 Prioritization Matrix	Driver diagram (or fishbone diagram)	"Degree of belief" assessment	"Do you believe me" test
Community Engagement Resource Chart	Focus groups	Core competency identification	ESRI LifeMode descriptions in CSUE County Profiles (to gain insight into target audiences)	Driver diagram (or fishbone diagram)	SMART goals*
CSU Extension County Profiles	Key informant interviews	Cut Before You Add	eXtension Idea Selection	eXtension Idea Selection	-
Stakeholder Engagement Wheel	PESTLE analysis	eXtension Idea Selection	RACI diagram (to delineate Extension vs. partner roles)	Logic model	
US Census	Strategy Canvas	Strategy Canvas	Spectrum of value	Persona design	
	Surveys	SWOT/SOAR analysis	Strategic triangle	Strategy Canvas	
	SWOT/SOAR analysis	UC Extension Priority-Setting Filters	Strategy Canvas	SWOT/SOAR analysis	
			SWOT/SOAR analysis	Theory of change*	

*Tools with asterisks are required in the program planning process. Every program should be based on a theory of how a desired change will occur and have goals that meet SMART criteria.

Note that the [Strategy Canvas](#), [SWOT/SOAR analysis](#), [eXtension Idea Selection](#), and [Driver diagram](#) tools can be applied across multiple steps of the PPI framework. While some links are provided, refer to the guidebook for more information on the tools.