Introducing Logic Models

This chapter introduces logic models. There are two types: theory of change and program. This chapter describes model benefits and uses, and explains the role of modeling in both program and organizational effectiveness. Modeling begins with results, and quality models are evidence-based.

Learner Objectives

- Explain the difference between models and modeling
- Recognize the benefits and uses of logic models
- Demonstrate how to "read" a logic model
- Recognize types of models and their characteristics
- Describe the ways that models can support effectiveness

Most of us have had an assignment where we were required to get results. Perhaps you have been asked to design a new program, lead a change project, or plan an evaluation. Did drafting a narrative to circulate feel fragmented or inadequate? Did you think: "Where do I begin?" Logic models and modeling can be a potent option to resolve your dilemma. *The Guidebook* provides the practical support you need to create and use models. It will also enhance your understanding of the relationships between actions and results. Step by step, we describe logic models as both a tool and a process that resonates with learning and evidence-based design.

Basic Concepts

Models and Modeling

Logic models support design, planning, communication, evaluation, and learning. They are often used when explaining an idea, resolving a challenge, or assessing progress. They can untangle and clarify complex relationships among elements or parts.

Logic models are a graphic way to organize information and display thinking. They are a visual approach to the implicit maps we all carry in our minds about how the world does or *should* work. Logic models are tools that convey a scheme, program, or project in a brief, visual format. Logic models describe planned action and its expected results. A model is a snapshot of an individual's or group's current thinking about how their idea or program might work.

Modeling is a technique. The process of modeling encourages iterative development of an idea, program, or project. It can create a safe space to start a debate, generate ideas, support deliberations, and think more clearly about specific relationships. A single, coherent logic reflects a consistent thread that connects design, plans, execution, and evaluation. This thread of evidence-based logic is critical to program and organizational effectiveness.

Modeling allows careful consideration of the relationship between activities and results. When tackled by a team or small group of stakeholders, models can be improved by engaging the knowledge and experience of others. We think modeling is too frequently underutilized. We believe the best models are socially constructed in a shared experience that is facilitated. The shared understanding and meaning they produce among colleagues is valuable and enables success in subsequent steps of implementation and assessment.

Logic Model Benefits

In addition to extraordinary execution, organizational effectiveness ultimately requires design, planning, monitoring, and success measures. Logic models can contribute to the quality of all of these. In Chapters 1 through 4, we address models from the design and planning perspective. In Chapter 5, we offer more detail about their use with monitoring and evaluation. Logic models also:

- Offer highly participatory learning opportunities.
- Document explicit outcomes.
- Clarify knowledge about *what works* and *why.*

When logic models and modeling are used as a standard technique they can influence an organization's effectiveness. Logic models offer the strategic means to critically review and improve thinking. And better thinking always yields better results.

Effectiveness is not limited to—but certainly depends on—a clear vision, capable implementation, and the means to monitor both processes and results. Logic

models can be a tremendous support for creating and communicating a common understanding of challenges, resources, and intended success. Moreover, models can also be used to calibrate alignment between the "big picture" and component parts. They can illustrate parts of or a whole system. For example, a logic model can display the learning objectives for an elementary Spanish curriculum or what a school district will do to secure student achievement.

Logic Models Defined

Logic models are a visual method of presenting an idea. They offer a way to describe and share an understanding of relationships among elements necessary to operate a program or change effort. Logic models describe a bounded project or initiative: both what is planned (the doing) and what results are expected (the getting). They provide a clear roadmap to a specified end. The development of models (or the modeling process) provides an opportunity to review the strength of connection between activities and outcomes. Through the experience of critical review and development, models can display participants' learning about what works under what conditions. Models are the product of modeling—which we believe is best done in small groups of stakeholders with the aid of intentional facilitation. They complement systems thinking as a tool and technique for achieving valid but simplified representations of real-world complexities. Common synonyms for logic models include idea maps, rich pictures, action maps, and mental models. Although logical frameworks (logframes) and causal loop diagrams (systems dynamics) are used for purposes similar to logic models, they are fundamentally different but complementary tools.

Logic Model Uses

While often used in the nonprofit sector among large nongovernmental organizations and foundations, logic models are of increasing interest among community-based organizations and the private sector, too. Because models enhance learning through the iterative exchange of information and experience, they offer important features to organizations that value evidence, diversity, dialogue, feedback, inquiry, great planning, and teams. Models can be used in program design, planning, implementation, and evaluation. For example, logic models can be used to design a marketing program, display a purchasing process, describe a school district's education improvement plan, create a community leadership program, or establish the best ways to resolve conflict.

Two Types: One Logic

We describe two types of models: theory of change and program. They differ by level of detail and use but represent the same logic. A *theory of change* model is simply a general representation of how you believe change will occur. A *program* logic model details resources, planned activities, and their outputs and outcomes over time that reflect intended results.

These two model types are different in their appearance and use. The level of detail and features distinguish theory of change and program logic models. Program logic models include more features than theory of change models. This concept of "view" is important and is discussed further in Chapter 4 because it influences the quality and utility of models. Theory of change models are conceptual, and program logic models are operational. Model types and their relative features are indicated in Table 1.1.

Table 1.1   Features of Model Types

Feature	Theory of Change Logic Model	Program Logic Model
Time frame	No time	Time bound
Level of detail	Low	High
Elements	Few ("do + get")	Many
Primary display	Graphics	Graphics + text
Focus	Generic	Targets + specified results

Relative to time frame, level of detail, volume of elements, display, and focus, the model types contrast. They are alike because they share the same research, theory, practice, and/or literature. Essentially, the types are different views of the same evidence-based logic that has a shared origin.

Model use differs in purpose(s). Theory of change models display an idea or program in its simplest form using limited information. These models offer a chance to test plausibility. They are the "elevator speech" or cocktail napkin outline of an idea or project. Program logic models vary in detail but offer additional information that assists design, planning, managing, and monitoring/evaluation. Program models support a display that can be tested for feasibility. They are the proposal version of an idea or project because they have fleshed out far more detail that often includes activities, resources, outputs, and other elements of interest to those creating and/or using the model.

Historical Background

Use of theory of change and program logic models began in the 1970s. Carol Weiss (1995), and Michael Fullan (2001) and Huey Chen (1994, 2005) are among the pioneers and champions for the use of program theory in program design and evaluation. U.S. Agency for International Development's (1971) logical framework approach and Claude Bennett's (1976) hierarchy of program effectiveness were among the earliest uses of the types of visual displays that have evolved into the program logic models we know today.

Logic models did not receive much recognition however until after the United Way of America came out with its publication *Measuring Program Outcomes* in 1996. This publication promoted the structures and vocabulary of logic models.

The W. K. Kellogg Foundation also was instrumental in spreading the use of logic models with its *Logic Model, Development Guide (2001)*. For those readers interested in more detail on the historical evolution of logic models, see the references provided at the end of this chapter.

Examples

In the examples that follow, we briefly explain the general concepts and terms related to a theory of change and to a program logic model. Chapters 2 and 3 provide more depth. Although we show one of each type of model, it is important to keep in mind that these are but two examples from a much broader continuum of possibilities. There are many ways to express or display the ideas and level of detail.

Theory of Change Model Example

Figure 1.1 shows a simple theory of change for leadership development. Read from left to right, it suggests some strategies, for example, curriculum and experiences, can positively influence people so they can more effectively tackle community challenges. This theory relies on the assumptions that training, experiential learning, and community orientation will have a substantial influence on individuals' skills and ultimately result in community development.
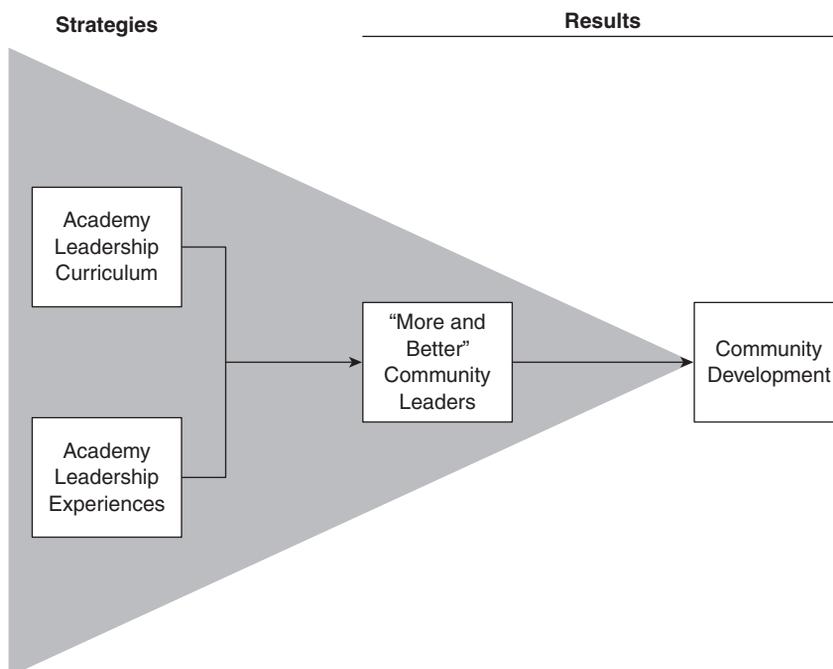
Figure 1.1   Community Leadership Academy Theory of Change

Chapter 2 focuses on creating theory of change logic models. They are the critical foundation for any change effort. Often, these models exist as part of an internal mental framework that is "dormant" or undisclosed. They can also imply considerable knowledge, experience, research, and practice. The evidence base for theory of change models typically is not made explicit.

Program Logic Model Example

Program logic models inventory, from start to finish, a specified program effort. For example, a program logic model for a community leadership program (based on the theory of change) would include the specified resources/inputs, activities, outputs, outcomes, and impact. Resources or inputs are what are needed to ensure the program can operate. Activities are the tactical actions (e.g., events, services, publications) that occur to fulfill the promise of each strategy. Together, activities make up the program design. Outputs are descriptive indicators of what the specific activities generate. Outcomes are changes in awareness, knowledge, skill, or behavior. The impact reflects changes over a longer period. Figure 1.2 displays a simple program model for the same community leadership program shown as a theory of change model in Figure 1.1.

This program model suggests desired results include more and better leaders and community development. It implies the leadership development agenda is about resolution of community challenges and that, if resolved, it contributes to community development.

To "read" this model, first note the intended impact (ultimate aim) of the program: community development. Then, move to the far left-hand side where resources or inputs essential to the program are listed. Logic models employ an "if–then" sequence among their elements. When applied to the elements in each column, it reads: *if* we have these resources, *then* we can provide these activities. *If* we pursue these activities, *then* we can produce these outputs. *If* we have these outputs, *then* we will secure these outcomes, and so on.

This model is *just one* very simple representation of how a program might be designed and planned for implementation. Many variations on this example could represent program design and planning for community leadership development that meets standards of logic and plausibility. We know that Figure 1.2, in fact, represents a program with some definite flaws. More discussion about how the program could be improved through a "mark up" (or critical review) that tests the program design is described in Chapter 4.

Program Logic Model and Evaluation Design

This guidebook also offers some support for using logic models to assist in evaluation design. This book will address only the framing of broad inquiry. At this level, evaluation questions are the foundation for evaluation design and planning. If we apply this to the community leadership program example, it is appropriate to focus on the program's intended results. The summative evaluation question is: What difference did the program make in the community's development? Perhaps
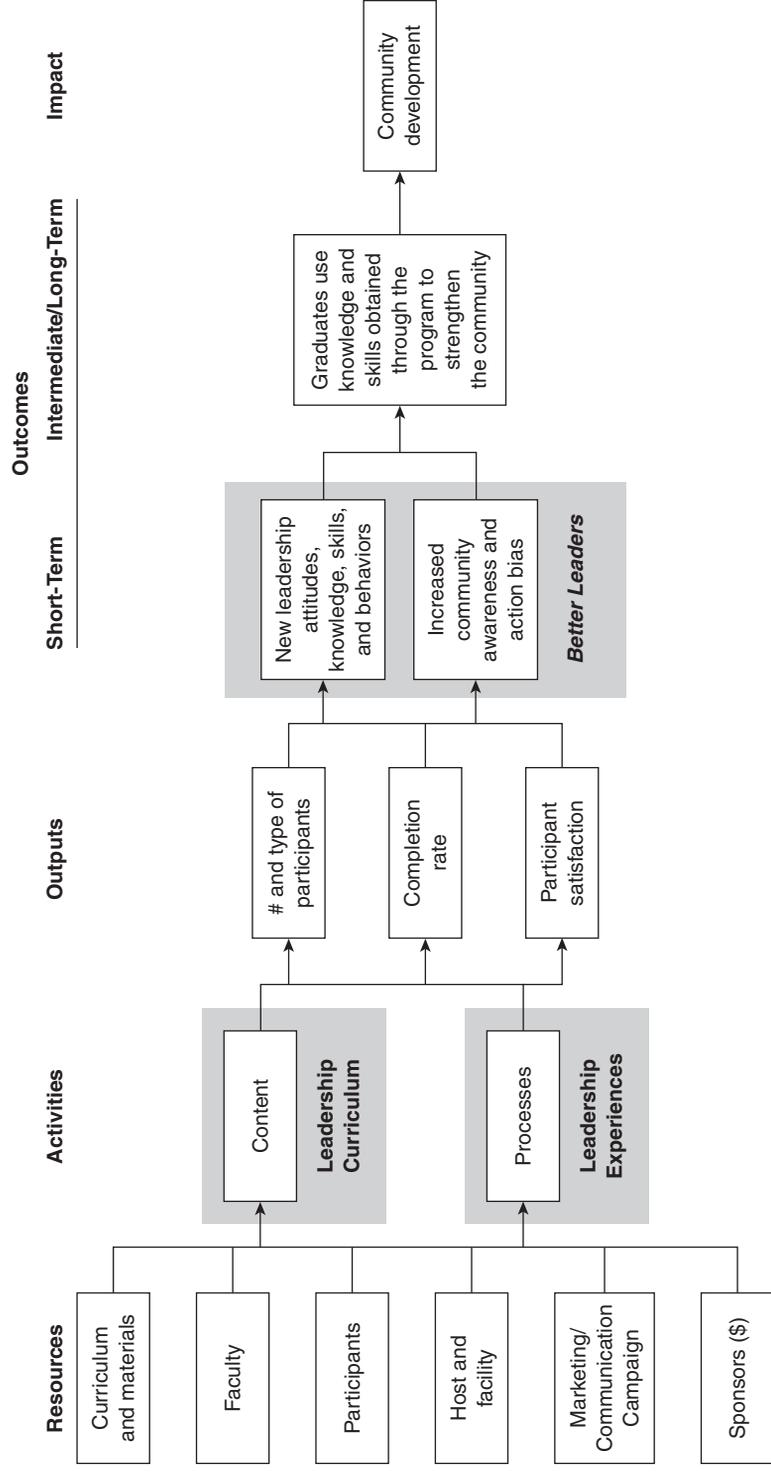
Figure 1.2 Community Leadership Academy (CLA) Program Logic Model

a place to begin is in determining the contribution made by the program to the development of more and better community leaders. A clear, coherent program logic model provides great assistance during evaluation design. A model points out the key features and shows the relationships that need assessment.

In this example, an evaluation could consider both changes in the awareness, knowledge, skills, and behavior of participants as well as the community development impact. Stakeholders (funders, participants, and other influentials) might also want to know about the content selection and quality of training. They might be curious about implementation fidelity and adaptation, too. Figure 1.3 demonstrates a program logic model with typical evaluation questions.

This program logic model is serving evaluation. The five key evaluation questions are applied at specific locations on the illustrated program model. Key questions for the Community Leadership Academy (CLA) displayed include:

1. Is the CLA doing the right things?

2. Is the CLA doing things right?

3. What difference has the CLA made among participants?

4. What difference has the CLA made across the community?

5. What are the ways community needs can and should be addressed by the CLA?

Positioning questions on the program model identifies where evaluative evidence might be found to address inquiry. Labeling on the model also helps to establish the relationship between program, implementation (processes), results, and evaluation. Question 1 "tests" the logic constructed during evidence based planning. This question requires thoughtful connections be drawn across activity accomplishment, implementation fidelity, and the attainment of desired outcomes/impact. It addresses the overall effectiveness of the selected strategies and related action in achieving the desired results. Question 2 examines implementation fidelity/variance as well as the scope, sequence, penetration, and quality of activities. Questions 3 and 4 focus on the extent to which outcomes and have been achieved. Question 5, like Question 1, should span across the whole model to surface program improvement needs. Questions 1 and 5 are more reflective but essential to improved effectiveness.

These evaluation questions can be very helpful in the initial design and development of the program as they help to aim the program intervention. The next step is establishing indicators. Models also help in guiding the conversation and exploration needed to determine indicators or the measures of progress for an effort. These issues are addressed in greater detail in Chapter 5.

Logic: No Guarantees

It is important to note that the proper reference, "logic model," is *no guarantee* of logic. While many models do demonstrate some modicum of logic, a logical
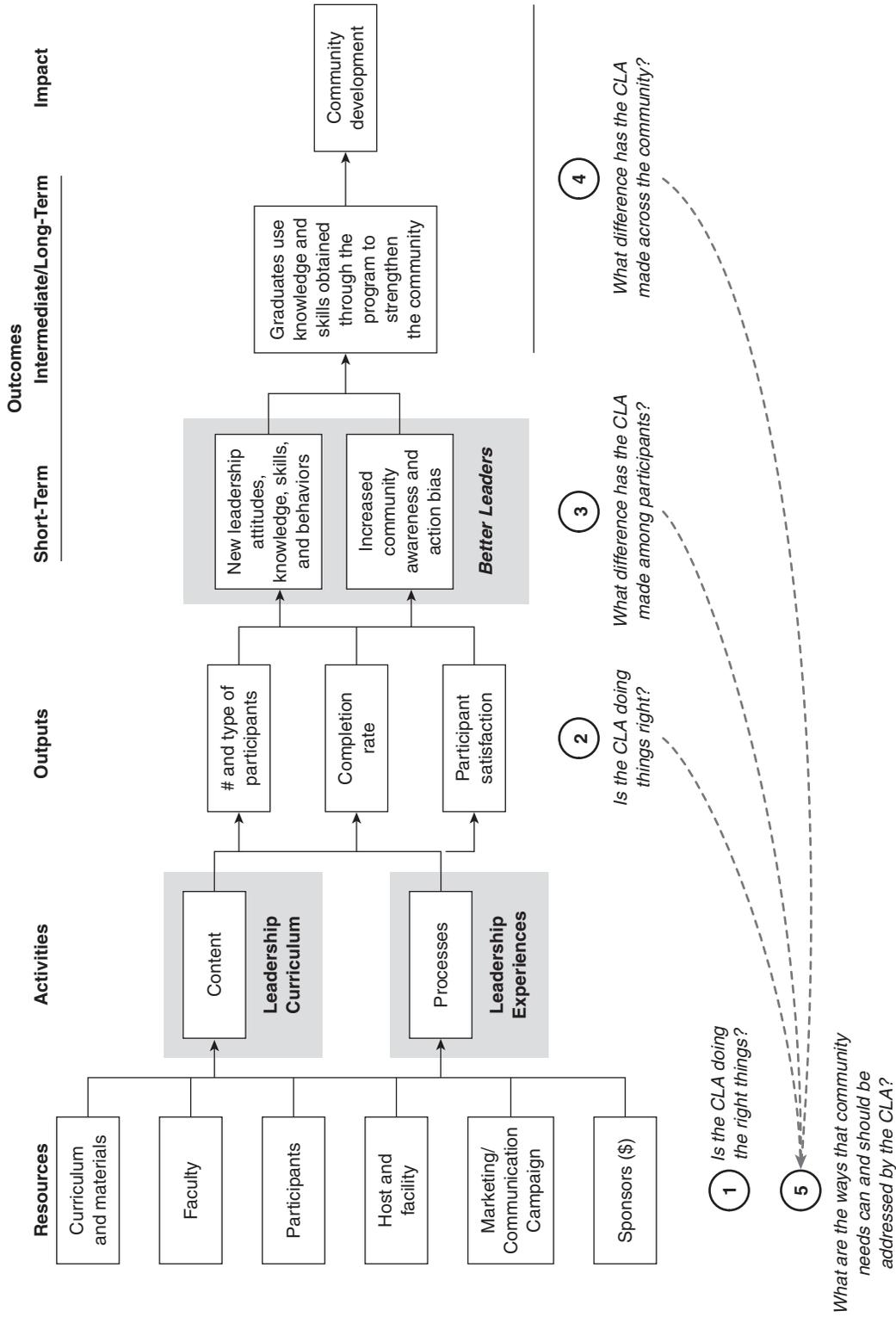
Figure 1.3 Community Leadership Academy (CLA) Program Evaluation Model

representation does not equal plausibility, feasibility, or success. There is some danger in seeing a graphic display on paper and considering it "true." Every model can be considered a draft. The mere existence of a model does not mean that the model or the plans it represents are ready for implementation or that it will readily deliver the intended results!

Chapters 2 and 4 tackle model improvement and development in greater detail. It is essential to note that a model is a graphic display of the program captured at one point in time. Models, we believe, should change to reflect best thinking and current evidence as these evolve. Creating and displaying variations of a model are experiences that can develop thinking about strategies/activities and results. This development is a critical process in model quality and ultimately in the feasibility of the efforts described. We believe the greatest value of logic models is their use in an iterative, intentional process aimed at improving the thinking they illustrate. This is best done through a facilitated sequence with selected stakeholders. Obviously, logic models do not ensure plan implementation fidelity or quality. Nor do they remedy any of the many concerns about organizational structure and culture that can deeply affect program and organizational effectiveness. Important action steps associated with quality include identification of both assumptions and evidence used in models.

Models Begin With Results

Determining the results you desire is the first step in effectiveness because knowing where you are headed is critical to picking the best route to use. In our experience, models begin with results. Results consist of outcomes and impact; each appears in a sequence over time. While impact is the ultimate end sought, sometimes synonymous with vision, outcomes are earlier indications of progress toward results. We think results are the place to begin when you are struggling with choices about strategies (with a theory of change) or activities (with a program logic model). It is important to avoid moving prematurely to specify what you want to do. In any change work, program design, or problem solving, specifying those outcomes most likely to occur soon and then those that will take more time to emerge helps determine what route (action path) might be best to use.

People commonly complain their work is both activity-focused and frantic. Considerable time and effort are spent on a flurry of tasks that frequently lack a clear relationship to intended results. Logic models can assist in sorting priorities because they both rely on and help build a visual literacy that makes action and expected consequence clear. Through the models and modeling, stakeholders can identify potent strategies/activities likely to contribute to the results sought. And those with less (relative) value can be sidelined or discarded.
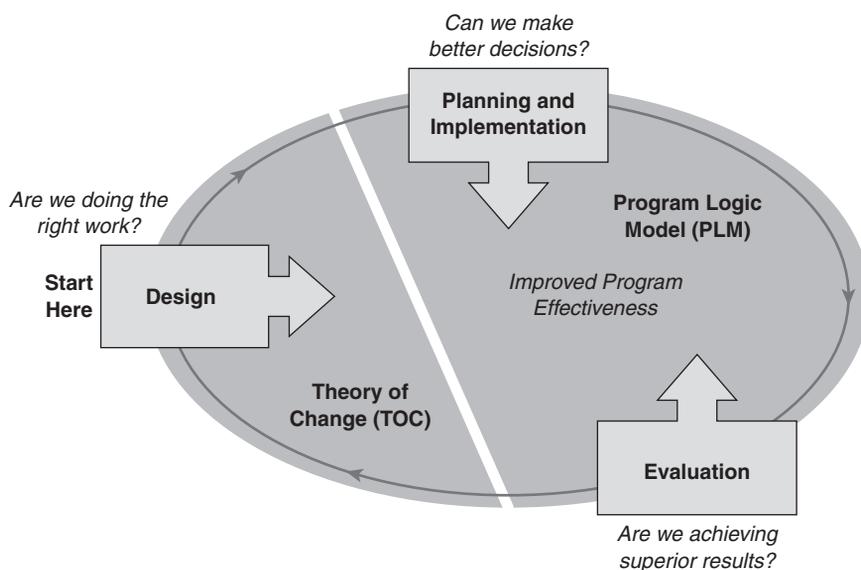
Logic Models and Effectiveness

In the workplace (and in life), almost everyone is interested in effectiveness. To that end, we provoke important thinking when we ask these questions:

- Are you doing the right work?
- Can you make better decisions?
- Are you getting superior results?

All of these questions apply in any context—whether it is in government or in the private or the nonprofit sector. They are among the most critical questions for managers and leaders because they focus on key levers that influence performance. We know from practical experience and assessment that doing the *right work* along with *great decisions* secures *superior results.* Logic models can help with the design that ensures the right work, the plans and implementation that reflect better decisions, and the evaluation that tests both pathways and progress toward success. For these reasons, they are an exciting tool and process for anyone interested in more effective programs, projects, and organizations.

Figure 1.4 demonstrates key points of the design, planning, implementation, and evaluation that the two types of models can support. Theory of change models are most helpful during the design of a program or project. As plans or evaluation require greater detail, program logic models can make a substantial contribution to these later stages of work. The types of models and their uses form a continuous loop that can provide feedback about a program throughout its life cycle.

Logic models as both a tool and a strategic process offer considerable value to programs and, subsequently, organization effectiveness. They can be used for different purposes at different times in the life cycle of an idea (program, project, or change effort). Theory of change models can dramatically influence program planning because they rely on knowledge to offer choices about doing the right work. In

Figure 1.4   Effectiveness and Logic Models

this stage, the selection of strategies relative to results occurs. Program logic models help with more precise decisions about which activities in a given strategy are most effective. Program logic models can also be used to support evaluation design. They can assist in pointing to optimal areas of inquiry and help to determine whether progress is being made and what difference has occurred relative to results.

Some organizations use logic models routinely. They can become a standard tool that promotes alignment and synergy. For example, evaluation can be designed and implemented more easily when a clear theory of change and program logic model have already been determined. These tools and related processes can also assist learning and dissemination in significant ways. Logic models and modeling can be a vital element in performance management because they rely on evidence, support informed decisions about strategy, and assist with assessment. Performance management seeks predetermined results and adapts actions to obtain them.

In Summary

Logic models are simply a visual display of the pathways from actions to results. They are a great way to review and improve thinking, find common understandings, document plans, and communicate and explicate what works under what conditions. We think theory of change models are distinct from program logic models in several important ways. Theory of change models present a very high-level and simple explanation of "do and get." Program logic models offer a detailed map that can be implemented when supplemented with work plans. In this chapter, we also distinguished between models as tools and modeling as a process. A quality feature of logic models is that they are evidence based. Logic models can be used for learning, improving, and greater effectiveness.

Learning Resources

Reflection

1. In what circumstances can you use logic models in your work or field of study?

2. What benefits does each type of model provide? And to whom?

3. What do logic models display? And what is missing?

4. How are theory of change models and program models alike? Different?

5. What kind of logic models have you seen before? Which are most commonly used?

6. What current models/processes are commonly used for program design in your organization? What work cultures are best suited for logic models?

Application

Select and draw one of the following: promotion of a new brand of ketchup, a driver's training program, or a domestic violence awareness campaign. Have others independently draw the same project you select. What do all the drawings have in common? What areas are different? Why? When and how do these differences become reconciled? How did the levels of detail differ among the drawings? What can these drawings tell us about mental maps?

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