Logic Modeling

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What is a logic model?

• Visual representation of the logical relationships among inputs, outputs and outcomes
• Core of planning, project management, evaluation and communications
• Graphic map of where you are going, how you plan to get there, if adjustments are needed, and when you have arrived

![Diagram of logic model](image-url)
When do you use logic models?

- Goal
- Plan
- Correct
- Execute
- Measure

Logic Model Development
Why are logic models important?

• Process builds a **shared understanding** about how the project/system works
• Helps **focus and prioritize** evaluation questions
• Helps determine what is appropriate to **evaluate**
• Helps determine how to allocate **resources**
• **Bridges the gap** between program logic and actual program operations
• Helps differentiate between “what we do” and “results of what we do” --- **outcomes**
What does a logic model look like?

- Graphic display of boxes and arrows
  - Relationships, linkages
- Any shape and form imaginable
  - Circular, dynamic
  - Vertical or horizontal
- Level of detail
  - Simple
  - Complex
## Example Logic Model

<table>
<thead>
<tr>
<th>Inputs</th>
<th>Activities/Components</th>
<th>Participation Metrics</th>
<th>Short-Term Outcomes</th>
<th>Long-Term Outcomes</th>
<th>Impacts</th>
</tr>
</thead>
</table>
| Resources  
• Staff  
• Funders  
• Partners | • Online platform  
• Conferences/trainings  
• Digital outreach (email, social media) | • 2K unique users/year  
• 500 new users/year  
• 50 training participants  
• 600 social media followers | • Increased awareness of platform  
• Increased access to data  
• Increased efficiency of data analytics  
• Use of data in research | • Improve quality of research  
• Improve field infrastructure for data sharing | • Improve geoscience knowledge base  
• Improve disaster preparedness capacity |
| Target Users  
• Researchers  
• Policy analysts  
• Students | | | | |
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Contextual factors:  
Data sharing policies, research funding priorities
Main Components of Logic Models

1. Situation: Problem addressed and contextual factors
2. Inputs: Resources and target participants
3. Outputs: Activities and participation
4. Expected Outcomes: Short-term, intermediate and long-term outcomes and impacts
Situation

• What is the current issue or problem you want to address?
• What are the contextual factors?

• Considerations:
  o Start with a comprehensive understanding of the situation - problem analysis
  o Make the situation or problem statement your anchor - the logic model grows out of this
  o Situations change, so update as needed
  o Set priorities
Inputs

• What resources are needed (and available) to achieve the project/initiative objectives?

• Types of resources
  o Financial, leadership, organizational, community, technology, materials/equipment, partners

• Participants
  o Target users, other users, partner organizations
Activities

• What are you doing with the resources to meet your objectives?
• What are your main project/system components and/or strategies?

• Example activities:
  o Develop an online platform or other resources
  o Provide training or other supports
  o Coordinate collaboration and/or events
  o Share and disseminate research
  o Collect data to assess progress and needs
Participation

• Who do you reach and engage in your activities?
• What types of participants are engaged in which activities?

• Example participation metrics:
  o Number, diversity and types of researchers engaged
  o Number, diversity and types of system users
  o Social media output and usage
Expected Outcomes

- Pick timeframes that make sense for your project/system
  - Short-term outcomes
    - Focus on learning, attitudes, awareness, skills
  - Intermediate outcomes
    - Focus on actions, practices, policies
  - Long-term outcomes or impacts
    - Focus on conditions, socio-environmental, civic, economic

<table>
<thead>
<tr>
<th>Expected Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short Term</td>
</tr>
<tr>
<td>Intermediate</td>
</tr>
<tr>
<td>Long Term</td>
</tr>
<tr>
<td>By End of Year 1?</td>
</tr>
<tr>
<td>By End of Year 3?</td>
</tr>
<tr>
<td>By End of Year 5?</td>
</tr>
</tbody>
</table>
Outcome Considerations

Are your outcomes ... 

• Important?
  o Does the end outcome represent an important change or improvement that is valued by stakeholders?

• Reasonable?
  o Are the outcomes linked in logical order?
  o Will the short-term outcome lead to the intermediate, and then to the long-term outcome?
  o Are they connected to specific project activities?

• Realistic?
  o Are the outcomes realistic given the nature of the problem, your resources, your abilities, and your timeframe?
  o Will the project lead to or help contribute to these outcomes?
Questions
Thank you!

Please contact me with any additional feedback or questions:

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https://www.tacc.utexas.edu/epic/stem-evaluation-services