



# Continuous Improvement Through Networked Improvement Communities: Aim Statements, Drivers, Measures, and PDSA Cycles Facilitator's Guide

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This report is available on the Regional Educational Laboratory Midwest website at <https://ies.ed.gov/ncee/edlabs/regions/midwest>.

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## Using the Facilitator's Guide

This facilitator's guide contains materials designed to build upon Coaching Module 1 and engage participants in the subsequent steps of a continuous improvement process — developing aim statements and exploring drivers, designing outcome measures, and implementing Plan-Do-Study-Act (PDSA) cycles in continuous improvement efforts.

### Agenda Overview

Table 1 provides an overview of the agenda for the aim statements, drivers, measures, and PDSA cycles work session. Timeframes are provided as estimates; however, activities may be shortened or lengthened based on participant familiarity with and understanding of the content. Appendix A provides a sample agenda for completing the aim statements, drivers, measures, and PDSA cycles in a full-day session.

**Table 1. Agenda Overview**

Agenda Item	Timeframe	Activities	Slides	Materials
Welcome and Introductions	10 minutes	Participant introductions Quiz on progress so far	1–16	Agenda REL Midwest Summary Handout
Aim Statement Overview	50 minutes	Activity 1: Develop and share aim statements	17–22	Pens/Markers Chart Paper
Drivers and Change Ideas	60 minutes	Activity 2: Develop a driver diagram	23–32	Driver Diagram Handout
Break	10 minutes		33	
Outcome Measures	80 minutes	Activity 3: Outcome measure planning	34–38	Evidence Planning Handout
Break	10 minutes			
Plan-Do-Study-Act Cycles	90 minutes	Activity 4: Conduct a SWOT analysis	360–65	SWOT Analysis Handout
Next Steps and Adjourn	15 minutes		66	

## Section 1: Welcome and Introductions

### Purpose

This section provides context for the work session, time for participant introductions, and an overview of REL Midwest.

### Materials

- Slide Deck: Slides 1–16
- Agenda (Appendix A)

### Annotated Agenda

**Table 2. Section 1: Welcome and Introductions**

Agenda Item	Description	Slides	Materials
Welcome and Introductions (10 minutes)	<ul style="list-style-type: none"> <li>• Welcome participants to meeting.</li> <li>• Share purpose of the meeting and its connection to larger work/initiatives in which participants may be engaged.</li> <li>• Review agenda for the day.</li> <li>• Facilitate introductions of participants:               <ul style="list-style-type: none"> <li>– Name</li> <li>– Title</li> <li>– Organization/School</li> </ul> </li> </ul>	1–3	Agenda
About REL Midwest (5 minutes)	<p>Regional Educational Laboratory (REL) Midwest (<a href="https://ies.ed.gov/ncee/edlabs/regions/midwest/default.aspx">https://ies.ed.gov/ncee/edlabs/regions/midwest/default.aspx</a>) is part of a network of 10 regional educational laboratories funded by the U.S. Department of Education’s Institute of Education Sciences (IES). IES (<a href="https://ies.ed.gov">https://ies.ed.gov</a>) is the statistics, research, and evaluation arm of the U.S. Department of Education.</p> <p>REL Midwest’s collaborative research partnerships include the following:</p> <ul style="list-style-type: none"> <li>• Midwest Achievement Gap Research Alliance</li> <li>• Midwest Alliance to Improve Teacher Preparation</li> <li>• Midwest Career Readiness Research Alliance</li> <li>• Midwest Early Childhood Education Research Alliance</li> <li>• Iowa Learning and Technology Networked Improvement Community</li> <li>• Other Collaborations</li> </ul>	4–10	REL Midwest Summary Handout

Agenda Item	Description	Slides	Materials
Reflect and Review Quiz	<p>Progress so far quiz: Three-question quiz to review materials covered in Coaching Module 1. Answers available in comments section of PowerPoint.</p> <p>Facilitators will review the topics discussed and the previous coaching sessions. To tap prior knowledge on specific content from these sessions, facilitators will lead the group through a brief quiz covering aspects of root cause analysis and the theory of action.</p> <p>Participants will raise their hands to answer; the table that answers each question fastest will receive a small round of applause from the group.</p>	11–16	Blank

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## Section 2: Aim Statement Overview

### Purpose

This section provides an overview of developing aim statements and reflecting on challenges and other impressions of the experience.

### Materials

- Slide Deck: Slides 17–22
- Pens/markers and chart paper

### Annotated Agenda

**Table 3. Section 2: Aim Statement Overview**

Agenda Item	Description	Slides	Materials
Aim Statement Overview (15 minutes)	<p><b>What is an aim statement?</b></p> <p>Facilitators will provide an overview of aim statements. An <b>aim statement</b> is a written and measurable description of the desired improvement.</p> <p>Aim statements should include:</p> <ul style="list-style-type: none"> <li>• A preset target population</li> <li>• A metric of interest</li> <li>• A change in a numerical value on the metric of interest</li> <li>• A timeline on which the change should occur</li> </ul> <p>Facilitators will also provide several examples of aim statements.</p>	17–22	
Activity 1: Develop and Share Aim Statements (50 minutes)	<p><b>Goal:</b> To develop an aim statement and share out with other participants.</p> <p><b>Strategy:</b> Facilitators will lead a debrief of the aim statement activity. Tables will be asked to share their chart paper with their aim statements and reflect on challenges and other impressions of the experience.</p> <p><b>Step 1: Develop an Aim Statement</b></p> <ul style="list-style-type: none"> <li>• Participants will review activities completed in Coaching Module 1. They will use the inputs table and IF/THEN statements they drafted to develop three aim statements related to their rubric. Participants will write their three aim statements on a piece of chart paper.</li> </ul>		



Agenda Item	Description	Slides	Materials
Activity 1: Develop and Share Aim Statements (50 minutes) (continued)	<p><b>Step 2: Share Aim Statements and Reflect on Experience</b></p> <ul style="list-style-type: none"><li>• Facilitators will ask each group to read aloud its draft aim statement.</li><li>• As each group takes a turn reading aloud one aim statement, other groups will listen for the key characteristics of aim statements.</li><li>• Facilitators will call on other groups at random and ask them to identify a key characteristic of the aim that was just shared:<ul style="list-style-type: none"><li>– The target population</li><li>– A metric</li><li>– The change in a numerical value on the metric</li><li>– The timeframe in which the change will occur</li></ul></li></ul> <p>The activity will be repeated until all groups have shared.</p>		

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## Section 3: Drivers, Change Ideas, and Outcome Measures

### Purpose

This section provides an overview of developing driver diagrams that align to aim statements and brainstorming change ideas that align to primary and secondary drivers. Participants will create driver diagrams aligned to the aim statement they created in the prior activity. Then, participants will brainstorm change ideas that they feel could create progress toward their aims; they will also explore ways to measure progress on implementation of these change ideas.

### Materials

- Slide Deck: Slides 23–38
- Handout: Driver Diagram (Appendix B)
- Handout: Evidence Planning (Appendix C)
- Pens and markers

### Annotated Agenda

**Table 4. Section 3: Drivers, Change Ideas, and Outcome Measures**

Agenda Item	Description	Slides	Materials
Introducing Drivers and Change Ideas (15 minutes)	<p>Facilitators will provide an overview of primary and secondary drivers and how drivers emerge from aim statements. The group will engage in a discussion around the following topics:</p> <ul style="list-style-type: none"> <li>• Constructing driver diagrams</li> <li>• The difference between primary and secondary drivers</li> </ul> <p>Facilitators will explain how change ideas emerge from secondary drivers. Change ideas are small, measurable actions (changes in practice) that an NIC takes to attempt to achieve the aim. Facilitators will then explore how to develop outcome measures that allow NICs to test change ideas in PDSA cycles.</p>	23–24	
Activity 2: Develop and Share a Driver Diagram (40 minutes)	<p><b>Goal:</b> Using their aim statements, participants will identify primary and secondary drivers.</p> <p><b>Strategy:</b> Identify obvious and more subtle connections between target evidence and change ideas.</p>	25–32	Driver Diagram Handout

Agenda Item	Description	Slides	Materials
Activity 2: Develop and Share a Driver Diagram (40 minutes) (continued)	<p><b>Step 1: Brainstorm in Groups</b></p> <p>Facilitators will guide participants in an activity to develop a hypothetical evidence identification and collection plan based on prior work identifying drivers and a change idea. Specifically, participants will work in their groups to do the following:</p> <ol style="list-style-type: none"> <li>1. Reflect on your change idea from the earlier activity.</li> <li>2. Brainstorm what information you'll need to see to determine whether the idea created the change you expect through the identified drivers.</li> </ol> <p><b>Step 2: Develop a Driver Diagram</b></p> <p>Participants will select one aim statement that they developed. Using that aim statement, they will complete the following activity:</p> <ol style="list-style-type: none"> <li>1. Select one aim statement developed earlier in the session and brainstorm strategies.</li> <li>2. Using the template, develop a driver diagram that addresses the aim. <i>Facilitator note: This template is on slide 31.</i></li> </ol> <p>Based on the drivers, select the highest leverage driver and develop one change idea that could solve the problem related to your area of focus.</p> <p><b>Step 3: Driver Diagram Presentations</b></p> <p>Participants will work in table groups and present their driver diagrams and change ideas to the whole group. In their presentations, they will present the following information:</p> <ul style="list-style-type: none"> <li>• The rationale for selecting the driver</li> <li>• The inputs necessary for the change idea</li> <li>• The hypothesis for how the change idea will work and what outcomes are predicted</li> </ul> <p>Following each presentation, facilitators and participants will ask questions and provide feedback.</p>	25–32	Driver Diagram Handout
Break (10 minutes)	<b>Break</b>	33	
Introducing Outcome Measures (30 minutes)	<p><b>Goal:</b> Using change ideas developed from aim statements and driver diagrams, develop measurement plans and tools to use during PDSA cycles.</p> <p><b>Strategy:</b> Identify obvious and more subtle connections between target evidence and change ideas.</p> <p><b>Step 1: Introduce Outcome Measures</b></p> <p>Facilitators will introduce the role of determining appropriate measures in planning the work of an NIC. They will present the following guiding questions as important considerations identifying evidence and planning for collection:</p> <ul style="list-style-type: none"> <li>• What data will you need to study whether this change idea worked?</li> <li>• What metrics do you already collect that can be used to track inputs, outputs, and outcomes in the theory of action?</li> <li>• What metrics would you like to collect to track inputs, outputs, and outcomes in the theory of action?</li> <li>• What would characterize success?</li> </ul>	34–38	

Agenda Item	Description	Slides	Materials
Introducing Outcome Measures (30 minutes) (continued)	<p>Facilitators will lead an open discussion with participants about what data are relevant and available to them. They will also discuss the best strategies for ensuring that target data are easily accessible to practitioners who will need to collect data.</p> <p><b>Step 2: Complete Evidence Planning Template</b></p> <p>Based on that brainstorming, complete the evidence planning template.</p> <p>Following completion of the template, each individual group will share and discuss as a large group:</p> <ul style="list-style-type: none"> <li>• Types of evidence identified</li> <li>• Plans and anticipated challenges around collection of evidence</li> </ul> <p><b>Step 3: Outcome Measure Planning Activity</b></p> <p>Facilitators will guide participants in an activity to develop a hypothetical evidence identification and collection plan based on prior work identifying drivers and a change idea. Specifically, participants will work in their groups to do the following:</p> <ol style="list-style-type: none"> <li>1. Reflect on your change idea from the earlier activity.</li> <li>2. Brainstorm what information you'll need to see to determine whether the idea created the change you expect through the identified drivers.</li> <li>3. Based on that brainstorming, complete the evidence planning template. <i>Facilitator note: This template is on slide 38.</i></li> </ol> <p>Following completion of the template, each individual group will share and discuss as a large group:</p> <ul style="list-style-type: none"> <li>• Types of evidence identified</li> <li>• Plans and anticipated challenges around collection of evidence</li> <li>• Obvious and more subtle connections between target evidence and change ideas</li> </ul>	34–38	
Break (10 minutes)	<b>Break</b>		

## Section 4: Plan-Do-Study-Act Cycles and Implementation Planning

### Purpose

This section provides background information on the steps in a PDSA cycle. Participants then engage in PDSA practice with an activity in which they’ll enact a change.

- PDSA Practice—E-Mail Triage
- Implementation Planning SWOT Analysis

### Materials

- Slide Deck: Slides 39–64
- Action Planning Template
- Appendix D. Email Triage PDSA Cycle Form
- Appendix E. Data Collection Sheet
- Appendix F. SWOT Analysis Template

### Annotated Agenda

**Table 5. Section 4: Plan-Do-Study-Act Cycles and Implementation Planning**

Agenda Item	Description	Slides	Materials
Plan-Do-Study-Act Cycles (15 minutes)	<p><b>Plan-Do-Study-Act Cycles</b></p> <p>Facilitators provide an overview of the steps of PDSA cycles, including how the NIC strategies and components they’ve studied throughout the prior sessions connect to each step.</p>	39–47	Slide Deck: Slides 39–64
Activity 3: PDSA Cycle Practice (30 minutes)	<p><b>Goal:</b> Understand how data are collected and analyzed to make decisions about change ideas through a simulated PDSA cycle.</p> <p><b>Strategy:</b> Complete a simulated PDSA cycle using e-mail inbox management as a context. Participants will have to make hypotheses, implement change ideas for e-mail management, collect data on change ideas, and then analyze the results to make an Abandon, Adapt, Adopt, Expand decision about change ideas.</p> <p>Facilitators will facilitate participants in a simulated PDSA cycle. The simulation will focus on a hypothetical unmanageable e-mail inbox.</p> <ol style="list-style-type: none"> <li>1. Participants will work in small groups and review the inputs for the activity: problem statement, aims and drivers, and change idea.</li> <li>2. Groups will work together to apply the change idea using the test template for guidance.</li> </ol>	48–56	Email Triage PDSA Cycle Form Data Collection Sheet

Agenda Item	Description	Slides	Materials
Activity 3: PDSA Cycle Practice (30 minutes) (continued)	<p>3. Groups will collect data by marking results in the data collection sheet.</p> <p>4. Groups will then “act” and make a decision on next steps for the change idea based on the data.</p> <p>5. As a large group, participants will reflect on the process and share lessons learned.</p> <p>After this activity, facilitators will ask participant groups to reflect on the experience of the activity and apply what they learned to their own contexts. In groups, participants will discuss the following and then share with the large group:</p> <ul style="list-style-type: none"> <li>• What are some potential interventions for our focus area?</li> <li>• Who needs to be involved in planning? Who will be key to execute plans?</li> <li>• What are the specific roles of those involved?</li> <li>• How will the group/team interact, meet, and share information?</li> <li>• What key resources are needed?</li> </ul>	48–56	Email Triage PDSA Cycle Form Data Collection Sheet
Implementation Planning (10 minutes)	<p><b>Implementation Planning</b></p> <p>Facilitators will discuss key considerations for implementing an NIC. They will present the following guiding questions as important considerations, and ask participants to discuss responses based on their experiences implementing other, similar types of initiatives:</p> <ul style="list-style-type: none"> <li>• What makes an implementation successful?</li> <li>• How will you determine success?</li> <li>• What data will demonstrate success?</li> <li>• Who needs to support implementation?</li> <li>• What challenges do you anticipate?</li> </ul>	57–59	Slide Deck: Slides 39–64
Break (10 minutes)	<b>Break</b>		
Activity 4: Implementation SWOT Analysis (30 minutes)	<p><b>Goal:</b> Understand how to use organizational resources to overcome implementation challenges for prospective NICs.</p> <p><b>Strategy:</b> Using a SWOT analysis template, participants must brainstorm potential internal strengths of their NIC implementation team, external opportunities to leverage these strengths, internal weaknesses of their NIC implementation team or conditions, and external threats to success. Identifying these factors will allow participants to plan NIC implementation in a way that leverages helpful factors and conditions to overcome harmful factors and conditions.</p> <p>Facilitators will guide participants in an activity to conduct a SWOT in which they reflect on strengths, weaknesses, opportunities, and threats related to planning and implementing an NIC. Participants will work in small groups to complete the analysis template and then share results with the large group. In this discussion, participants will identify common themes, unexpected ideas, and opportunities for collaboration.</p>	61–65	SWOT Analysis Template

## Section 5: Next Steps and Adjourn

### Purpose

This section provides an opportunity for participants to debrief about their experience in this session.

### Materials

- Slide Deck: Slide 66

### Annotated Agenda

**Table 6. Section 5: Next Steps and Adjourn**

Agenda Item	Description	Slides	Materials
Next Steps (15 minutes)	<p><b>Debrief Session</b></p> <ul style="list-style-type: none"> <li>• Ask participants to share reflections from the conversations during the activities.</li> <li>• Preview follow-up activities and NIC initiatives.</li> </ul> <p><b>Provide Contact Information</b></p> <ul style="list-style-type: none"> <li>• Add contact information to final slide.</li> </ul>	66	

## References

Bryk, A. S., Gomez, L. M., Grunow, A., & LeMahieu, P. G. (2015). *Learning to improve: How America's schools can get better at getting better*. Cambridge, MA: Harvard Education Press.

Knowlton, L. W., & Phillips, C. C. (2012). *The logic model guidebook: Better strategies for great results* (2nd ed.). Thousand Oaks, CA: SAGE.

Proger, A. R., Bhatt, M. P., Cirks, V., & Gurke, D. (2017). *Establishing and sustaining networked improvement communities: Lessons from Michigan and Minnesota* (REL 2017–264). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Midwest. Retrieved from [https://ies.ed.gov/ncee/edlabs/regions/midwest/pdf/REL\\_2017264.pdf](https://ies.ed.gov/ncee/edlabs/regions/midwest/pdf/REL_2017264.pdf)

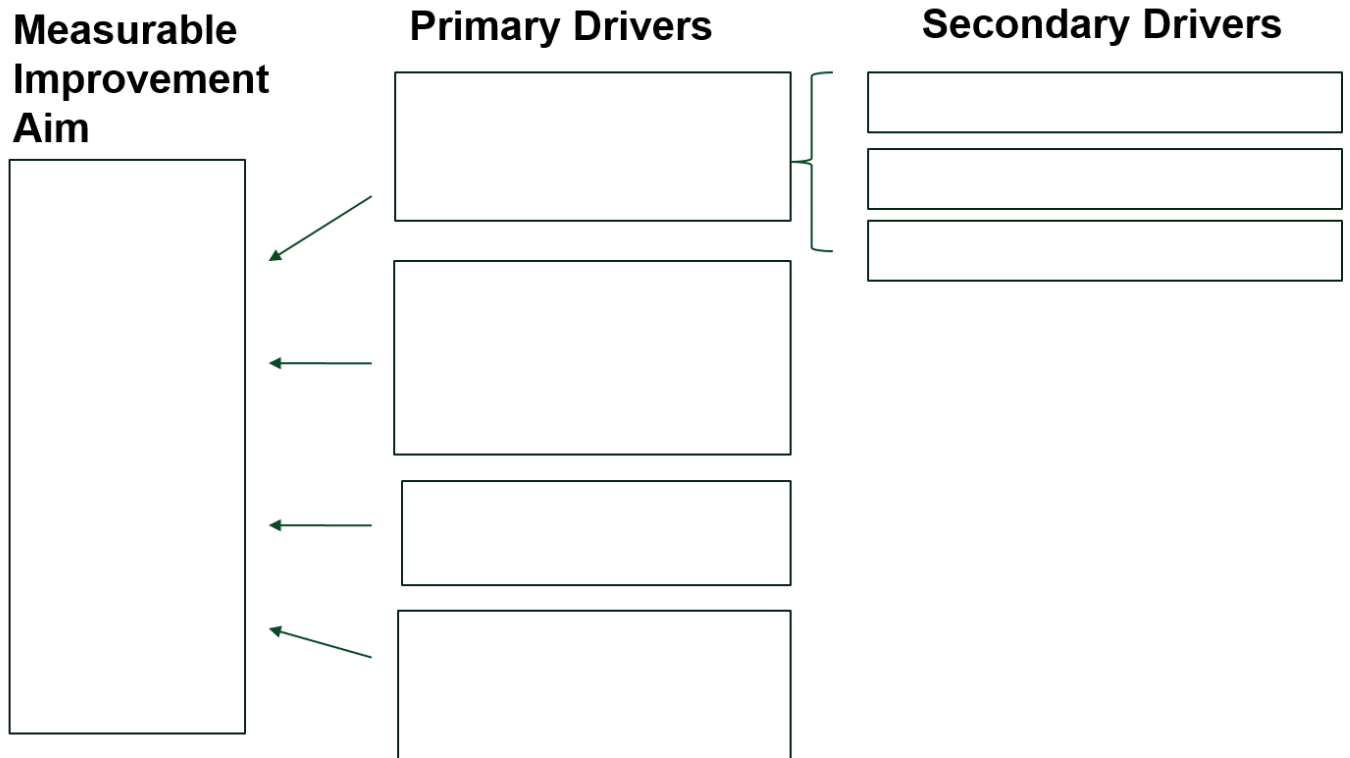


## Appendix A. Sample Agenda (One-Day Meeting)

### Agenda

Agenda Item	Timeframe	Activities	Slides	Materials
Welcome and Introductions	10 minutes	Participant introductions Quiz on progress so far	1–16	Agenda REL Midwest Summary Handout
Aim Statement Overview	50 minutes	Activity 1: Develop and share aim statements	17–22	Pens/Markers Chart Paper
Drivers and Change Ideas	60 minutes	Activity 2: Develop a driver diagram	23–32	Driver Diagram Handout
Break	10 minutes		33	
Outcome Measures	80 minutes	Activity 3: Outcome measure planning	34–38	Evidence Planning Handout
Break	10 minutes			
Plan-Do-Study-Act Cycles	90 minutes	Activity 4: Conduct a SWOT analysis	360–65	SWOT Analysis Handout
Next Steps and Adjourn	15 minutes		66	

## Appendix B. Driver Diagram



## Appendix C. Evidence Planning

### Short- and Long-Term Outcome Measures

Evidence of Impact for Direct and Indirect Outcomes	2 Weeks Into Intervention	4 Weeks Into Intervention	8 Weeks Into Intervention	Data Resources How can you obtain these data? What resources do you need?
Evidence 1: (Identify data point.)				
Evidence 2: (Identify data point.)				
Evidence 3: (Identify data point.)				

## Appendix D. E-Mail Triage Planning Sheet

Triage Email Test #1	
What change idea is being tested?	Triage email process (see attached process)
What is the overall GOAL of the test?*	Design a process that helps get to INBOX 0
<b>1) PLAN</b>	
<b>Learning Questions:</b>	<b>Predictions:</b>
Will you not adhere to any of the steps in the process?	→
How many total emails will you go through in 5 minutes?	→ _____ emails
How many emails do you NOT delete/archive? What are the main reasons?	→ _____ emails Reasons:
What did it feel like to process emails in this way?	→
<b>Setting up the test</b>	
<ol style="list-style-type: none"> <li>1. Team makes predictions and adds any additional learning questions</li> <li>2. Tester opens their email application, closes the laptop and puts process map in front of them.</li> <li>3. Data collector starts the timer &amp; tester begins processing emails from the first email in their inbox</li> <li>4. As the tester process each email they articulate what action is being taken and the data recorder records on the data collection sheet</li> </ol> <p>After the timer stops, the team completes the STUDY and the ACT</p>	
<b>2) DO</b> (Briefly describe what happened during the test, surprises, difficulty getting data, obstacles, successes, etc.)	
<div style="border: 1px solid black; height: 40px;"></div>	
<b>3) STUDY</b>	
<b>What were the results?</b>	
<div style="border: 1px solid black; height: 40px;"></div>	
<b>What did you learn? Compare your predictions to your results. What conclusions do you draw?</b>	
<div style="border: 1px solid black; height: 80px;"></div>	
<b>4) ACT</b> (What will you do next?)	
<input type="checkbox"/> ABANDON (go onto a new change idea) <input type="checkbox"/> ADAPT (make a tweak and try again) <input type="checkbox"/> EXPAND (try this for a longer period of time) <input type="checkbox"/> ADOPT (make this my standard process)	

## Appendix E. Data Collection Sheet

### Data Collection Sheet:

	(A) Deletes/Archives Immediately	(A) < 3 min (respond and delete)	(B) >3 (schedule)	(C) Leave to remember	Total
Tally					
Notes					

Additional observation

## Appendix F. Strengths-Weaknesses-Opportunities-Threats Analysis Template

	Helpful	Harmful
Internal	Strengths	Weaknesses
External	Opportunities	Threats



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