CREATE

BOOK 2 OF 3

HUMAN
CENTERED
DESIGN

To move from research to real-world solutions, you will go through a process of synthesis and translation. This requires a mode of narrowing and culling information and translating insights about the reality of today into a set of opportunities for the future. This is the most abstract point of the process where concrete needs of individuals are transformed into high-level insights about the larger population and system frameworks are created.

With defined opportunities, the team will shift modes into a generative mindset to brainstorm hundreds of solutions and rapidly make them tangible through prototyping. During this phase, solutions are created with only the customer Desirability filter in mind.

Goals of the Create Phase are:

» **Making sense of data**

» **Identifying patterns**

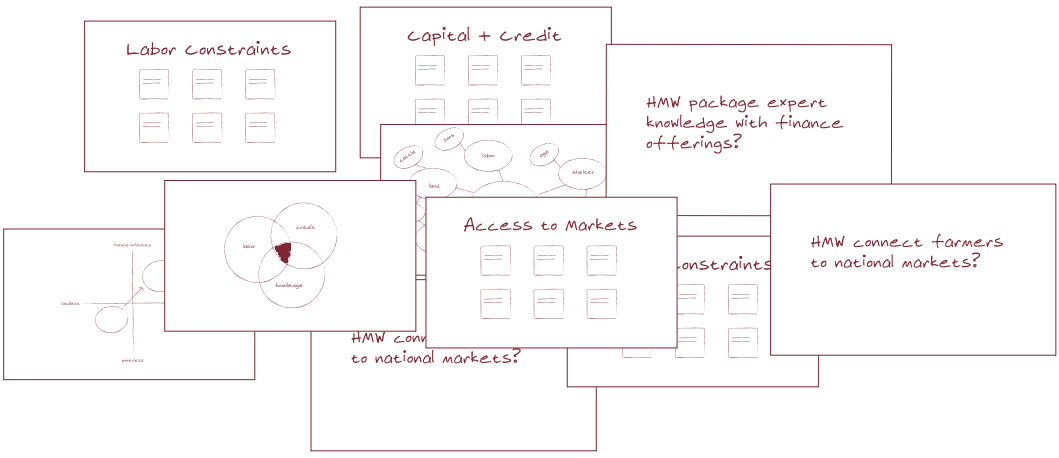
» **Defining opportunities**

» **Creating solutions**

CREATE: GOALS

H C D

CREATE: OUTPUTS



At the end of the Create phase, the team will have generated the following:

» **Opportunities**

» **Solutions**

» **Prototypes**

CREATE: THEORY

There are three key activities in the Create phase: synthesis, brainstorming, and prototyping.

Synthesis is the act of making sense of what we've seen and heard during the observations. **Synthesis takes us from inspiration to ideas, from stories to solutions.** By aggregating, editing and condensing down what we've learned, synthesis enables us to establish a new perspective and identify opportunities for innovation.

Brainstorming with rules like Defer Judgment and Build on the Ideas of Others is a proven method for coming up with unexpected innovations. **Brainstorming makes us think expansively and without constraints.** The practice of generating truly impractical solutions often sparks ideas that are relevant and reasonable. It may require generating 100 ideas (many of which are mediocre) in order to come up three truly inspriational solutions.

Prototyping is a methodology for making solutions tangible in a rapid and low-investiment way. It's a proven technique for quickly learning how to design an offering right and for accelerating the process of rolling out solutions to the world.

Prototyping is about building to think, acknowledging that the process of making ideas real and tangible helps us to refine and iterate the ideas very quickly through feedback. Creating many different prototypes that highlight different aspects of your product or service not only enables people to give honest feedback, but also prevents the team from getting attached to an idea prematurely.

SHARE STORIES

Story sharing is about transforming the stories we heard during research into data and information that we can use to inspire opportunities, ideas and solutions. Stories are framed around real people and their lives, not informational summaries

Stories are useful because they are accounts of specific events, not general statements. They provide us with concrete details that help us imagine solutions to particular problems.

TIP #1

It's best to share stories soon after research so that details aren't lost. One team member should tell the story of the person(s) they met, while the rest of the team takes notes on post-its. Notes should be small pieces of information (no longer than a sentence) that will be easy to remember later. As a group you should be thinking, "What does this new information mean for the project?" Some tips on storytelling are below.

Be Specific
Talk about what actually happened. It helps to begin stories with "One time..." or "After such and such happened..."

Be Descriptive
Use your physical senses to give texture to your description.

Follow Reporting Rules
Cover the following topics: who, what, when, where, why, and how.

WATCH OUT

Try to avoid:

» Generalizing

» Prescribing (they should, would, could...)

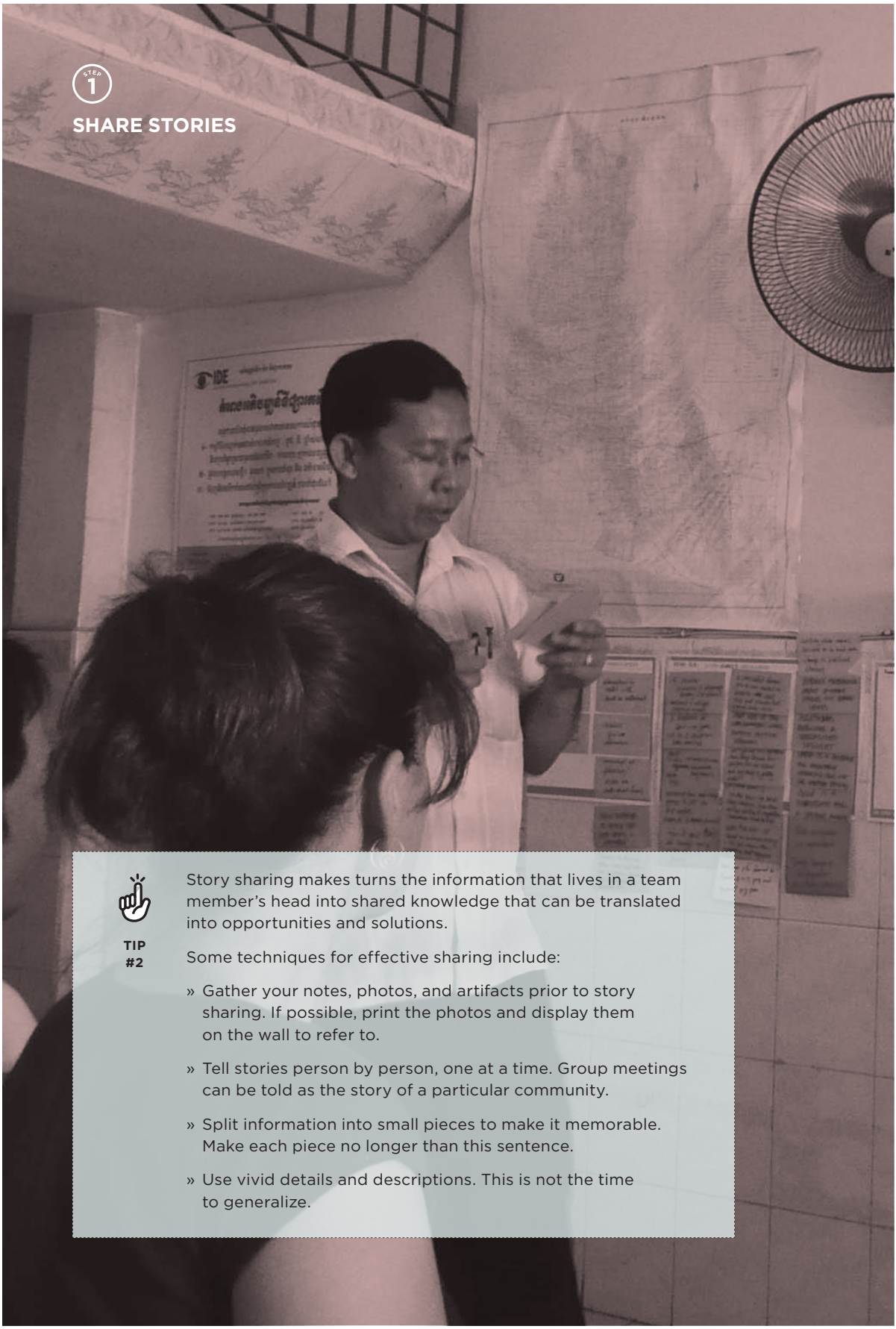
» Hypothesizing

» Judging

» Evaluating or Assuming

STEP 1

SHARE STORIES



TIP #2

Story sharing makes turns the information that lives in a team member's head into shared knowledge that can be translated into opportunities and solutions.

Some techniques for effective sharing include:

» Gather your notes, photos, and artifacts prior to story sharing. If possible, print the photos and display them on the wall to refer to.

» Tell stories person by person, one at a time. Group meetings can be told as the story of a particular community.

» Split information into small pieces to make it memorable. Make each piece no longer than this sentence.

» Use vivid details and descriptions. This is not the time to generalize.

IDENTIFY PATTERNS

Making sense of your research is accomplished by seeing the patterns, themes, and larger relationships between the information. This process can be messy and difficult at times, but ultimately very rewarding. Seeing the patterns and connections between the data will lead you quickly toward real-world solutions. There are several steps listed here to take you through the process for you use selectively based on the subject matter.

» Extract Key Insights
» Find Themes
» Create Frameworks

METHOD:
EXTRACT KEY INSIGHTS

Uncovering insights is about bringing visibility and clarity to previously hidden meaning.

WHAT IS AN INSIGHT?

» Insights are the revelations – the unexpected things that make you sit up and pay attention.

» Insights extrapolate individual stories into overarching truths.

» Insights allow us to see our design challenge in a new light.

For example, a combination of an observation and quote from an interview yielded the following sample insight:

Observation: Farmers rely on farming information from their friends and neighbors, though they know this knowledge is limited.

Quote: “If the Privatized Extension Agent lived outside my area, I would want to visit his farm so I could see his production.”

Insight: Trust-building and knowledge sharing happens through ‘seeing is believing.’

STEP 2

IDENTIFY PATTERNS

PATTERNS

TIP #1

Select key information
Look across the information in the stories. Edit out the details that are not important – this is the time to let go of some of the detail. Choose the information that you find surprising, interesting, or worth pursuing.

TIP #2

Aggregate big thoughts
Are some of the thoughts linked? If so, aggregate them. Take several related pieces of information and re-write them as one big Insight.

TIP #3

Work at the same level
Check that the insights sit at the same level--that they are all big thoughts. If you find you have some lower level insights, consider whether they might be reframed at a higher level. If they need to be dropped a level, they may be best talked about as customer needs that inform and support the Insight.

STEP 2

IDENTIFY PATTERNS

C

CASE STUDY

EXTRACT KEY INSIGHTS

In Ethiopia, the IDE team looked over the information from the Story Sharing exercise and extracted over 20 key insights. About half of these came directly from the post-its that were written in Story Sharing, and the other half were written based on the information the team heard during Story Sharing.

Some of the insights the team identified were:

» School is a key channel for distributing information

» There is a strong need for an alternative to borrowing oxen

» Buying on credit is the default

» Mass media sells water pumps

METHOD:
FIND THEMES

Finding themes is about exploring the commonalities, the differences and the relationships between pieces of information.

Look for categories and buckets
Sort your findings into categories or buckets. Which ideas are related? Cluster together the findings that belong together into themes.

Consider the relationship between categories
Look for patterns and tensions in the way your themes relate to each other. Are they on the same level? Or are they talking about different kinds of things?

Group and re-group
Slice and dice the data in different ways to find meaning. Try moving the post-its around to form new groups.

Get input from the team
Explain the early buckets and themes to a broader group. Learn from their input and try alternative groupings.

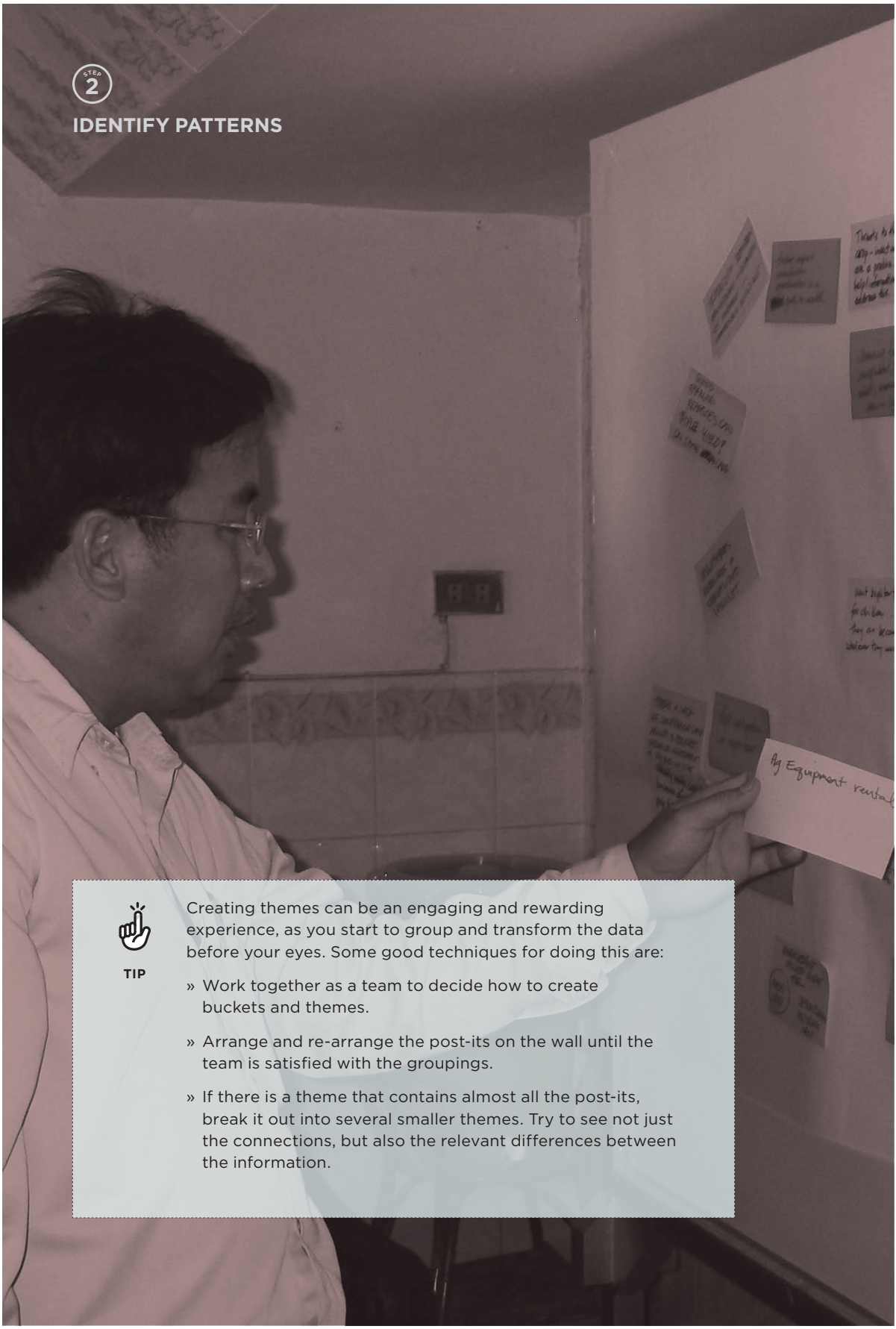
TRY

Try the P.O.I.N.T. technique
Translate the Problems and Needs identified in storytelling into Insights (see previous Method) and Themes.

P = Problems
O = Opportunities
I = Insights
N = Needs
T = Themes

STEP 2

IDENTIFY PATTERNS



TIP

Creating themes can be an engaging and rewarding experience, as you start to group and transform the data before your eyes. Some good techniques for doing this are:

» Work together as a team to decide how to create buckets and themes.

» Arrange and re-arrange the post-its on the wall until the team is satisfied with the groupings.

» If there is a theme that contains almost all the post-its, break it out into several smaller themes. Try to see not just the connections, but also the relevant differences between the information.

METHOD:
CREATE FRAMEWORKS

Frameworks allow you to begin putting the specific information from stories into a larger system context.

What is a framework?
A framework is a visual representation of a system. It shows the different elements or actors at play and highlights the relationships between them.

Using your framework
A good framework will help you see the issues and relationships in a clearer and more holistic way. Discuss what the framework implies for farmers, for value chain actors, and for your organization. Use the framework to develop or build upon key insights. Capture those insights and add them to your growing list .

GENDER

In many cases, it will make sense to create two different frameworks: one for female farmers and one for male farmers. To understand whether you need to dedicate attention to the different needs of women and men, ask yourself these questions:

» How do women's stories differ from those of men?

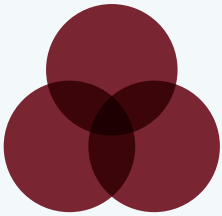
» Is gender itself a theme?

» Do women's stories tell a different story about household activities, income opportunities and barriers, and market relations than the stories obtained from men?

If you answered yes to these questions, think about creating two different frameworks that will yield different sets of opportunity areas for women and men.

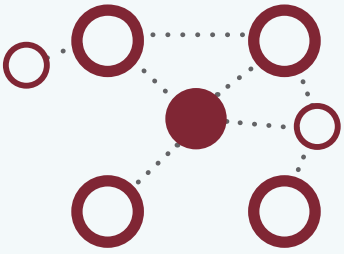
TIP

If you are having trouble visualizing your own frameworks, here are some common types of frameworks that recur again and again.

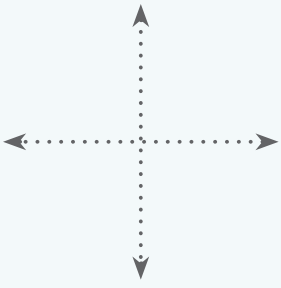


Venn Diagram

Process Map



Relational Map



Two-by-Two Matrix

CREATE OPPORTUNITY AREAS

Once you have pulled out the themes and patterns from what you heard, you can start creating opportunity areas. The process of translating insights into opportunities is about moving from the current state to envisioning future possibilities. Opportunities are the springboard for ideals and solutions.

WHAT IS AN OPPORTUNITY AREA?

» An opportunity area is a stepping stone to idea generation.

» An opportunity is a rearticulation of problems or needs in a generative, future facing way.

» An opportunity area is not a solution. Rather, it suggests more than one solution. It defines a space of possibility in which to generate solutions.

FRAMING OPPORTUNITY AREAS

Opportunities start with the phrase "HOW MIGHT WE...?" to suggest a mindset of possibility.

TRY

If your opportunity sounds like a specific solution, back it up by asking yourself "why would we want to offer this solution?" or "what user needs are answered by this solution?" Here is an example:

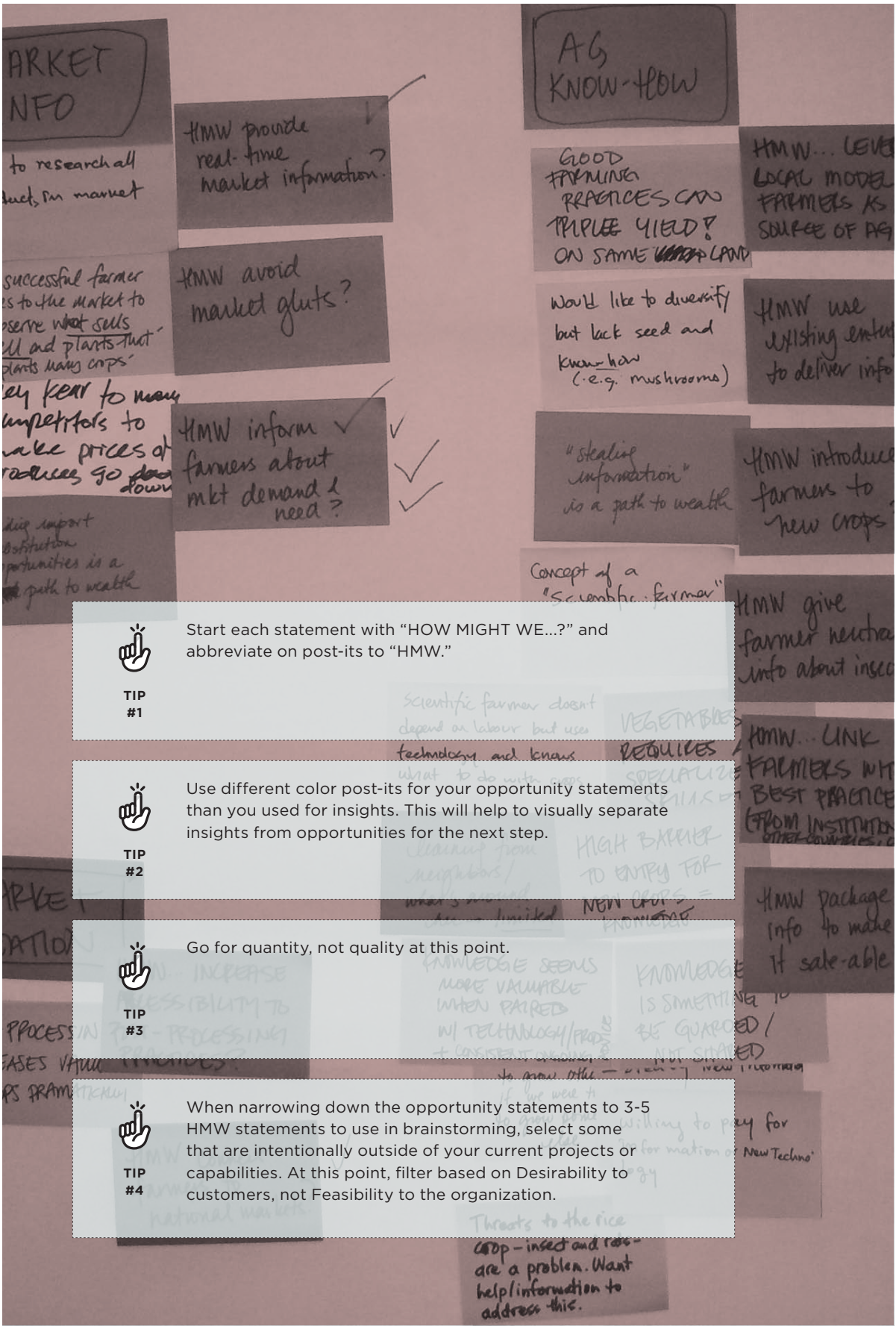
Insight
Trust building and knowledge sharing happens through 'seeing is believing.'

Solution
A training course and best-practice sharing on a local farmed plot of land might come to mind. This is a solution.

Ask yourself: What needs are answered by this solution?

Answer: The need to expand the knowledge of community members through local information aggregators.

Opportunity
How might we better educate and inform local knowledge aggregators? or How might we support new technology experimentation by local knowledge aggregators?



TIP #1

Start each statement with “HOW MIGHT WE...?” and abbreviate on post-its to “HMW.”

TIP #2

Use different color post-its for your opportunity statements than you used for insights. This will help to visually separate insights from opportunities for the next step.

TIP #3

Go for quantity, not quality at this point.

TIP #4

When narrowing down the opportunity statements to 3-5 HMW statements to use in brainstorming, select some that are intentionally outside of your current projects or capabilities. At this point, filter based on Desirability to customers, not Feasibility to the organization.

BRAINSTORM NEW SOLUTIONS

Brainstorming gives permission to think expansively and without any organizational, operational, or technological constraints.

Some people think of brainstorms as undisciplined conversation. But conducting a fruitful brainstorm involves a lot of discipline and a bit of preparation.

The practice of generating truly impractical solutions often sparks ideas that are relevant and reasonable. It may require generating 100 ideas (many of which are silly or impossible) in order to come up those three truly inspriational solutions.

TIP

SEVEN BRAINSTORMING RULES

» **Defer judgment**
There are no bad ideas at this point. There will be plenty of time to judge ideas later.

» **Encourage wild ideas**
It's the wild ideas that often provide the breakthroughs. It is always easy to bring ideas down to earth later!

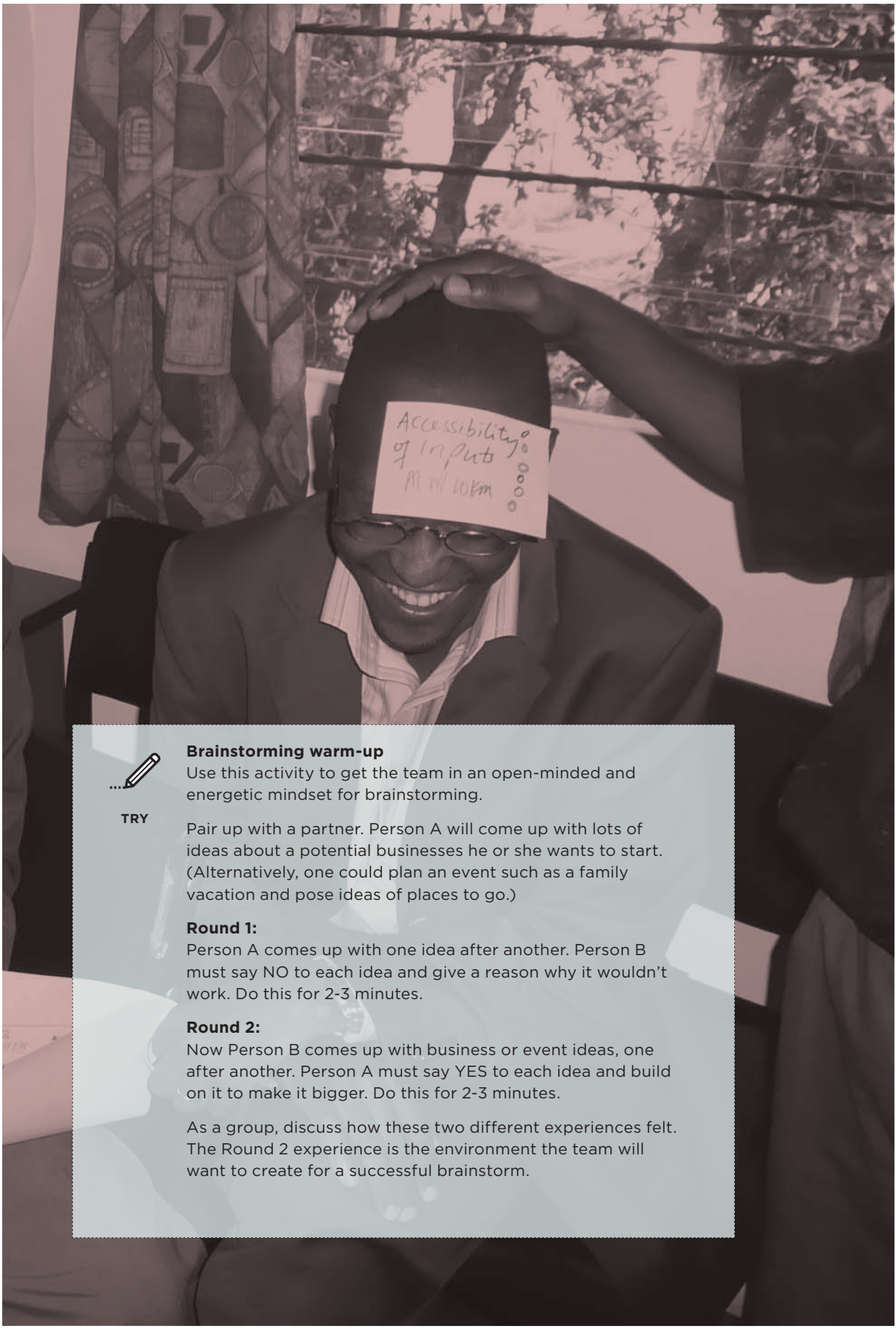
» **Build on the ideas of others**
Think in terms of 'and' rather than 'but.' If you dislike someone's idea, challenge yourself to build on it and make it better.

» **Stay focused on topic**
You get better output if everyone is disciplined.

» **Be visual**
Try to engage the left and the right side of the brain.

» **One conversation at a time**
Allow ideas to be heard and built upon.

» **Go for quantity**
Set an outrageous goal for number of ideas and surpass it! Remember there is no need to make a lengthy case for your idea since no one is judging. Ideas should flow quickly.



TRY

Brainstorming warm-up
Use this activity to get the team in an open-minded and energetic mindset for brainstorming.

Pair up with a partner. Person A will come up with lots of ideas about a potential businesses he or she wants to start. (Alternatively, one could plan an event such as a family vacation and pose ideas of places to go.)

Round 1:
Person A comes up with one idea after another. Person B must say NO to each idea and give a reason why it wouldn't work. Do this for 2-3 minutes.

Round 2:
Now Person B comes up with business or event ideas, one after another. Person A must say YES to each idea and build on it to make it bigger. Do this for 2-3 minutes.

As a group, discuss how these two different experiences felt. The Round 2 experience is the environment the team will want to create for a successful brainstorm.

MAKE IDEAS TANGIBLE

Prototyping is about buiding to think - whatever it takes to communicate the idea. Prototyping allows you to quickly and cheaply make ideas tangible so they can be tested and evaluated by others - before you've had time to fall in love with them.

What is prototyping?

» BUILD TO THINK: Prototypes are disposable tools used throughout the concept development process, both to validate ideas and to help us generate them. Prototypes are a powerful form of communication and force us to think in realistic terms about how someone would interact with our concept.

» ROUGH, RAPID, RIGHT: Prototypes are not precious. They should be built as quickly and cheaply as possible.

» ANSWERING QUESTIONS: It is essential to know what question a prototype is being used to answer, whether about desirability, usefullness, usability, viability, or feasibility.

Why prototype?

» To develop a deeper understanding of what an idea means and to reveal questions the team needs to answer.

» To help you have both an internal dialogue about how the concept works and external communication about the concept.

TRY

Imagine the Value Proposition

For each prototype, answer these questions to start building the value of the idea:

» Who will benefit from this idea? What is the value to the end customers?

» How much is this benefit worth to them?

» How much would they be willing to pay for this benefit"

» How might this payment be collected?

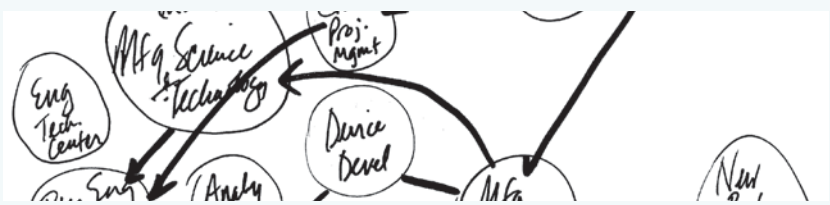
TIP

COMMON PROTOTYPE FORMS

Models:
A physical model of a product, shown above, makes a 2-dimensional idea come alive in 3 dimensions. Using rough materials allows you to quickly mock up low-fidelity prototypes.

Storyboards:
Imagining the complete user experience through a series of images or sketches.

Roleplay:
The visceral experience with a product or service is sometimes best expressed by acting it out with team members taking on the role of the customer.



Diagrams:
Mapping is a great way to express a space, process, or structure. Consider how ideas relate to each other, and how the experiences change over time.

GATHER FEEDBACK

After solutions have been generated, it's time to take them back out to participants to gather feedback.

WATCH OUT

Don't invest too much time perfecting the ideas before feedback – the point of re-engaging customers is to change the solutions, not to validate them. The best feedback is that which makes you rethink and redesign.

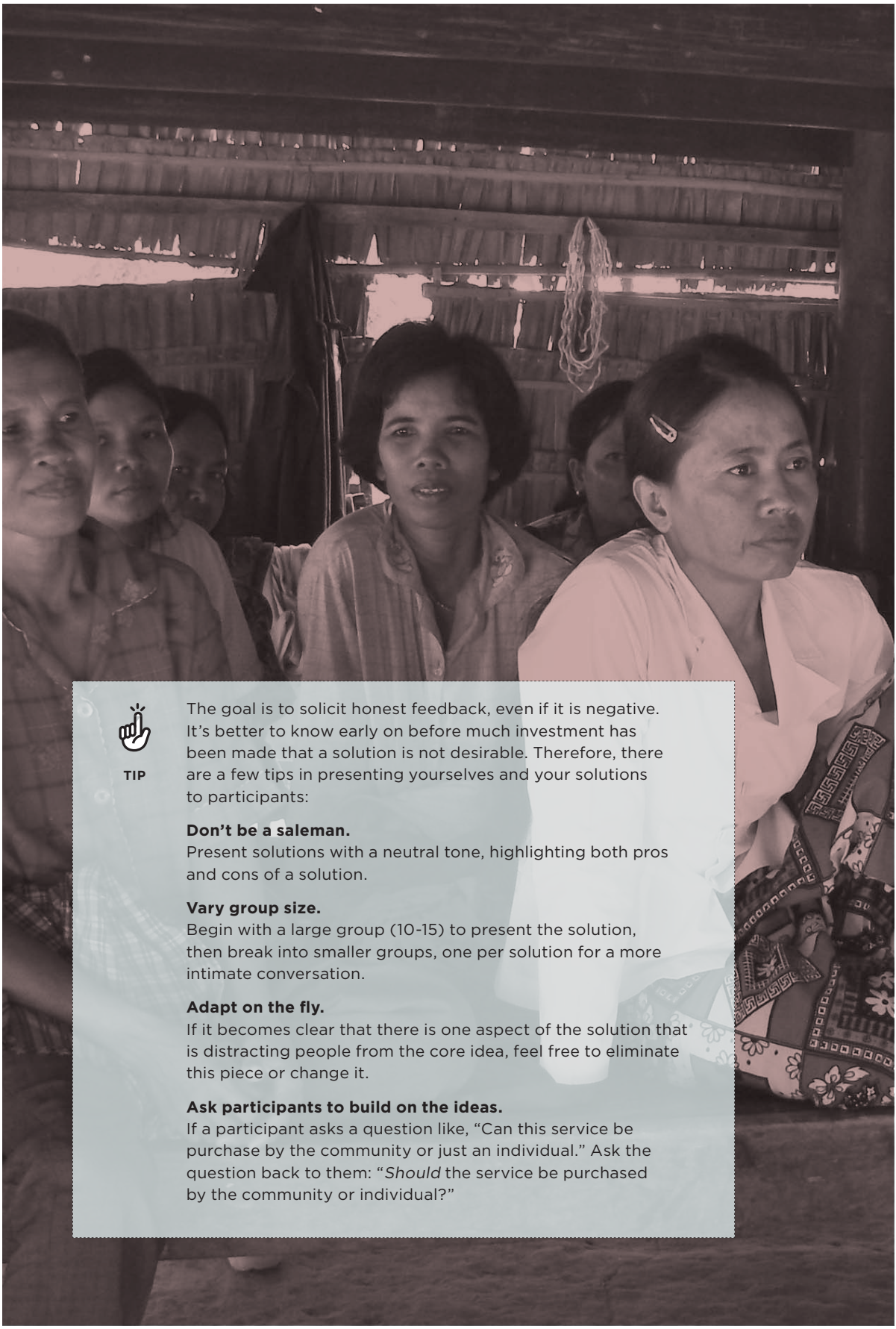
How to solicit feedback
A great way to get honest feedback is to take several executions out to people. When there is only one concept available, people may be reluctant to criticize. However, when allowed to compare and contrast, people tend to speak more honestly.

Whose feedback to solicit
Speaking to new participants in a different region from where you did your research is a way to explore the generalizability of a solution. You may choose to speak to a mix of both new people and to those you have spoken with before.

Try to include all stakeholders who would touch the concept; in addition to the end user, include manufacturers, installers, service providers, distributors, retailers, etc.

What questions to pursue
For each prototype, identify 3-4 questions you'd like answer about desirability or use case during the feedback session.

Keep careful notes of the feedback, both positive and negative, and the new questions the team needs to answer about the solution.



TIP

The goal is to solicit honest feedback, even if it is negative. It's better to know early on before much investment has been made that a solution is not desirable. Therefore, there are a few tips in presenting yourselves and your solutions to participants:

Don't be a saleman.
Present solutions with a neutral tone, highlighting both pros and cons of a solution.

Vary group size.
Begin with a large group (10-15) to present the solution, then break into smaller groups, one per solution for a more intimate conversation.

Adapt on the fly.
If it becomes clear that there is one aspect of the solution that is distracting people from the core idea, feel free to eliminate this piece or change it.

Ask participants to build on the ideas.
If a participant asks a question like, "Can this service be purchase by the community or just an individual." Ask the question back to them: "*Should* the service be purchased by the community or individual?"