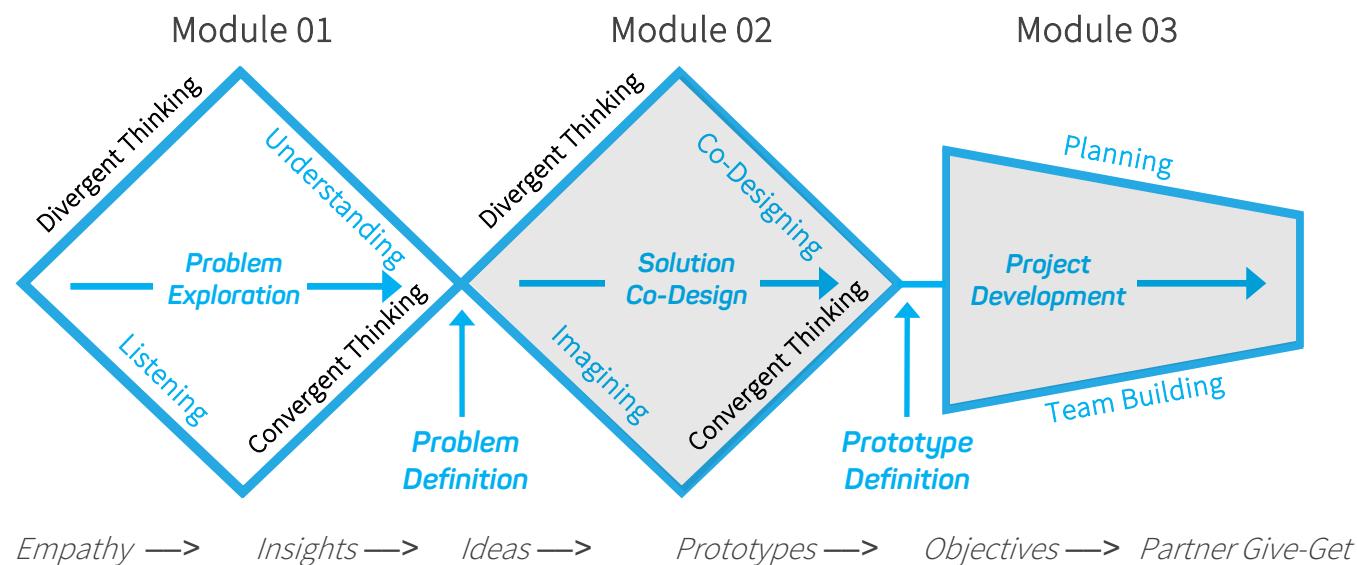


Design Central Co-Design Module 01: Problem Exploration

Module 01: Exploring the Problem

Design Central Co-Design Process Orientation

This module leverages **Empathy** to carefully observe and learn from end-customers to gain insights into the problem, and understand the value proposition being sought by end-customers.



Goal of this Module

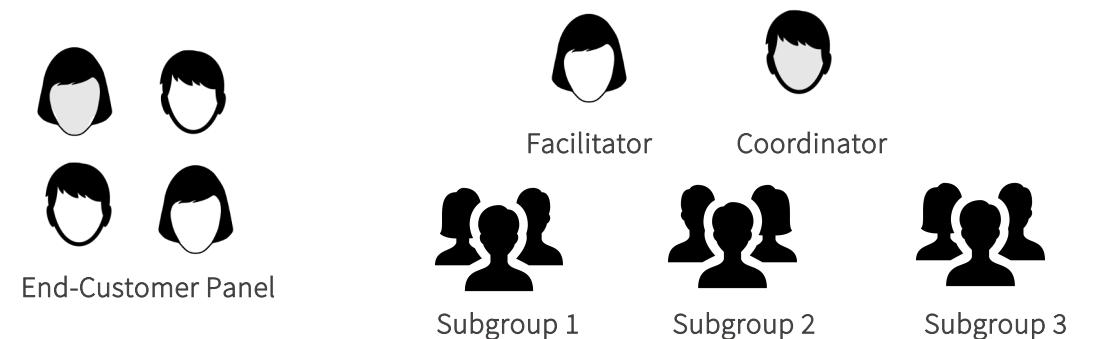
- Understand the End-Customer
- Understand how the End-Customer experiences the problem
- Understand existing solutions in use today
- Understand what other benefits the End-Customers are seeking from any potential solutions

Optional

- Understand new & promising technologies
- Understand relevant research knowledge

Facilitating This Module

Create a panel of end-customers for workshop participants to interview so they can explore the problem space ‘first-hand’, directly from those who are experiencing its impact, and who are seeking benefits from any solutions:



Roles

- **Facilitator:** prompt questions from the participants by asking initial questions to start the ball rolling. Timekeep loosely, if there’s one area where extra time can be used profitably, its here
- **Coordinator:** ensure each subgroup / participant has the set tools and any other material they need to observe and capture learnings; listen specifically for any powerful questions that don’t get full answered
- **End-Customers:** relate their experience honestly, highlighting any areas that the project hopes to address which are of particular interest to you
- **Participants:** listen and observe. If you need more detail, or you believe there’s a specific topic that needs to be covered, ask.

Divergent Step: Empathy & Listening

Goal of This Step

Participants ask critical questions of End-Customers and listen to the answers to understand the problem from their perspective.

Method

Fill out the **Problem Persona Listening Worksheet** as they listen for answers:

- How do they describe the problem they are experiencing?
- What “pains” are caused by the problem that they’d like to avoid?
- How do they solve the problem today?
- What major goal(s) do they have which the problem affects?
- What benefits could an ideal solution deliver?

Tips on Interviewing End-Customers and Asking Questions:

- Ask open-ended questions: why, what, how, when, where
- Don’t ask leading questions, e.g. whether a particular solution is better
- Do listen for motivations, why someone is doing what they do

Other Useful Information to Listen For:

- Where do End-Customers fit in their overall industry value chain?
 - Who are the producers of value, the “supply side” players?
 - Who are the consumers of value, the “demand side” players?
 - Who connects the value chain, i.e. processors, and/or brokers?
 - Who services it, i.e. logistics, input providers, waste removers
 - Who enables the value chain, i.e. regulators, investors?
- The features of technical solutions and/or research knowledge that end-customers are aware of might remove ‘pains’ and/or deliver benefits

Step Tool – Persona Problem Listening Worksheet

DESIGN CENTRAL PERSONA PROBLEM LISTENING TOOL		
PERSONA NAME:		
GENERAL DESCRIPTION OF THE PERSONA		
WHAT'S THEIR PROBLEM? <i>(e.g. Financial vulnerability to shocks due to extreme variability in weather and market trading conditions)</i>	WHAT ARE THE RESULTING 'PAINS'? <i>(e.g. Higher debt / lower equity YoY and increasing financial sensitivity to shocks...)</i>	HOW DO THEY FEEL ABOUT THE PROBLEM?
HOW DO THEY SOLVE THIS PROBLEM TODAY? <i>(e.g. Borrowing more to spend on farm inputs to sustain growth rates)</i>	WHAT MAJOR GOAL(S) DO THEY HAVE WHICH THE PROBLEM IS IMPACTING? <i>(e.g. Earn a less-precarious living...)</i>	HOW DO THEY FEEL ABOUT PROGRESS TOWARDS THEIR GOALS?
WHAT OTHER BENEFITS COULD AN IDEAL SOLUTION DELIVER? <i>(e.g. A pathway to restoring the natural productivity of the land despite the weather, lowering the need for inputs and hence borrowings, lifting financial resilience to shocks, creating new revenue streams...)</i>		HOW WOULD AN IDEAL SOLUTION MAKE THEM FEEL?

Tips on Using The Persona Problem Listening Worksheet

- Within a subgroup, work individually or in pairs
- Use one sheet per different customer type
- As you listen, fill in any part, in any order
- Do as many as you can, don't worry if you can't fill in a part.

Convergent Step: Insights & Understanding

Goal of this Step

Integrate everybody's observations into useful insights to power co-design.

Most Important Question to Answer

- “What is the value proposition sought from solutions by end-customers – i.e. needs met, benefits gained” – to reduce the pains of a problem and help them achieve their goals.

How

1. Working in subgroups, participants combine their **Persona Problem Listening Worksheets** to develop a portrait end-customers types and how each experiences the problem
2. Subgroup leaders share this information back to the whole workshop by sharing back verbally, and visually
3. The facilitation team uses the **Value Proposition Table** to collate pains felt, needs met and benefits sought by end-customer personas.

Optionally

- If a project intends to utilise a pre-existing asset, such as a minimum viable product, relevant research knowledge, or a powerful grouping of end-customers, invite a short presentations of relevant information
- If end-customers cite trading relationships exacerbate the problem or are critical to meeting their goals, use the **Value Chain and Digital Twin Mapping Tool** to map out important value chain relationships..

Step Tool – Value Proposition Table

DESIGN CENTRAL VALUE PROPOSITION TABLE			
PERSONA	PAINS FELT / NEEDS TO MEET / JOBS TO DO	SOLUTION FEATURES	DESIRED BENEFITS (OUTCOMES)

Tips on Using The Value Proposition Table

- Put in the Persona First
- Then complete “Desired Benefits (i.e. outcomes)”, and work backwards to “Pains Felt / Needs to meet / Jobs to Do”
- Leave “Solution Feature” blank for now.

Variant: Pre-existing Project Asset

Scenario

Sometimes a project intends to utilise a pre-existing asset to accelerate its learning velocity, reduce risk, shorten time-to-impact or amplify that impact, such as:

- a minimum viable prototype already operating with end-customers
- relevant research knowledge which is ready to turn into a technology, or
- a powerful grouping of end-customers, invite a short presentations of relevant information, or
- some other asset or piece of infrastructure that could be as a significant reducer of risk / accelerator of learning velocity / shorter path to impact.

Agenda Impact

- **Divergent Step** – Invite a presentation from the stakeholder of that asset
- **Supporting Tool** – Desirability, Viability, Feasibility Test Tool
- **Convergent Step** – integrate subgroup analyses to test and understand the impact of the asset on the project.

Tips on Facilitating

- Tightly time-box this exercise, 10 mins should be enough to complete the test, with another 20 mins for the shareback
- Facilitation team needs to carefully record all inputs, collect from the subgroups and integrate into a single view for later project planning work.

Step Tool – Desirability, Viability, Feasibility Test Tool

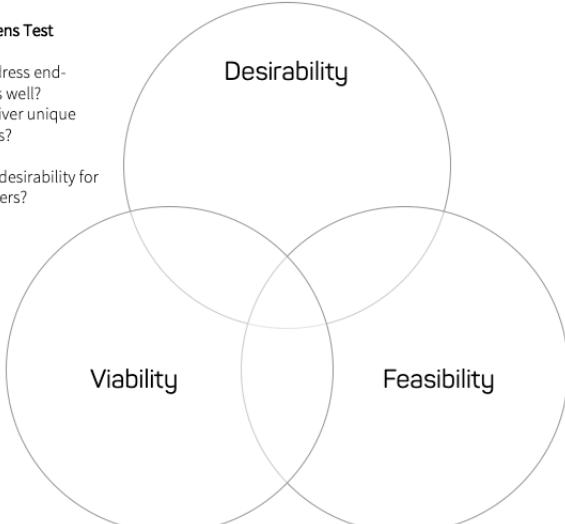
DESIGN CENTRAL DESIRABILITY VIABILITY FEASIBILITY TEST TOOL

ASSET NAME: _____

DESCRIPTION OF THE PROPOSED PROJECT ASSET

Desirability: Customer Lens Test

- Wow factor?
- Effective? Does it address end-customer pain points well?
- Valuable? Does it deliver unique benefits to customers?
- Value-for-Money?
- What's a measure of desirability for this project's customers?



Feasibility: Fitness Test

- Critical? Is the asset's capability of action key to the project?
- Compatible? How well does this fit with other project assets
- Ready? What is the readiness level for use?
- Better? How well does it substitute for other assets we might use?
- Constraints? What practical operational limits are there in its use which could affect the project?



Tips on Using The Feasibility Viability Desirability Test Tool

- “Desirability” is a ‘customer lens’ test, it asks the question “Do End-Customers want this?”: participants should assess what pains could be resolved, needs met, jobs done and benefits delivered by the asset.
- “Viability” asks the question “Should we do this”, it tests whether the asset contributes something valuable that the project can’t do without, ideally replacing the need to spend cash and contributing significant value in-kind
- “Feasibility” asks the question “Can we do this”, it tests whether the proposed asset is capable of being used.

Variant: Complex Supply Chain

Scenario

If end-customers cite trading relationships exacerbate the problem or are critical to meeting their goals, use the Value Chain and Digital Twin

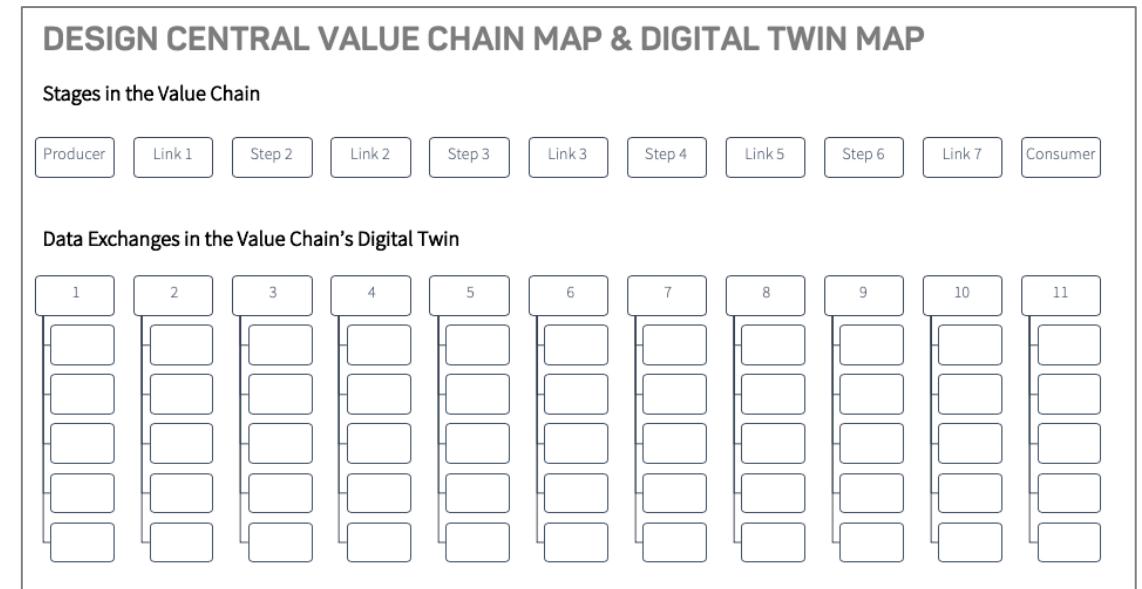
Mapping Tool to map out important value chain relationships.

If digital transformation is an important part of your project, you can also use the same tool to unravel and map the different data flows at each point of exchange across the value chain.

Agenda Impact

- **Convergent Step** – Use the Value Chain & Digital Twin Map to work together on defining the different players and linkages based on what you heard from end-customers in the divergent step.]
- **Supporting Tool** – Value Chain Map & Digital Twin Map

Step Tool – Value Chain Map & Digital Twin Map



Tips on Using The Value Chain Map & Digital Twin Map

- First, fill in the Value Chain Map in any sequence, taking time to make sure everybody agrees on the names of key parts
- IF the template is too rigid, use it as a guide but go freeform on a whiteboard
- Some Value Chains are circular; if so, go freeform make the map circular
- Digital projects can then use the hierarchical structures shown in the tool to map out the types and exchanges of data that mirror the exchanges of value in the actual value chain.

Design Central Persona Problem Listening Tool

PERSONA NAME:

DESCRIPTION OF THE PERSONA

WHAT'S THEIR PROBLEM?

(e.g. Financial vulnerability to shocks due to extreme variability in weather and market trading conditions)

WHAT ARE THE RESULTING 'PAINS'?

(e.g. Higher debt / lower equity YoY and increasing financial sensitivity to shocks...)

HOW DO THEY FEEL ABOUT THE PROBLEM?

HOW DO THEY SOLVE THIS PROBLEM TODAY?

(e.g. Borrowing more to spend on farm inputs to sustain growth rates)

WHAT MAJOR GOAL(S) DO THEY HAVE WHICH THE PROBLEM IS IMPACTING?

(e.g. Earn a less-precarious living...)

HOW DO THEY FEEL ABOUT PROGRESS TOWARDS THEIR GOALS?

WHAT OTHER BENEFITS COULD AN IDEAL SOLUTION DELIVER?

(e.g. A pathway to restoring the natural productivity of the land despite the weather, lowering the need for inputs and hence borrowings, lifting financial resilience to shocks, creating new revenue streams...)

HOW WOULD AN IDEAL SOLUTION MAKE THEM FEEL?

How to use: Listen to the persona talking about the problem. Fill in as many boxes as you can.

Design Central Value Proposition Table

PERSONA	PAINS FELT / NEEDS TO MEET / JOBS TO DO	SOLUTION FEATURES	DESIRED BENEFITS (OUTCOMES)
	xxx	yyy	
	xxx	yyy	
	xxx	yyy	xxx
		yyy	xxx
		yyy	xxx

How to use: Start with Persona, then “Resulting Benefits”, then “Pains Felt / Needs to Meet”, last Solution Features..

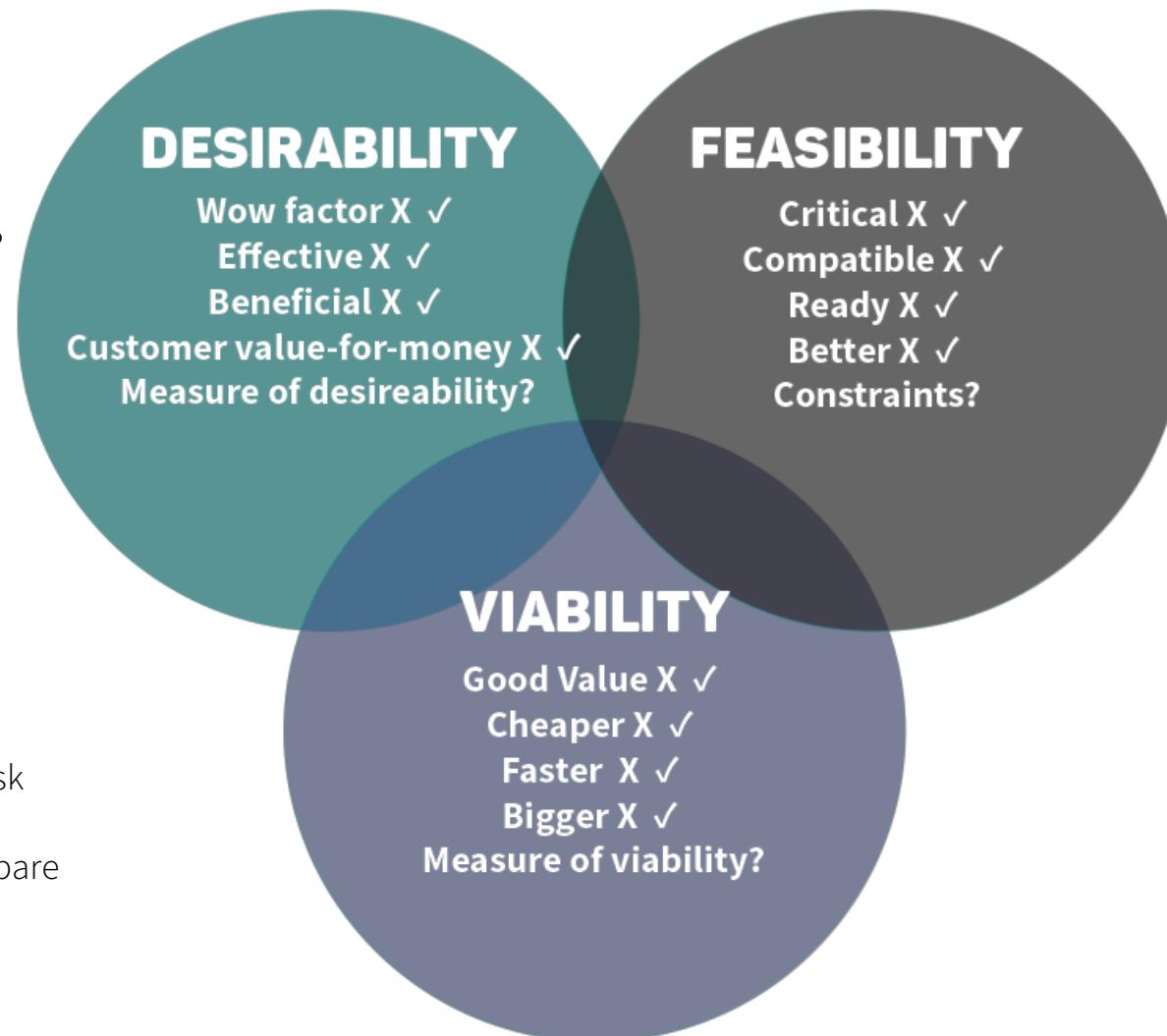
Design Central Desirability / Viability / Feasibility Test Tool

ASSET NAME:

DESCRIPTION OF THE PROPOSED PROJECT ASSET / CAPABILITY / MVP:

Desirability: Market Test

- **Wow factor?** Do customers love it?
- **Effective?** Does it address end-customer pain points well?
- **Beneficial?** Does it deliver unique benefits to customers?
- **Value-for-Money** from Customer POV?
- What's a **Measure** of desirability for this project's customers?



Viability: Customer Value Test

- **Good value?** Does it reduce the risk and/or cost of the project
- **Cheaper?** How does its cost compare to other assets we could use?
- **Faster?** Will it provide learnings sooner?
- **Bigger?** Will it provide bigger-scale impact?
- **Measure:** What's a key measure of Viability for this project?

Feasibility: Will It Work Test

- **Critical?** are the asset's features vital for delivering value?
- **Compatible?** How well does this operate alongside with other project assets
- **Ready?** What is the readiness level for it to be useful?
- **Better?** How well does it substitute for other assets we might use?
- **Constraints?** What practical operational limits are there in its use which could affect the project?

Design Central Desirability / Viability / Feasibility Test Tool

ASSET NAME:

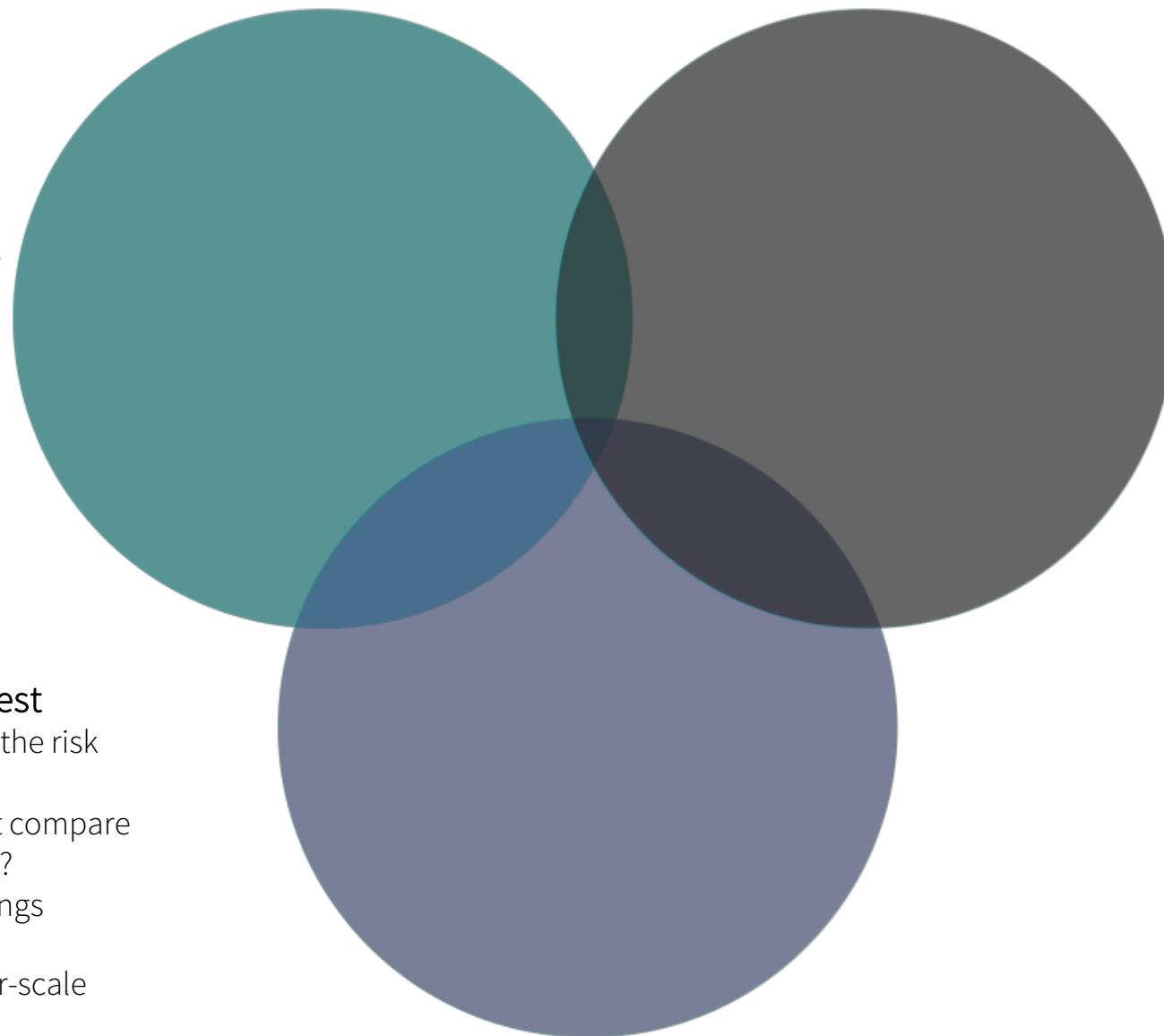
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Feasibility: Will It Work Test

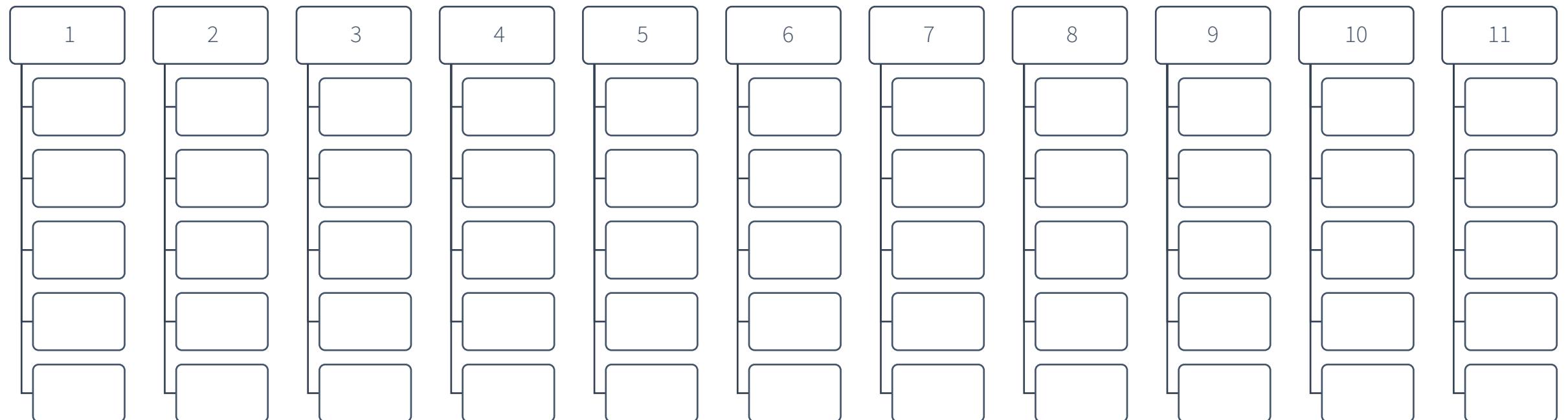
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Design Central Value Chain Map & Digital Twin Map

Stages in the Value Chain



Data Exchanges in the Value Chain's Digital Twin



How to use: Start by mapping the value chain stages – either here or on a whiteboard.