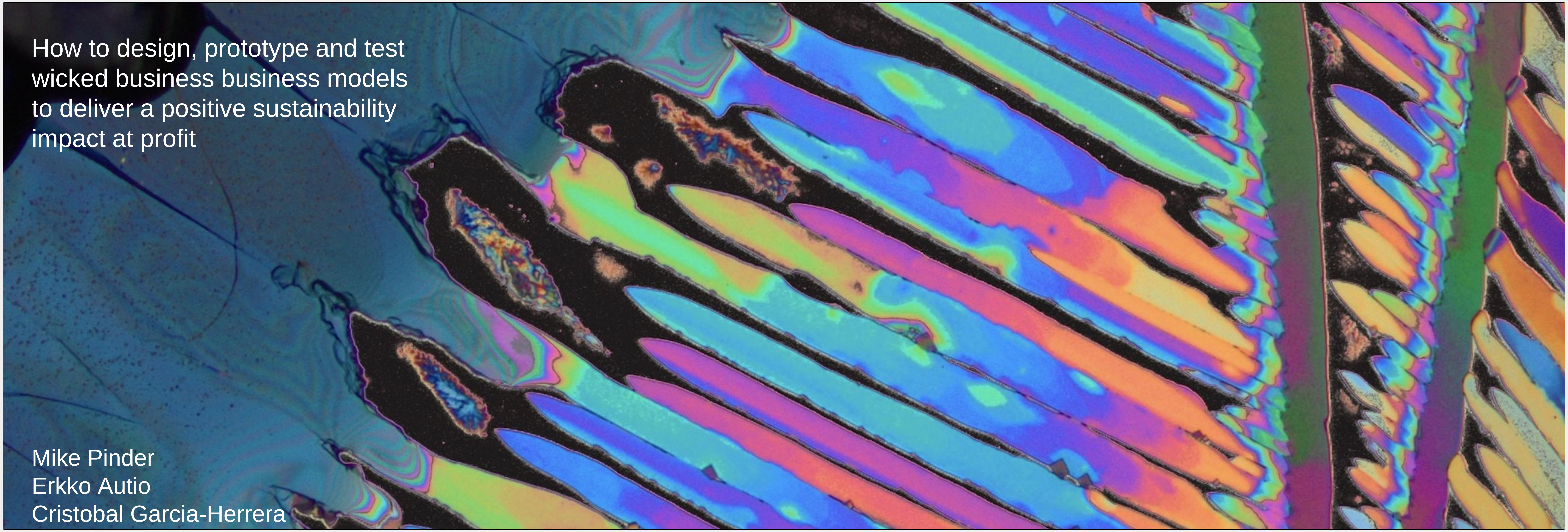


How to design, prototype and test wicked business business models to deliver a positive sustainability impact at profit

Mike Pinder
Erkko Autio
Cristobal Garcia-Herrera

2024 Vol 1

Wicked Business Model Design Playbook & Toolbox (Abbreviated Sampler Copy!)

IMPERIAL
wicked acceleration labs

By Wicked Acceleration Labs
Imperial College Business School
www.wickedacceleration.org

John Naisbitt

“The world is full of wonderful problems waiting for creative solutions.

Foreword

The world is facing more pressing challenges than ever. Time is running short for us to re-think how we re-design business models to make them more sustainable and even regenerative. We need to move beyond maximising profit to also considering how we deliver a positive impact on society and the environment — and make a profit.

Current business model design tools are not very well suited to help businesses design and deliver positive social and environmental impact missions alongside with their profit mission. To address this gap, we designed and extended a set of business model design tools to better support what we call 'Wicked Business Model Design', or the delivery of positive social and environmental impact missions that alleviate Wicked Challenges at profit.

The ultimate goal in Wicked Business Model Design is to go beyond ‘sustainability’, where businesses minimise their negative footprint, to ‘regenerativity’, where the business delivers a net positive social and environmental impact by repairing damage already caused. To achieve this, businesses need to figure out how to turn their impact missions from profit drags (impact mission comes at a cost to profit) to profit drivers (impact mission drives profit). We hope that this playbook will help businesses achieve this 'Holy Grail' of Wicked Business Model Design.

Professor Erkko Autio
Imperial College Business School
Co-founder, Wicked Acceleration Labs

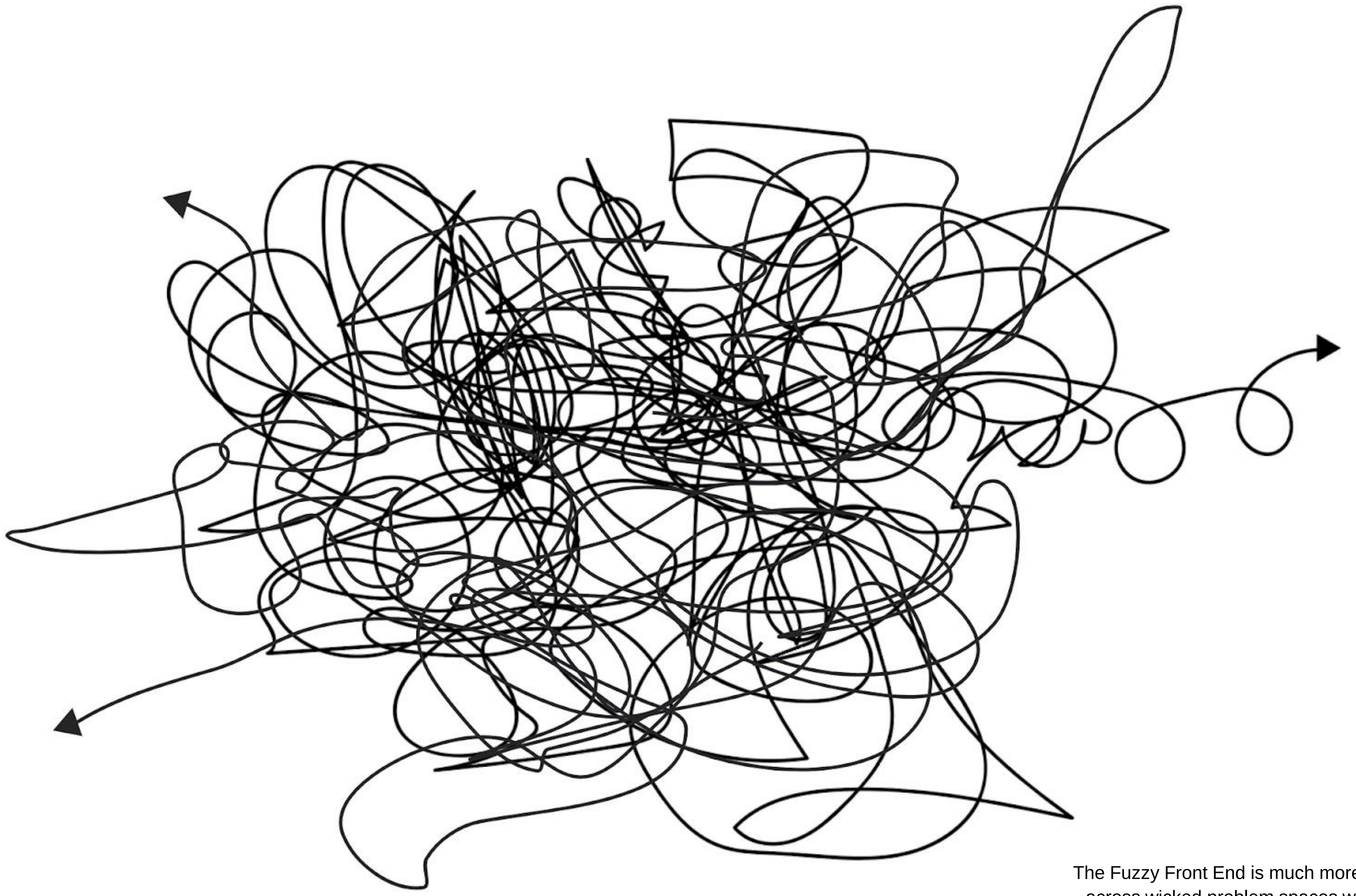
Contents

Why this Playbook

Going Beyond Current Limitations

Wicked Business Model Design (WBMD) adopts a broad approach to value creation, delivery and capture, one that considers also social and environmental stakeholders of the business. WBMD allows businesses to better understand the complexities of Wicked Challenges and iteratively design and operationalise business models that generate a profit while also delivering a positive impact at the system level.

Our WBMD approach is designed to help businesses better understand complex causal chains and systemic interactions that regulate the creation and delivery of value and impact for the audiences of their profit and impact missions. WBMD tools support the design and prototyping of Wicked Business Models that address the root causes of Wicked Challenges, thereby allowing them to bring about a positive impact at the system level. Our WBMD approach allows businesses to more precisely align their business model interactions and outcomes with the nature of the Wicked Challenges addressed, thereby increasing the chances of delivering positive systemic change.



The Fuzzy Front End is much more chaotic across wicked problem spaces with many starting and end points possible.

Why this Playbook

People, Planet, Profit and Progress Thinking and Doing for Impact

The first step in the WBMD method is to broaden our perspectives when seeking to understand the problem and solution landscapes. This requires taking into account diverse stakeholders including the natural environment and the societal context and stakeholders of the business as integral elements of the WBMD process from the outset, thereby expanding our horizons beyond the myopic focus on the unmet needs and problems of the current paying customer. This means applying '4P' lenses onto the business model design process:

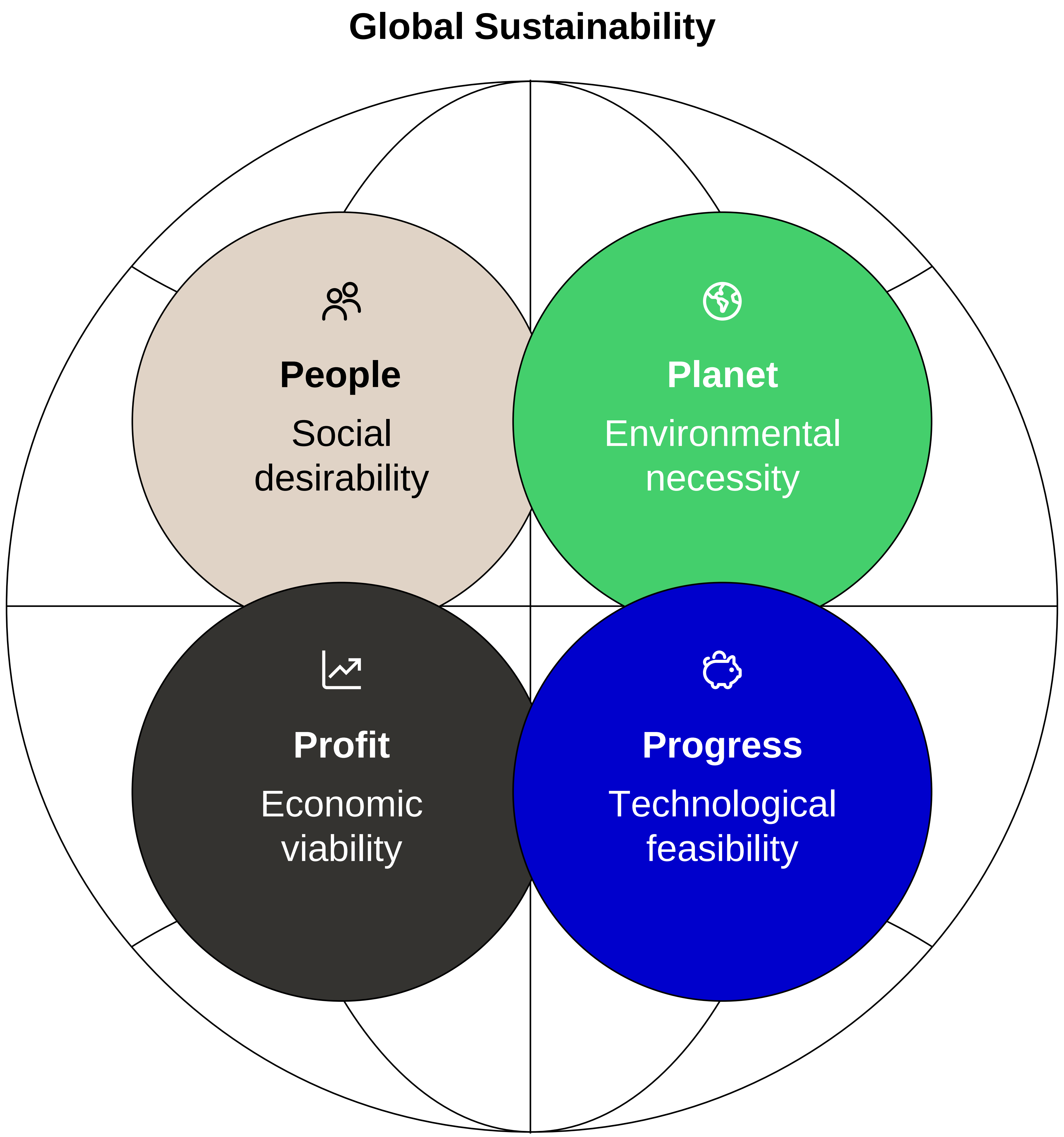
— **People:** Is our solution desirable to the people who experience the social challenge?

— **Planet:** Does our solution address environmental necessities?

— **Profit:** Can our business model make a profit while delivering a positive social and environmental impact?

— **Progress:** Can the underlying technology deliver the intended outcomes?

By considering the profit and impact missions of the business within its wider societal and environmental context, WBMD ensures that problems and solutions are analysed and understood more comprehensively and taking both its profit and impact mission audiences into account.



About Us

Wicked Acceleration Labs

This Wicked Business Model Design Playbook is part of a series of playbooks designed by Wicked Acceleration Labs. The playbooks span Deeptech, Circular Innovation and Wicked Business Model Design processes. Each playbook consists of purpose-built and customised tools, methodologies, frameworks and heuristics designed to address Wicked Challenges.

This playbook adopts a Design Science approach to identify, extend, and design effective tools to support Wicked Business Model Design. In our tool development, we have drawn inspiration from Design Thinking, Lean Startup, Systems Thinking, Speculative Design, and Futures Thinking, among others. We have combined the most inspiring ideas with our own thinking, research, practices and tool development. This way, we have sought to improve and extend approaches far beyond their original applications, and also, design our own tools to facilitate the development of solutions to the Wicked Challenges we face.

This playbook was developed by Wicked Acceleration Labs of the Imperial College Business School and Royal College of Art, both based in London, UK.

Wicked Acceleration Labs designs, develops, extends, adapts and deploys received and novel frameworks, tools and methods to support the effective development of solutions to better address today's pressing Wicked Challenges.

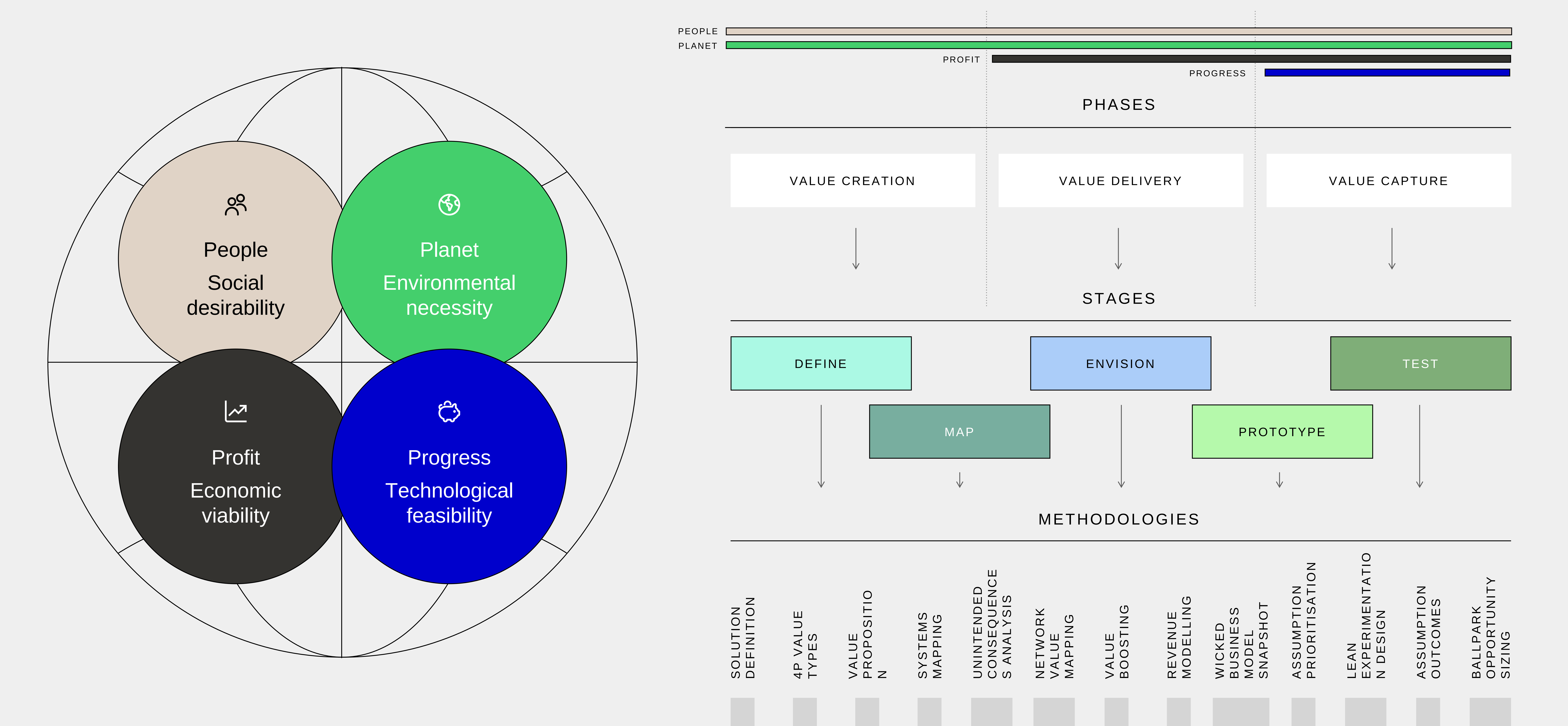
Our mission is to help envision, orchestrate and accelerate desirable futures by addressing complex systemic challenges at the intersection of industry, civil society and policy.

Learn more about Wicked Acceleration Labs, our programmes, global events and latest approaches: www.wickedacceleration.org.

WAL is founded by:

- Professor Erkko Autio (erkko.autio@imperial.ac.uk)
- Dr Cristobal Garcia-Herrera (c.garciah@imperial.ac.uk)
- Mr Mike Pinder (mike.pinder@imperial.ac.uk)
- Dr Nicolas Rebolledo Bustamante (nicolas.rebolledo@rca.ac.uk)
- Dr Nick de Leon (nick.leon@rca.ac.uk)

Wicked Business Model Design Journey



Sustainability Concept Card

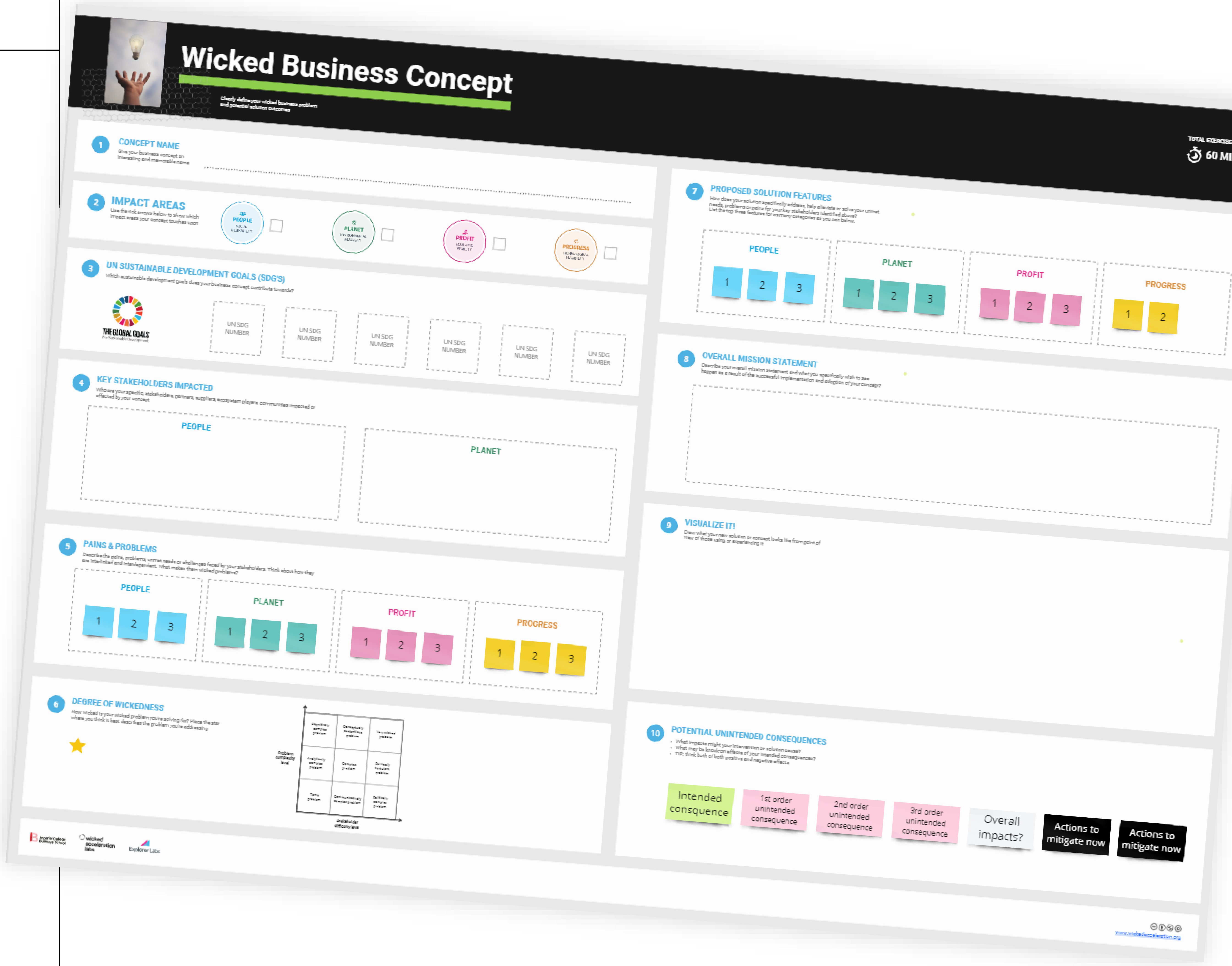
Clearly Define Your Wicked Business Problem and Potential Solutions

What Is It?

The Sustainability Concept Card provides a quick way to explain a new business idea crisply and concisely. It helps you illustrate and explain your concept to others and solicit critical feedback. This tool also helps teams summarise your reasoning specifically from the needs and problems perspectives and highlight how the proposed solution will generate customer value and stakeholder impact.

When to Use It?

Sustainability Concept Cards should be used in two situations. First, you should use them after you have ideated broadly and converged towards one or more tangible business ideas that are ripe to be taken forward into the validation, prototyping and experimentation stages. Second, you should use it after you have already completed the validation, prototyping and experimentation stages on your concept and gained validation evidence that testifies about the ability of your solution to help solve the problems you are addressing.



People, Planet, Profit, Progress
130+ Value Types Wheel

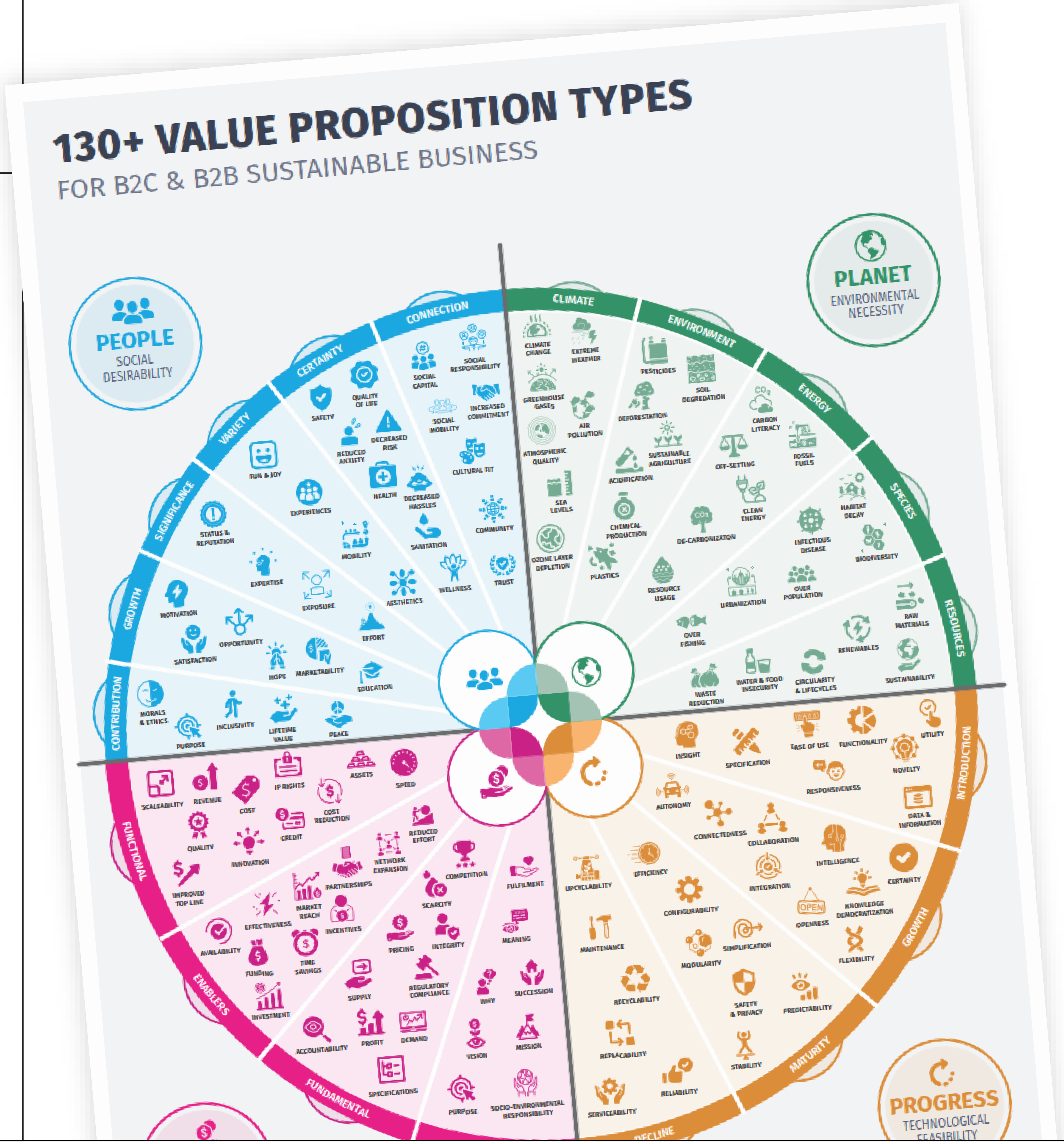
Broaden Your Understanding of the Value You Intend to Create

What Is It?

The 130+ Value Types Wheel is a reference tool to help teams visually explore different types of value and impact across People, Planet, Profit and Progress categories. It helps you think beyond traditional value types (profit, customer satisfaction, sales revenue for example) and broaden the horizons of your thinking to consider all types of value and impact you can create, deliver and capture within your solution space. Each quadrant of the wheel lists specific categories of value and impact to help you determine the ones that apply best to your concept and solution space. For more information on this tool, check the following article: https://www.explorerlabs.co/thinking/130-value-types-wheel-for-sustainability-business-innovation

When to Use It?

You should use this tool when you are ready to commence the value proposition design process. Here, you progress from defining your business concept to specifying its core features, its underlying assumptions, and eventually, the entire value and impact proposition your business model will create and deliver. This typically happens after you have defined your initial business concept and are exploring different business model prototypes to deliver it.



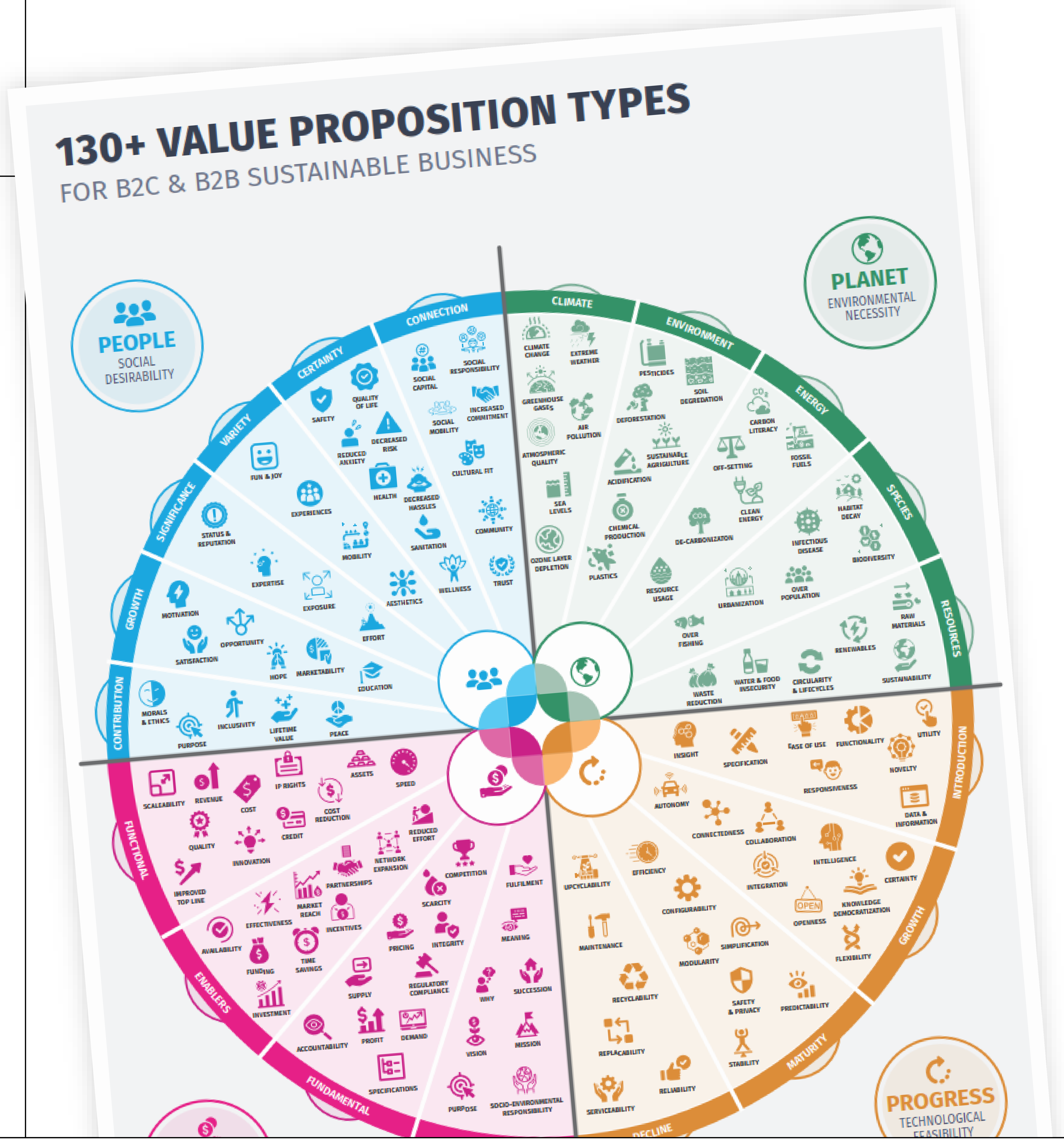
People, Planet, Profit, Progress
130+ Value Types Wheel

Practical Info

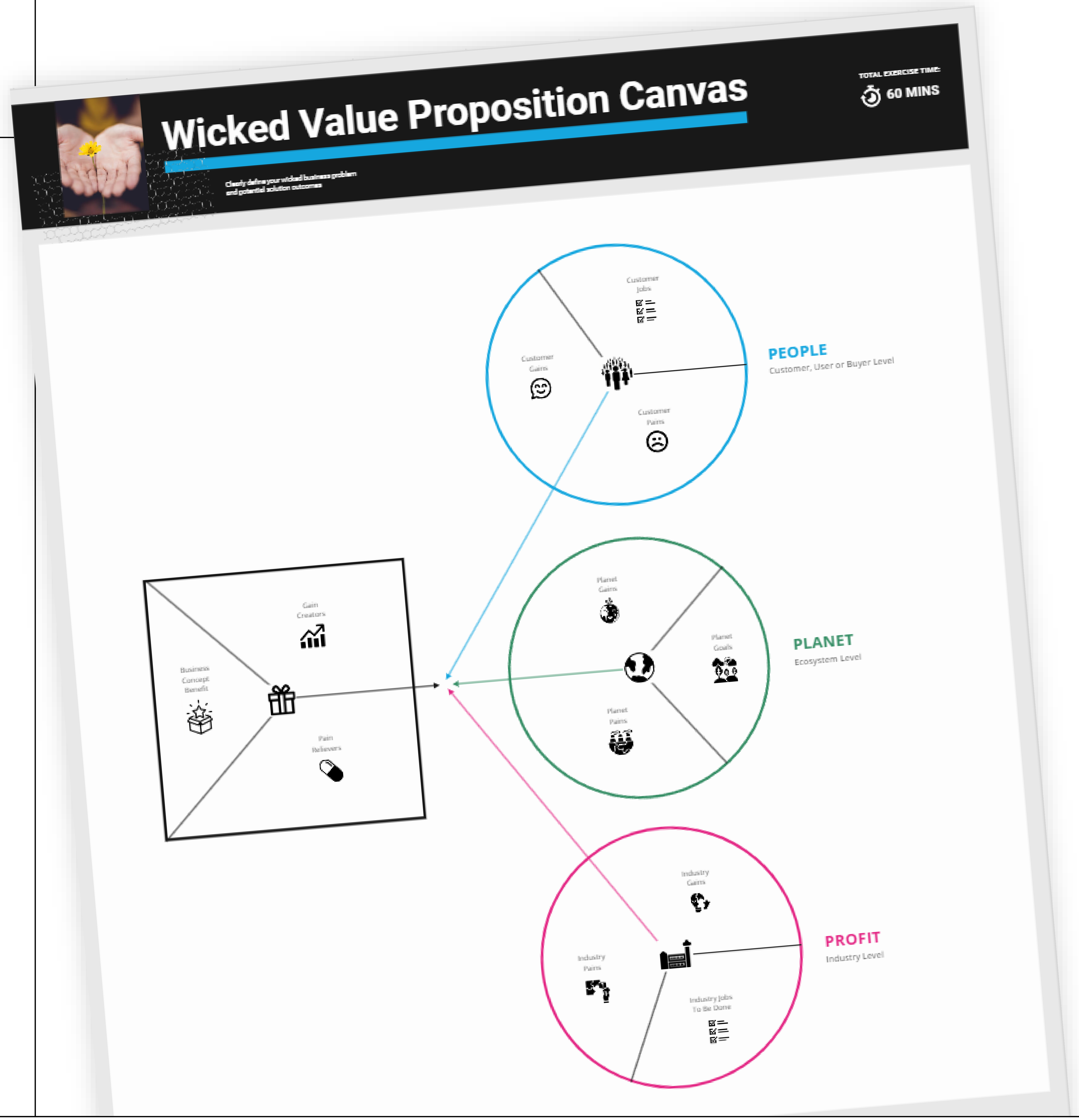
- Time to use — 60-90 mins
- Number of people — Whole team
- Difficulty — Hard
- Materials needed — Miro template or paper version, pens, markers, post-it notes

Next Step

By now you should have developed a good sense of all the different types of value and impact you seek to create with your proposed solution. You should now start thinking at a more abstract level: What will your role be in the wider societal and environmental context of your business? Taking a step back and looking at the big picture is useful because it allows you to relate to the outcomes and jobs to be done in a more general and communicable way. Abstract thinking will also help you identify and assess different business model options that you may adopt to implement your business and impact missions.



People, Planet & Profit (3P) Value Proposition Design



Articulate How Pains and Problems Will Be Addressed from Value and Impact Perspectives

What Is It?

Value propositions are a conceptual tool that helps you connect the features of your proposed solution to the jobs-to-be done and related pains and gains, as experienced by your customers, users, and impact audiences. Relating your value and impact propositions to the needs and experiences of your customer, user and impact audiences helps prevent you from adding features that do not directly address the challenges of stakeholders. We developed this tool by taking Osterwalder et al's (2014) Value Proposition Canvas[1] as our starting point and extended it beyond the Profit mission to also consider People and Planet impact missions.

When to Use It?

You should use the 3P Value Proposition design tool only when you have gained a clear understanding of the underlying value types (rather than pure solution features) you are creating with your wicked business model. You need to have a clear understanding of your business concept, the pains you address, the gains you create, and the impacts you deliver. This requires you to think abstractly about the value your solution delivers, rather than simply listing specific product features. This exercise is not about the features of your product, but the value those features deliver to your various audiences.

[1] Osterwalder, Pigneur & Smith. 2014. Value Proposition Design. Wiley, Hoboken, NJ.

[2] Original value proposition canvas is (c) Business Mode lFoundry AG. Download at: https://www.strategyzer.com/library/the-value-proposition-canvas

Systems Mapping: Brief Overview

Identify the Constituent Elements of Your System

First, identify the key stakeholders involved in your problem and solution space. Then consider all the other constituent elements of your system at People, Planet, Profit and Progress Levels.

Translate System Elements into Quantifiable Variables

Once you have a complete list of the 4P elements of your problem and concept solution space, translate them into quantifiable variables.

Draw Your Systems Boundary

Next, draw a shape to denote your system boundaries.

Draw Dynamic Interactions

Now draw arrows that connect the key elements of your system. Use plus (+) and minus (-) signs to indicate whether the effect of the interaction is positive (e.g., drive something) or negative (e.g., inhibit something).

Identify Causal Loops and Dynamics

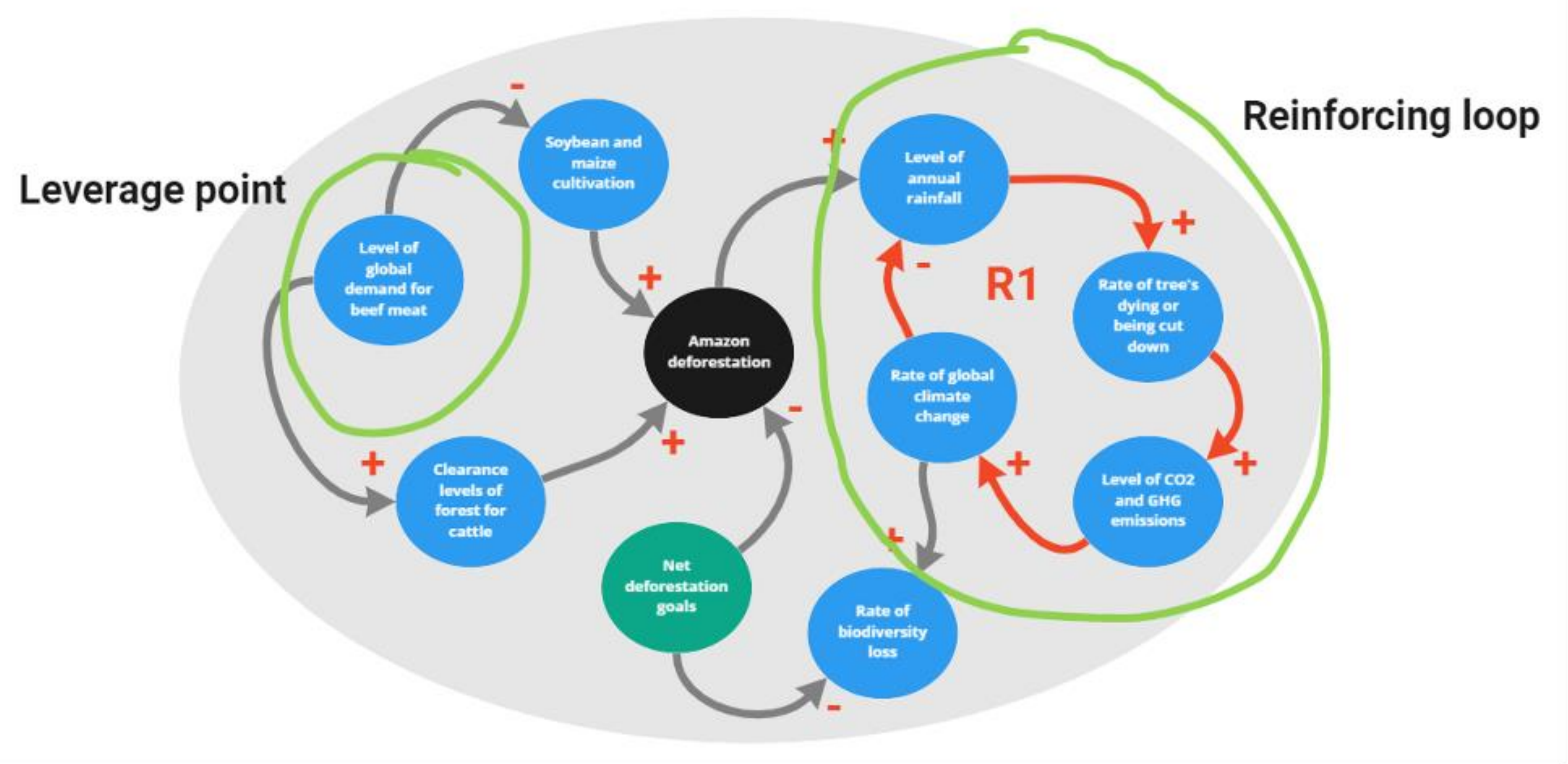
Next, identify causal loops where reinforcing (R) or balancing loops (B) may exist. These are loops where system elements are reinforced or deteriorate as a result of dynamic interactions.

Identify Leverage Points

Once you have identified causal loops and interactions at play, consider which elements of the system play the most central role in the system interactions as a whole. These are the leverage points that you may want to target to ensure maximum impact from your actions. Prioritise these in order of importance.

BASIC EXAMPLE

SIMPLIFIED EXAMPLE SYSTEMS MAP FOR DEFORESTATION IN BRAZIL



Systems Mapping

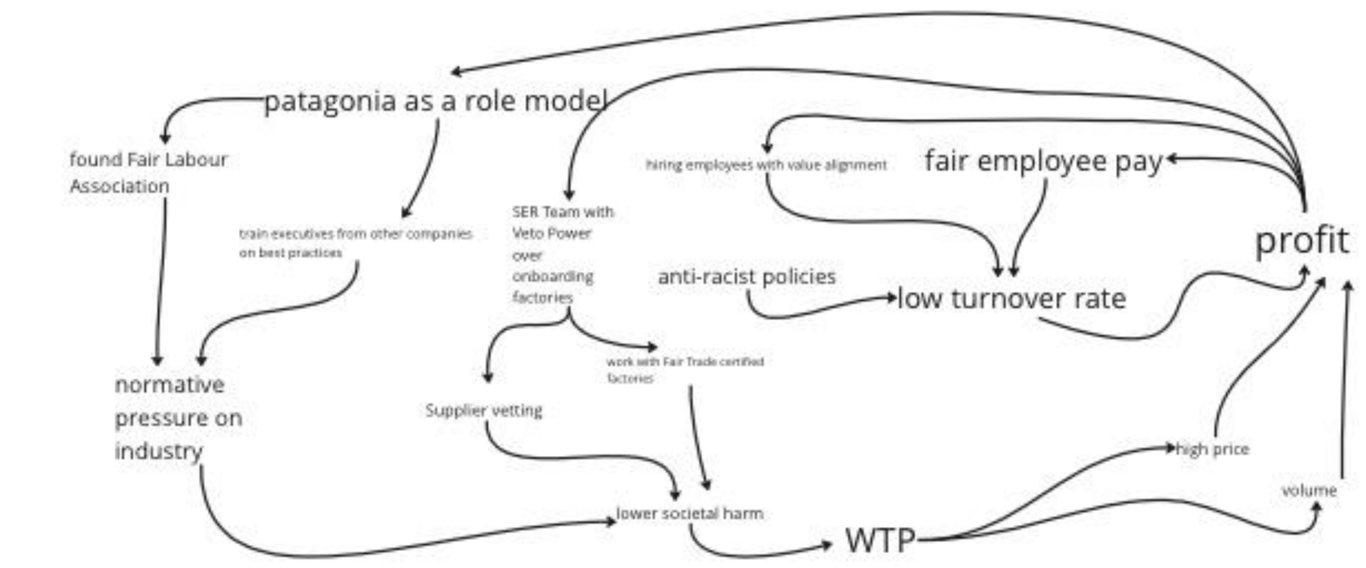
Practical Info

- Time to use — 2 to 3 hours
- Number of people — Whole team
- Difficulty — Hard (at first)
- Materials needed — Systems mapping kit (Miro version or sticky notes), round sticky notes in various colours, felt markers)

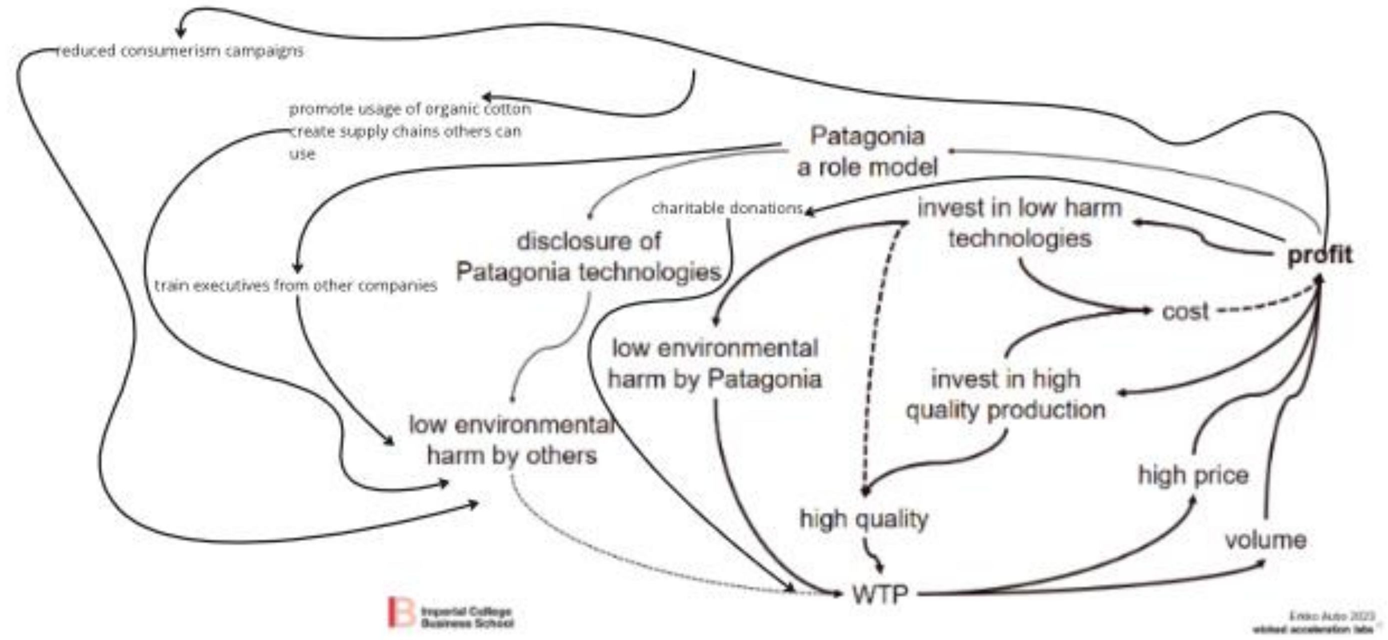
Next Step

Now that you have created a visual systemic model of the wicked environment around your business idea space from 3P perspectives, it is time to undertake a critical thinking exercise using your systems map. This will give you a much needed sanity check before validation and implementation.

PEOPLE



PLANET



Unintended Consequences Analysis

Identify the Likely Positive and Negative Outcomes to Sanity-Check Your Plans

What Is It?

Unintended Consequences Analysis is a way to critically self-reflect upon the introduction and implementation of new concepts and business models. It provides a crucial sanity check to understand the likely short-term and long-term unintended outcomes of operationalising your business model. It is all too easy to get caught by the 'bandwagon bias' and focus on positive outcomes only while ignoring potential negative ones. This tool provides the antidote to this bias.

Key benefits:

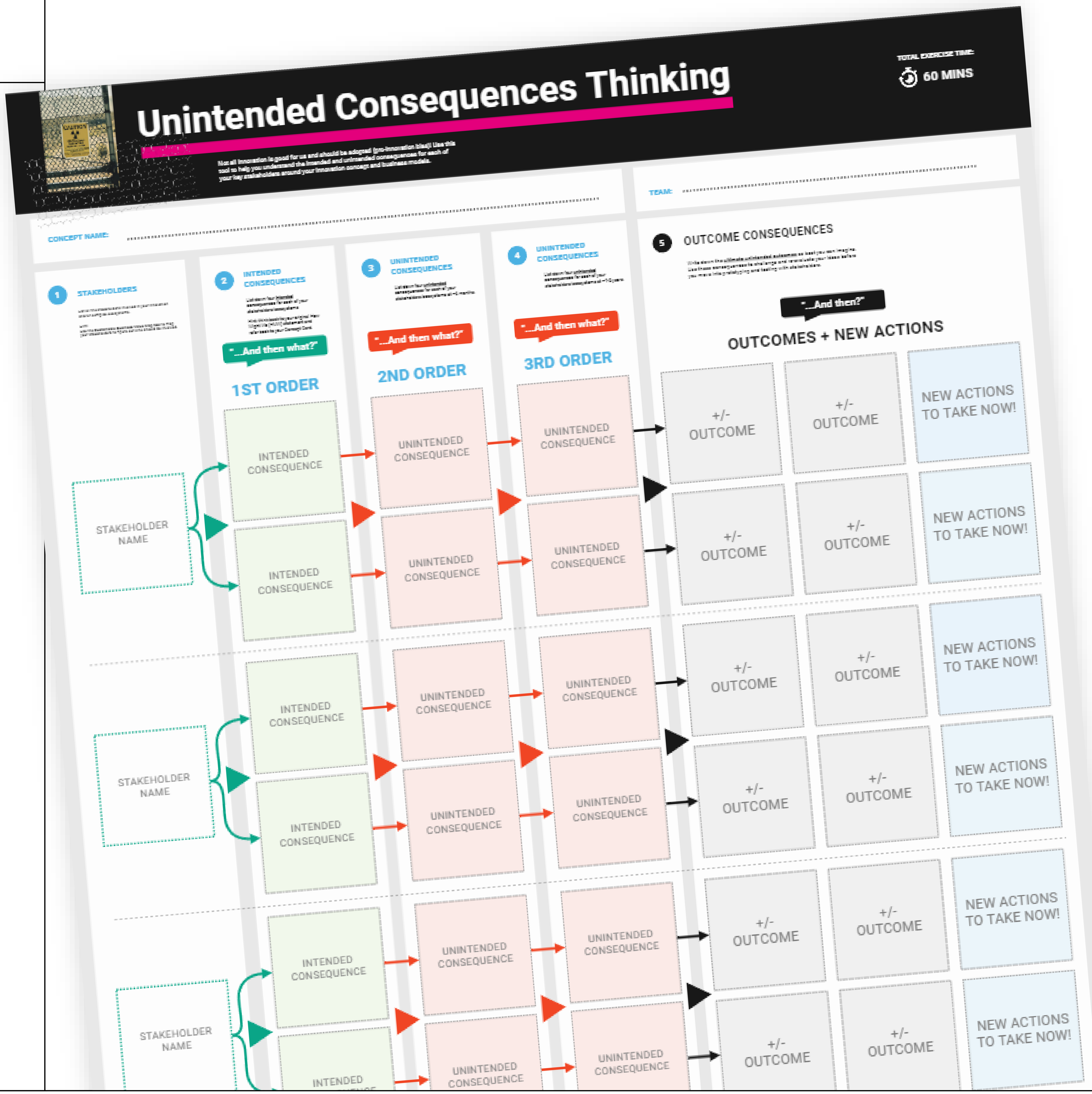
— Helps reduce bandwagon bias in your thinking

— Provides critical and balanced reflection on the likely outcomes of implementation

— Ensures you also consider potential negative consequences

When to Use It?

It is surprising how seldom teams challenge their own ideas. Teams often only focus on the expected positive outcomes of their efforts without critical self-reflection. Use the Unintended Consequences Canvas after you have considered and mapped all stakeholders around your business concept and created your Systems Map with leverage points and causal loops identified.



Unintended Consequences Analysis

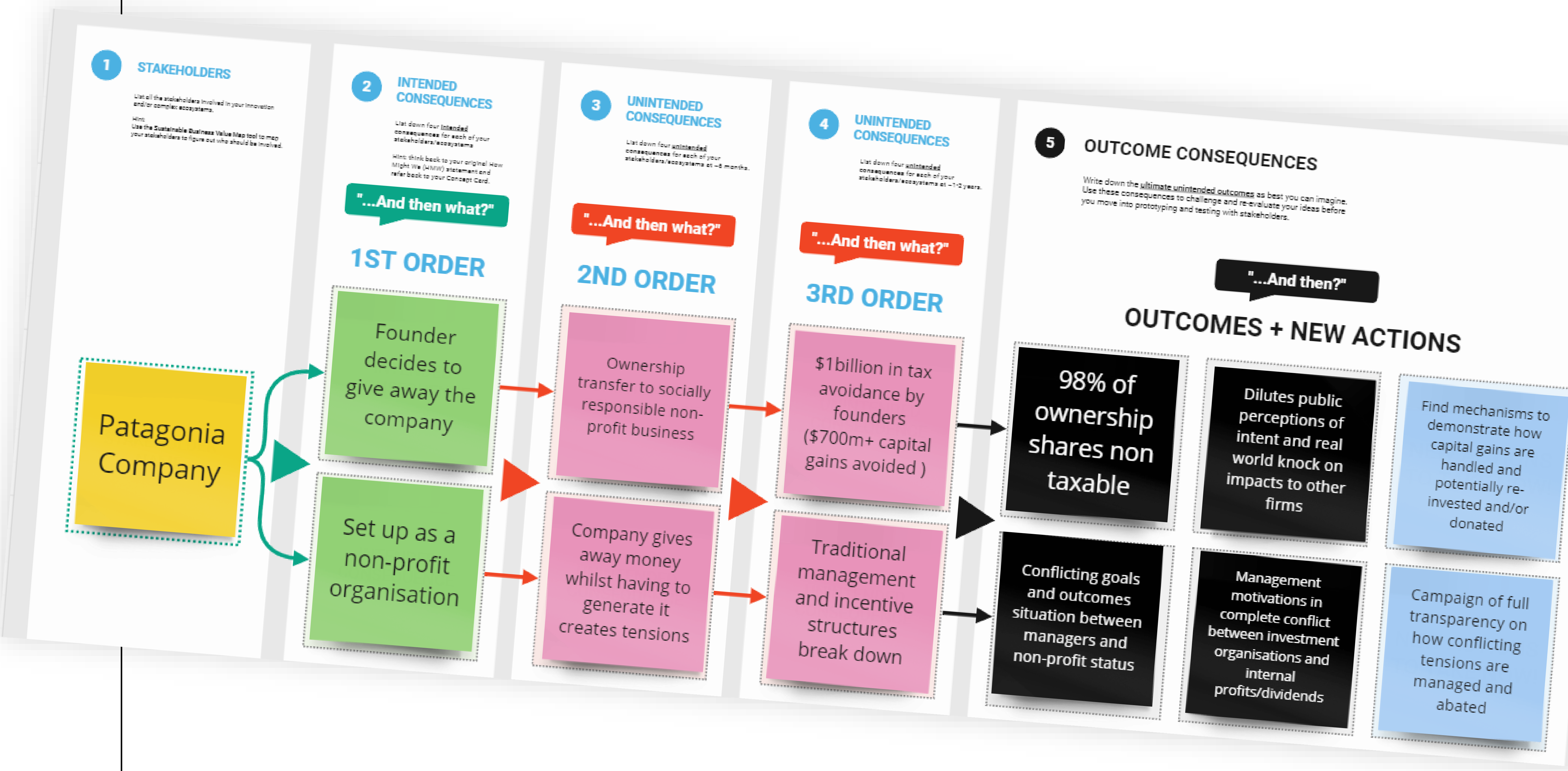
WORKED EXAMPLE
PATAGONIA

Practical Info

- Time to use — 60 mins
- Number of people — Whole team
- Difficulty — Moderate
- Materials needed — Miro template or paper version, pens, markers, post-it notes

Next Step

You have just completed a vital step in WBMD. Now you have a good understanding of the potential impact of your business concept, it is time to go back to your concept to make any needed changes or refinements. This is a good moment to rethink what you are trying to achieve and how. Once your WBMD concept has been critically evaluated using your systems map, it is time to dive into prototyping your actual business model value and impact interactions across your stakeholder audiences.



Network Value Map (NVM)

Tips and Tricks

Note that this tool requires many tweaks and iterations to arrive at a potentially testable outcome.

It is useful to get critical inputs and reflections from other teams and external parties for further refinement of your NVM.

Study many different business models for inspiration and ideas to inspire your own NVM design. We have a number of examples and resources available for this purpose.

Common Challenges

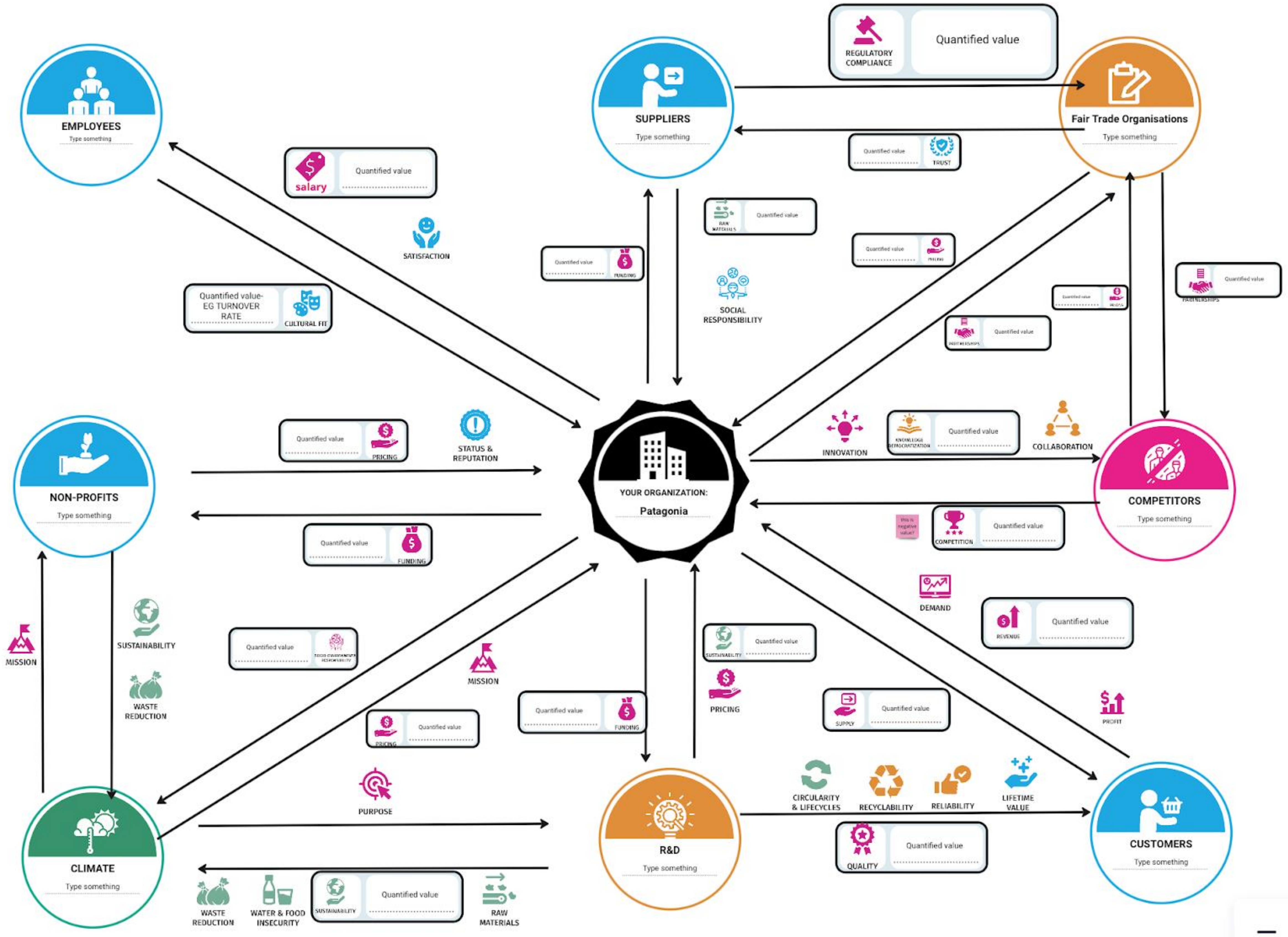
It is easy to fall in love with your first NVM prototype. Try to create at least three different configurations before you look to understand your assumptions.

This tool much easier to use and iterate upon when coded into a digital collaboration environment such as the Miro Board.

Make sure you map in People, Planet, Profit and Progress value perspectives from previous steps as well as your 3P systems map dynamics.

WORKED EXAMPLE

EXAMPLE NETWORK VALUE MAP TOOLKIT, SPANNING PEOPLE, PLANET, PROFIT AND PROGRESS STAKEHOLDER TYPES FOR PATAGONIA



Scaling Canvas

Uncover All the Ways in which You Can Build Scalability into Your Prototype Business Model

What Is It?

Scalability is the ability of your business model to rapidly increase your outputs without a corresponding prior investment in production capacity. An effective approach to build scalability into your business model is to harness digital resources and cloud infrastructures, and also, to outsource difficult-to-scale activities. The Scaling Canvas helps teams to identify and work around scalability bottlenecks ahead of implementation. The key areas to look at in search of scalability are key resources and activities, partnerships, value propositions and customer interactions. The Scaling Canvas suggests critical questions to help business model designers identify and eliminate scalability bottlenecks right from the beginning.

When to Use It?

Teams should use Scaling Canvas after they have already prototyped a network value map and have a good understanding of how the revenue model could potentially be monetised in B2C or B2B contexts. You don't need to have completed any validation cycles yet to get the most out of this tool. It is best used when you have a clear understanding of the value exchange dynamics and the specific interactions you'd like to test. The Scaling Canvas allows you to revisit and upgrade your business model design choices once early-stage considerations for overall business model prototype have been completed.

Quadruple 'e' Canvas

WORKED EXAMPLE
FRESHHIPPO

Tips and Tricks

Make sure to relate back to your original 3P Value Proposition canvases. Prioritise the most value-adding components that address your stakeholder needs, pains and problems. Feed high-priority value types into this tool for consideration.

Make sure to prioritise the outcomes of this tool once completed. There can be many ways to boost your WBM prototypes, so narrowing down to the most potent value amplifiers is a priority.

Make sure to read our case study on Freshippo for insights and inspiration in how to use this tool most effectively on your WBM prototype.

Common Challenges

It can be a challenge to think of further boosting factors for your WBM prototype, especially if you have been working on it for an extended period of time. Refer back to the 130+ Value Types or NVM Tools if you get stuck for value types to potentially boost.

This tool is about thinking broadly at the bigger picture and zooming into the specifics of your business model. Try take a fresh look at your WBM prototype, yet think in a focused way at the same time.

Make sure your value amplifiers here are directly related to the needs, pains, problems of your People and Planet stakeholders.

Triple Bottom Line Canvas (TBL)

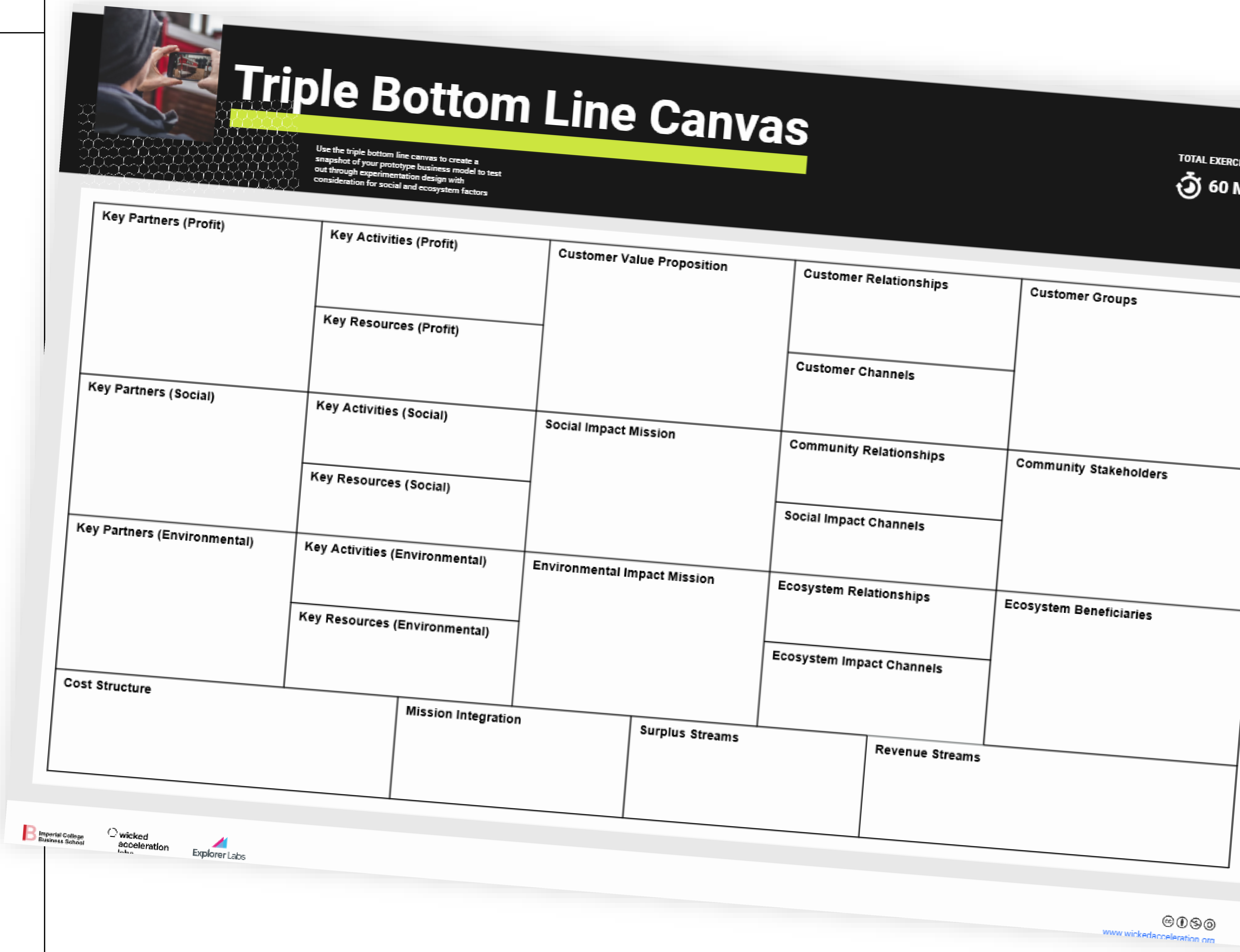
Generate a Multi-dimensional Wicked Business Model Snapshot to Chart Your Lean Experimentation Roadmap

What Is It?

The Triple Bottom Line Canvas is a useful way to create a wicked business model snapshot to ensure that you consider all factors to generate profit, responsibly, without causing undue harm to the natural environment or society. It helps teams consider the 3P's of business impact and articulate your social and ecological impact missions alongside with your profit mission. Triple Bottom Line thinking allows teams to translate three value and impact missions into a coherent and logical sequence of organisational design decisions, ultimately and ideally converting the impact missions from profit drags into profit drivers. The TBL canvas is highly useful in surfacing critical assumptions to test and validate across the three missions through experimentation design.

When to Use It?

You should use the Triple Bottom Line Canvas when you are ready to create a detailed snapshot of your wicked business model prototype. This usually occurs after you have completed the Scaling and Quadruple 'e' Canvases. Teams should consider the Triple Bottom Line canvas as an effective way to integrate and consolidate all previous divergent thinking business modelling tools used so far into a single summary on the canvas. Once there, it should be fairly straightforward to uncover the critical assumptions being made about each of the boxes.



Triple Bottom Line Canvas (TBL)

Tips and Tricks

This canvas is not so much about creating new information as it is about consolidating insights from previous analyses into a single canvas. It is often easiest to start by completing the three central boxes first: customer value proposition and social and environmental impact missions. Most of the essential information has already been defined during the previous steps.

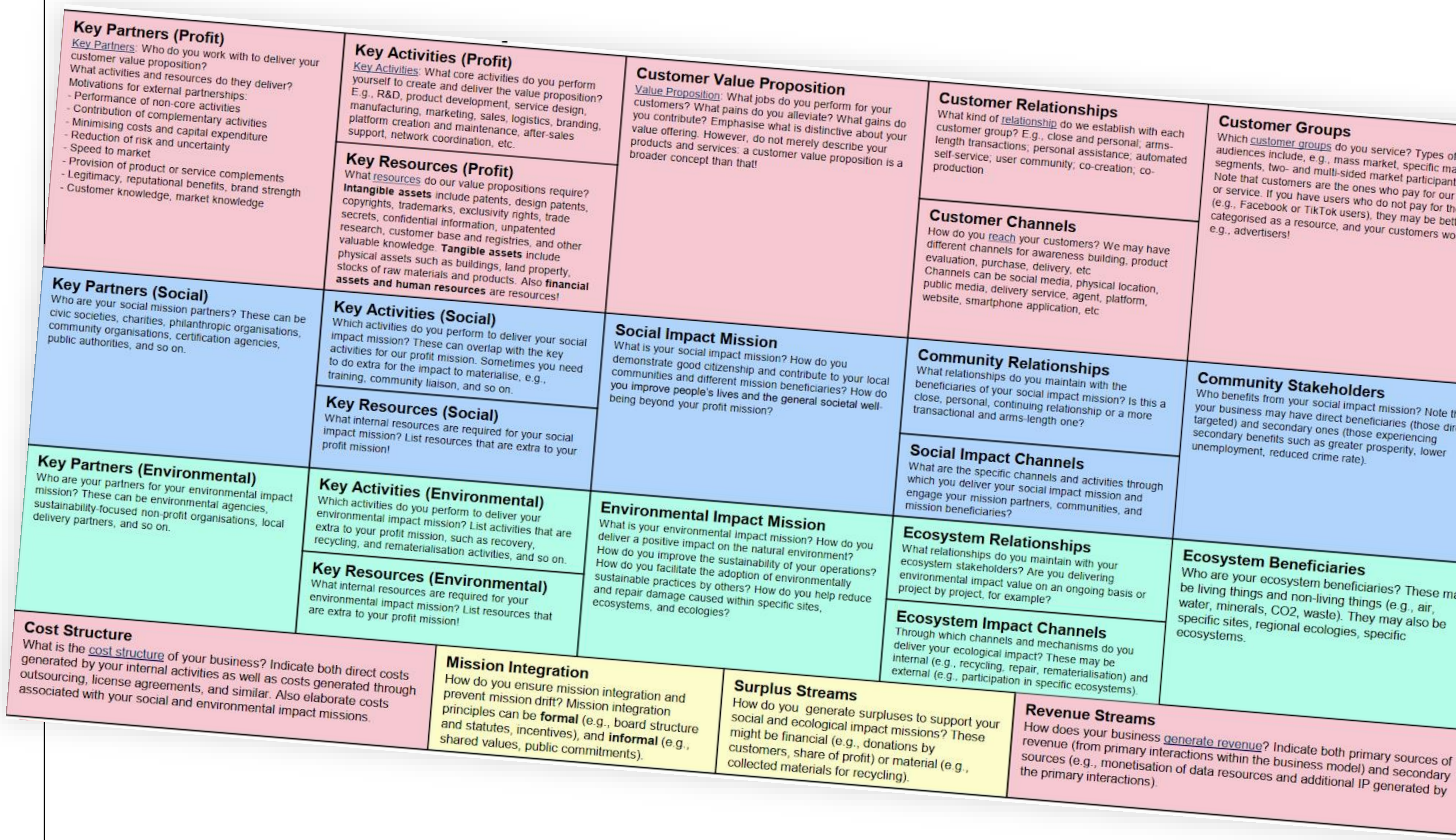
Teams may find it easier to then complete the right hand (external) side boxes next as these consolidate insights regarding your value and impact stakeholders. Then move to the left side of the canvas and complete the key resources, activities and partner boxes first for your profit mission. After this, do the same for the social and environmental impact missions, only adding resources, activities, and partners that are additional to those required to deliver your profit mission.

Common Challenges

Teams may be inclined to use this kind of end-point canvas as an ideation tool. Try to instead use it to summarise insights and ideas developed using the previous tools. This is a consolidation tool, after all!

If you do not provide enough detail in each of the boxes, it will be difficult to surface your underlying assumptions. Make sure to add as much detail as you reasonably can.

Pay close attention to the Mission Integration box, as this is key to achieving true sustainability by converting the social and environmental impact missions from profit drags into profit drivers. How can you ensure that the three missions synergistically reinforce one another? And, how do you make sure that you do not 'drop the ball' when going gets tough? It is easy to be sustainable when the sun shines, but the true test of your sustainability comes when you hit the headwinds!



Assumption Prioritisation Matrix

Tips and Tricks

Make sure to label your assumption types for ease of analysis across the tools. For example, you might use blue for People, green for Planet, pink for Profit, and yellow for Progress.

Try to consider assumptions as anything you as a team assume to be true across all the tools you have completed so far.

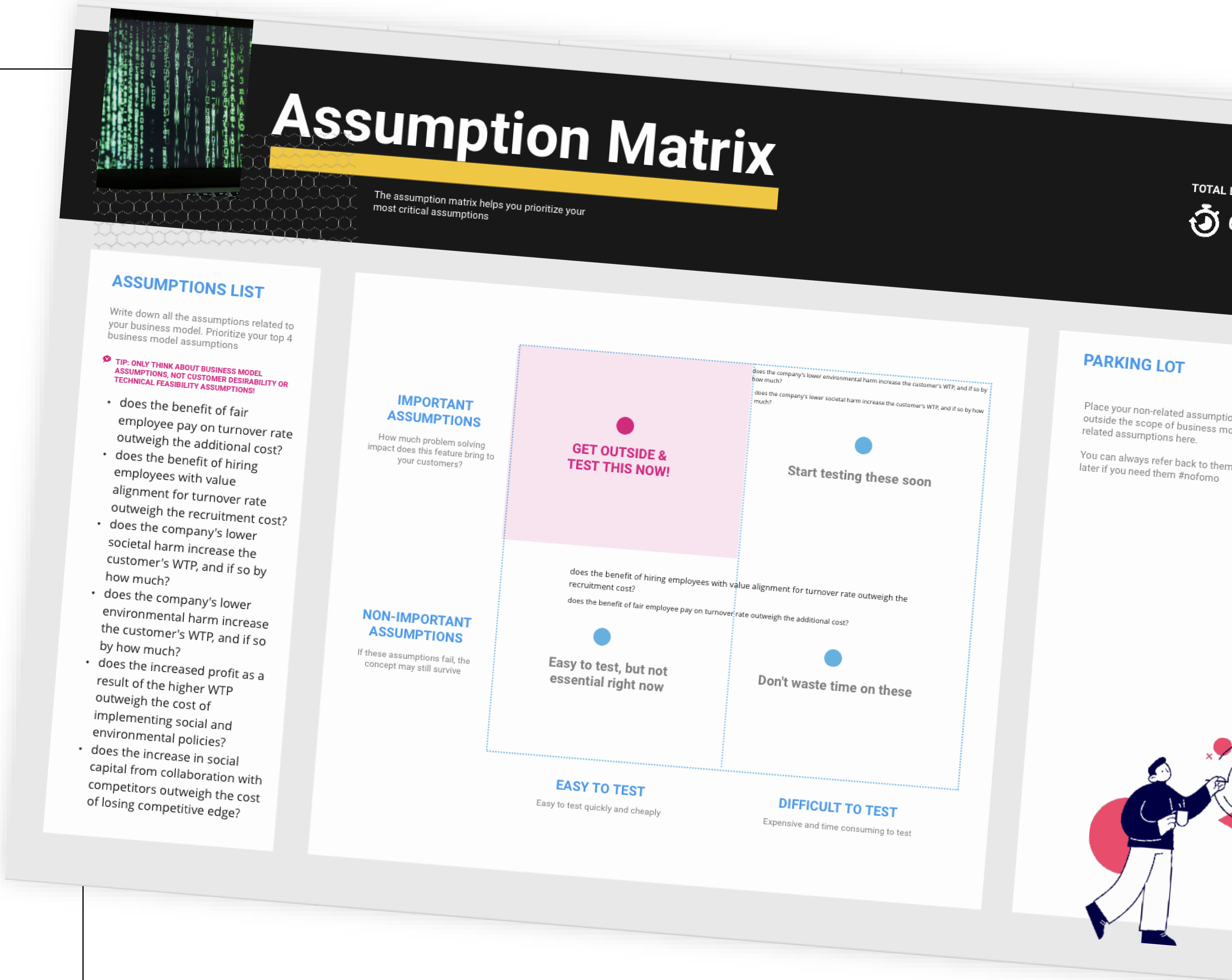
When you have prioritised your important and easy-to-test assumptions, make sure to filter them down to no more than 5 assumptions for each of the 4 P's. Otherwise you will have too many assumptions to start testing in the next step!

Common Challenges

Teams often find it difficult to start thinking about critical assumptions, so make sure to use our Critical Assumption Identifier Cheat Sheet to get you started.

It can sometimes be difficult to distinguish between different assumption types (4P's). Ensure you challenge each other and have critical discussions!

Team members can find it difficult to push back against other people's ideas and reasoning, so make sure you all agree to have tough and challenging, yet fair and respectful discussions when using this tool.



Lean Experiment Cards

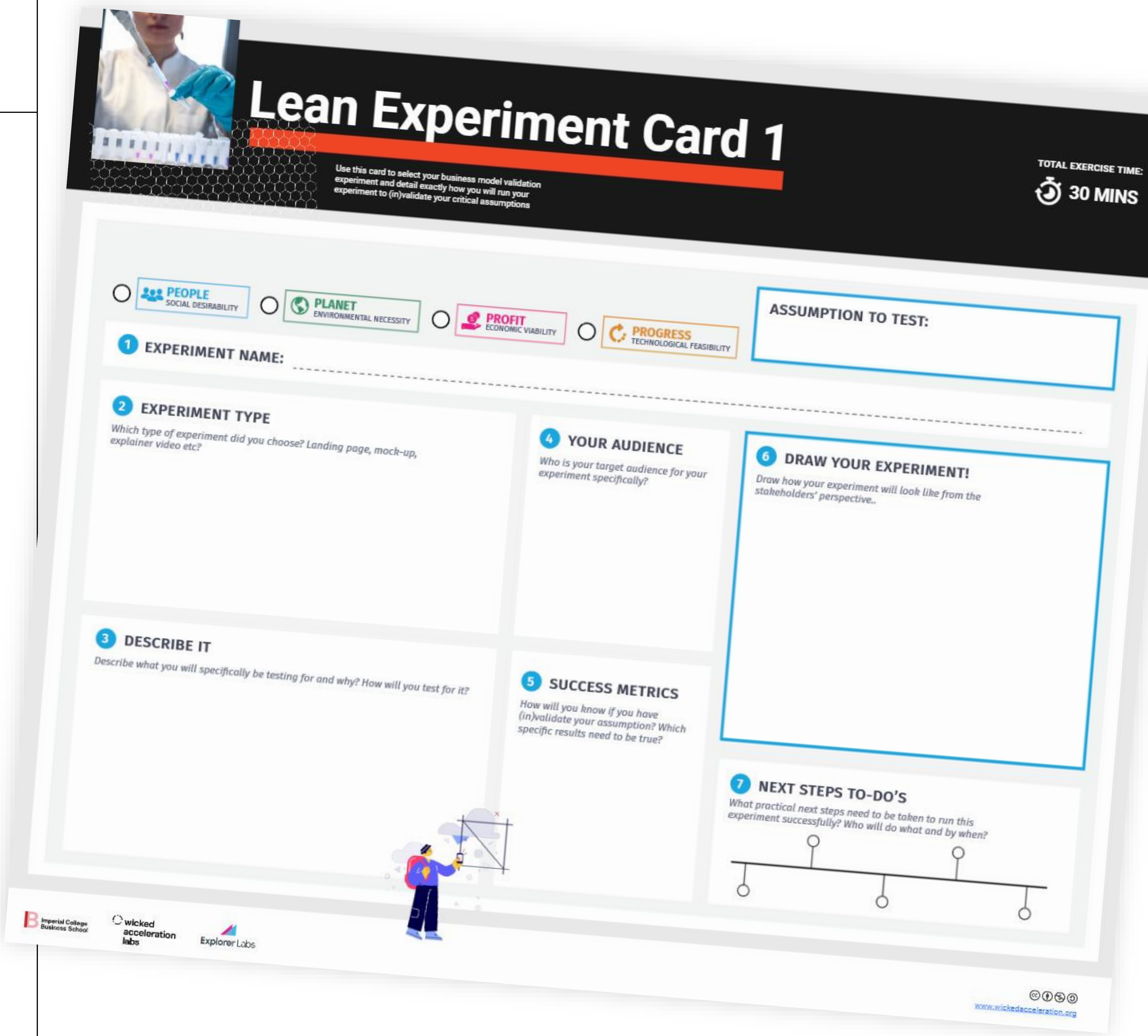
Define Exactly How You Will Test and (In)validate Your Most Critical Leap-of-faith Assumptions

What Is It?

Lean Experiment Cards help you operationalise how you will test and (in)validate your most critical assumptions regarding your WBM prototype. They allow you to flesh out the type of experiment you intend to run on your critical assumptions (typically starting with People and Planet). Once you have completed an experiment card per assumption, your team will have clarity on the exact type of experiment to run, who it is targeting for validation, what successful validation will look like, as well as visualising the experiment and defining actionable next steps. Experiment cards allow teams to get out of the building to collect data and evidence to inform decision making on the desirability, necessity, viability and feasibility of their assumptions.

When to Use It?

Lean Experiment Cards should only be used once your critical assumptions have been surfaced and prioritised with your WBM tools. You should fill out an experiment card for a maximum of 1-2 assumptions only. This helps you keep your validation experiments focused. As an intriguing new development, there are an increasing number of generative AI tools that allow you create fictitious stakeholder personas to react to your propositions. Generally speaking, though, we strongly suggest you spend the time to obtain first-hand insights from your key stakeholders. Wicked problems are complex, and to understand them better you need to obtain valid evidence from multiple stakeholders.



Assumption Outcome Cards

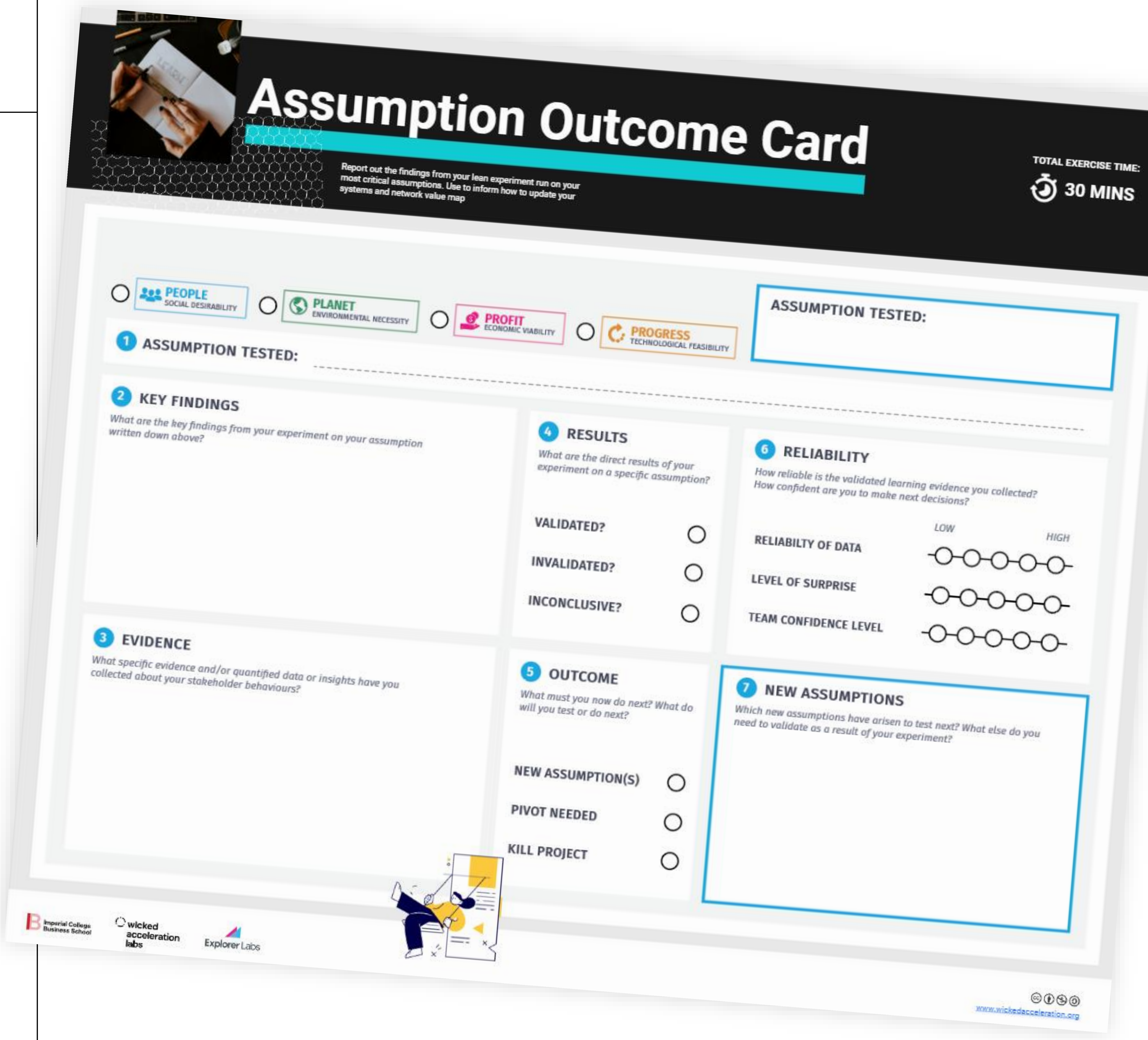
Report Your Experimentation Outcomes to Inform How Your Wicked Business Model Should Be Pivoted (or Not)

What Is It?

Assumption Outcome Cards provide a simple, effective way to capture validation evidence from your Lean Experiments. They provide one of the most important components of WBM because the information collected provides tangible evidence that helps you de-risk decisions regarding what works and what does not work. For instance, validated evidence may challenge your understanding of your systems map or your network value map interactions in some fundamental way. You may even discover a new unintended consequence sequence, which requires a significant business model pivot. Experimentation outcomes inform how you should adjust your value propositions to more closely align with the desirability attributes expressed by your stakeholders. Ultimately, each tested and (in)validated assumption helps get you one step closer to problem-solution and product-market fit.

When to Use It?

You should use Assumption Outcome Cards after you have completed an experiment for 1-2 critical assumptions in the previous step. Your team should be able to report high-quality evidence to inform your next steps, including any pivots and future experiments. Perhaps you decide that you need to run an experiment in a different way. Or, you may decide that you need to test new assumptions or kill an element of your value proposition entirely due to it having been proven incorrect.



Lean Experiment Cards

Practical Info

- Time to use — 60 min
- Number of people — Whole team
- Difficulty — Easy
- Materials needed — Miro template or paper version, pens, markers, post-it notes

Next Steps

By this stage you should have prioritised your most critical assumptions to test and (in)validate with high-quality evidence to inform future experiments. This will inform your evolving business concept and its implementation strategy. Each cycle of testing assumptions and outcome reporting will bring you closer to your eventual, fully validated and implemented business model.

After running your initial experiments, you generate validated learning evidence to further inform your decision-making. You then apply those learnings to update your systems and network value maps and your business models.

Use your updated maps to: 1) help you discover and learn about new causal dynamics and potential leverage points and, 2) guide you in uncovering further critical 4P assumptions. You should also ensure you continue to identify and understand any unintended consequences as you iterate your way forwards.

Repeating these steps creates powerful: define > map > envision > prototype > test loops to de-risk the implementation of your wicked business model.

Summary

Well Done for Reaching the End of Our Wicked Business Model Design Toolbox and Playbook!

By now you should have a good visibility on how and why our WBMD tools and methods link together to guide your WBM design. We hope you now see how the different tools complement one another as you navigate through the lengthy process of WBM design, validation, iteration, and implementation.

We hope this playbook will inspire you to take on bigger and more complex wicked problems and develop solutions that make a real difference to the challenges we face.

New Skills

We also hope that you have gained a sense of the importance of critical self-reflection both individually and as a team. This playbook and toolbox will make you aware of two key questions that often do not get asked during the WBMD process. These are, first: "What do we actually know about this wicked problem"? And, "How do we know it?". Although these questions may sound philosophical, they illustrate the core challenge in Wicked Business Model Design. Wicked challenges are complex and fiendishly intractable, which means that finding the right question to ask can represent 80% of the solution.

Repeatedly asking and answering these two questions helps you generate validated learning evidence that allows you to make evidence-based decisions regarding your wicked business model as you iterate towards market, societal and environmental implementation.

Easier Application Over Time

Wicked problems require wicked solutions. The process to address them, as outlined in this playbook, may at first feel rather overwhelming. This is because when starting out, you are undertaking two parallel learning tasks, both of which are demanding.

First, you need to learn how to use the tools we presented. And second, you need to use them to generate useful and actionable insights. The good news is, the second time you implement the WBMD process, it will be significantly easier, as you no longer need to learn how to use the tools. You can simply focus on generating better and better outcomes with them.

We hope you enjoyed the WBMD process and have learned actionable insights regarding how to address complex problems through wicked business model design, prototyping and testing. We wish you the best of success in your wicked business model journey!

Mr Mike Pinder

Prof Erkko Autio

Dr Cristobal Garcia-Herrera

Facing Wicked Business Challenges at Your Organisation?

If your organisation is facing a wicked problem, grand challenge or systemic obstacles and you would like to create a positive global impact, we invite you to get in touch with Wicked Acceleration Labs. We will be more than happy to discuss how our wicked leading approaches can be applied to the challenges your business faces.

We assist new start-ups and established incumbents alike in navigating the complexities of wicked challenges through Wicked Acceleration Approaches, Deep-Tech Acceleration, Future Envisioning, Circularity Transformation and more.

Our mission is to envision, orchestrate and accelerate desirable futures worldwide by addressing complex systems-level challenges at the intersection of academia, industry, and policy.

Get in touch

Wicked Acceleration Labs
Imperial College Business School
South Kensington
London
United Kingdom