THE PLAY BOOK

A toolkit for creative thinking

www.permissiontoplay.co

Foreword

Creativity is not a gift. It is simply a way of thinking and doing.

What and why

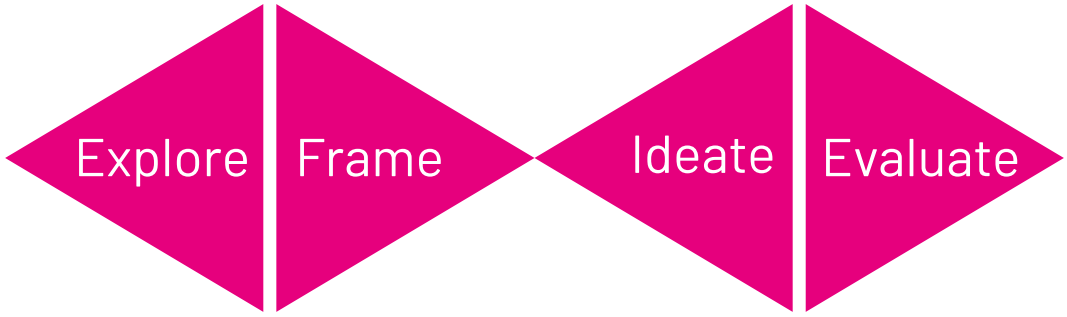
This book is a collection of the techniques we turn to for most creative thinking challenges. They are gathered from many sources and thinkers. We encourage you to explore their origins and uses.

They are our favourites. We share them freely in the hope that they will inspire you too.

Creative thinking process

For simplicity, we have grouped the techniques into four stages, representative of the creative thinking flow. These are taken from, but do not replace, a full design thinking process.

The techniques will often apply to multiple stages and, as creative thinking is a non-linear process, be open to jumping forward and back frequently as you develop and iterate your ideas.



We hope this collection of ways of thinking helps get your creative juices flowing.

The PermissionToPlay team

Tools menu

30 of our favourite tools and techniques to unlock creative potential

EXPLORE

People and experiences

- Constructive discontent
- User trips
- Stakeholder radar
- Persona vignette
- Empathy map
- Four pleasures prism

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- Systems & feedback loops

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- SCAMPER
- Ecodesign strategy wheel

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- Associative thinking
- Metaphors & similes
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- Creative sparks

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- Brainwriting 635

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- Selection matrix
- Desirability, Feasibility, Viability
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PLAY

EXPLORE

People and experiences

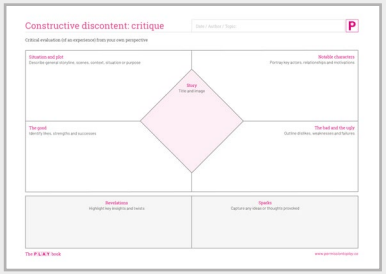
Constructive discontent

Find your itch

WHAT IS IT?

"Scratch your own itch," is a powerful nugget of advice offered by entrepreneurs and innovators.

A constructive discontent critique helps you find your itch to scratch in order to improve or reinvent any product or experience. It unlocks the unique insights only available from personal experience and individual perspectives to spark inventive thinking.



HOW TO USE IT

Constructive discontent should be a balanced critical evaluation from your own perspective. The process is best broken down into two distinct phases:

Phase 1 – Immersion

Full immersion in an issue means experiencing it as a real user would.
Use the product, take the train ride, experience the thrills and the breakdowns.
Become familiar with the experience and its quirks.

Phase 2 – Critique

The critique canvas guides you through a considered evaluation of the immersion by following how film or book critics structure their reviews.

- First, outline the genre and the plot or storyline. Describe general context and purpose of the product or experience. Say what happens and how.
- Then talk about notable characters and the scenes or relationships that stand out. Describe users, motivations and key scenarios.
- Finally, think about what you liked and didn't like. Describe the "Good, the Bad and the Ugly" of the experience. Try to bring out things that touched a nerve or generated a strong emotional response.
- Throughout the process, note down any insights, surprises and ideas that come to you.

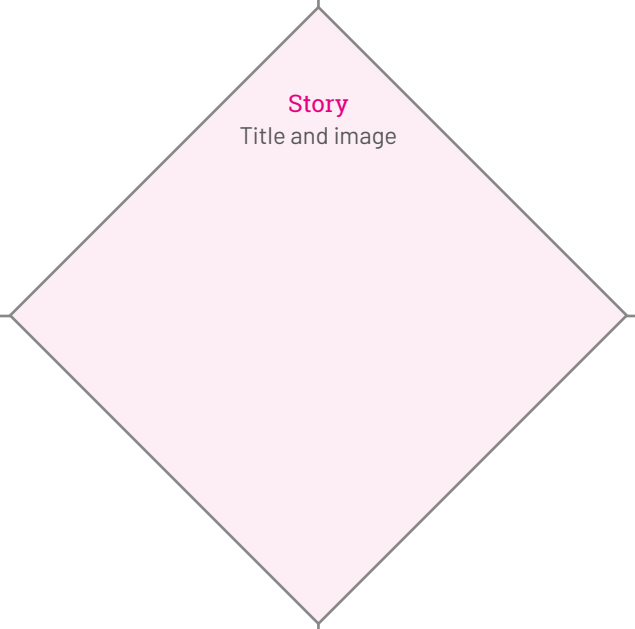
Constructive discontent: critique

Date / Author / Topic:

Critical evaluation (of an experience) from your own perspective

Situation and plot
Describe general storyline, scenes, context, situation or purpose

Notable characters
Portray key actors, relationships and motivations



The good
Identify likes, strengths and successes

The bad and the ugly
Outline dislikes, weaknesses and failures

Revelations
Highlight key insights and twists

Sparks
Capture any ideas or thoughts provoked

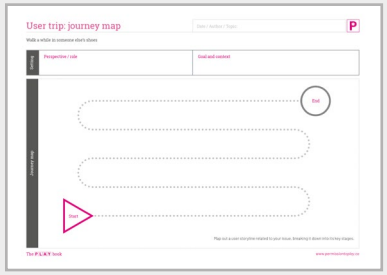
User trip

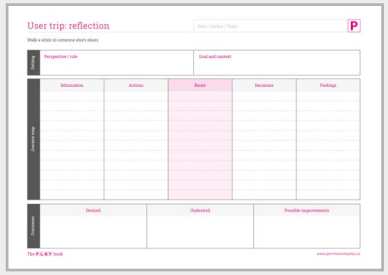
Walk in their shoes

WHAT IS IT?

A structured user-trip provides a useful framework for immersion and self-observation.

How you go about your user trip will very much depend on the situation and your preferences. There are no hard and fast rules beyond simply taking the journey as a "user", then reflecting on it.





HOW TO USE IT

To get most out of the exercise, split a user trip down into three phases:

1: Set-up a journey map

To start, map out a user storyline related to your issue, breaking it down into the key stages of the route or journey. Define the role or point-of-view that you will take and the context for the story.

2: Perform and reflect

Run through the whole scenario. Don't worry if things don't go to plan; just keep going.
Once completed, reflect on your experience focusing on:

- **Information and signage** - How well informed or guided did you feel? What knowledge gaps or difficulties did you face?
- **Choices and decisions** - What were the decision points in the process? What facilitated or hindered them?
- **Actions and interactions** - What actions did you take. How easy where they to perform? What feedback did you get during the process?
- **Feelings and emotions** - What emotions did you feel throughout? What aspects, if any, made you feel better or worse?
- **Desired and undesired outcomes** - What was the result and what different outcomes would you like? Are there any immediate changes you could make?

3: Vary and repeat

Repeat the exercise several times. If possible, change aspects of the scenario and the persona to gain varying perspectives.

User trip: journey map

Date / Author / Topic:

Walk a while in someone else's shoes

Setting	Perspective / role	Goal and context

Journey map

Map out a user storyline related to your issue, breaking it down into its key stages.

User trip: reflection

Date / Author / Topic:

Walk a while in someone else's shoes

Setting	Perspective / role	Goal and context

Journey map	Information	Actions	Route	Decisions	Feelings

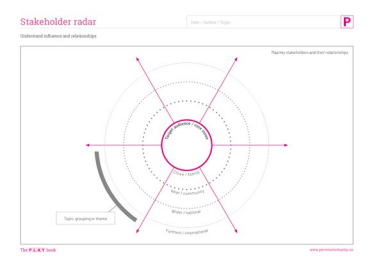
Outcomes	Desired	Undesired	Possible improvements

Stakeholder radar

Understand influence and relationships

WHAT IS IT?

The stakeholder radar is a simple way to visualise the influences on what or who you are trying to reach. It gives you a clearer picture of all the individuals, communities and organisations involved and how they might relate to each other. The stakeholder rader was adapted from Nesta's people & conections map.



HOW TO USE IT

Stakeholder analysis means understanding, weighing and balancing all of the competing influences and demands surrounding an issue.

Note your target audience or core issue in the centre of the worksheet.

Then work your way from the centre towards the outer layers, mapping people and organisations that are related to the central focus.

By organising stakeholders across concentric circles, you can indicate which of them are closer or farther away from the target audience and issue. The closer to the centre, the more influential they are.

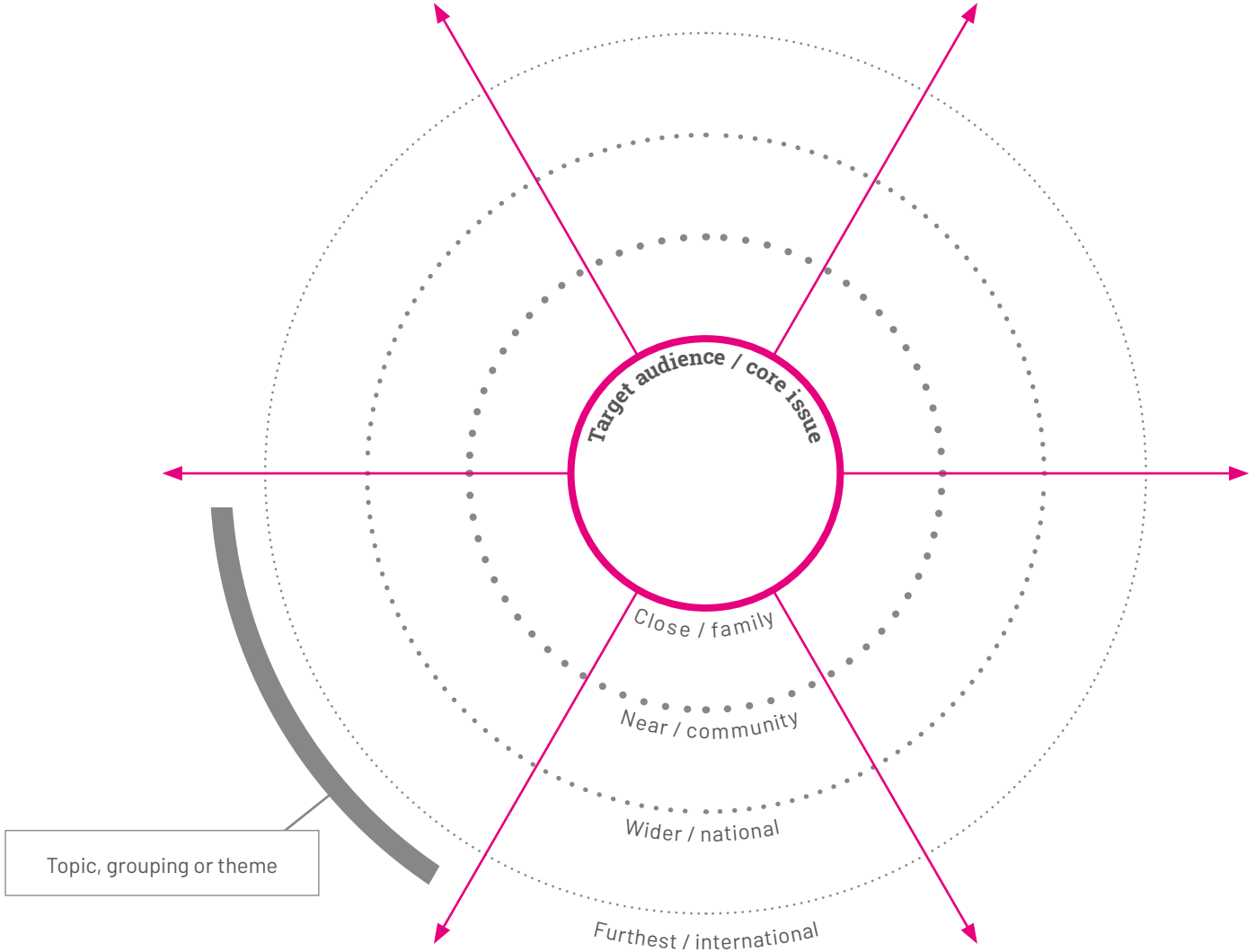
Cluster stakeholders in sections that express specific themes such as regions, industries or interest areas.

Stakeholder radar

Date / Author / Topic:

Understand influence and relationships

Map key stakeholders and their relationships



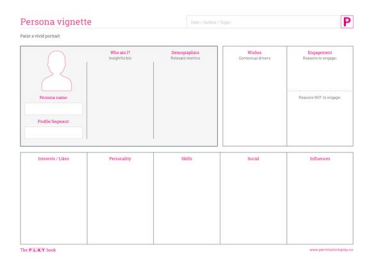
The stakeholder radar was adapted from Nesta's people & conections map. More info: diytoolkit.org/tools/people-connections-map/

Persona vignette

Paint a vivid portrait

WHAT IS IT?

Personas are portraits of fictional but realistic individuals. They are used as a common reference point to communicate particular groups in your intended audience. Personas draw together the characteristics of similar people - their behaviours, motivations - into one 'archetype' through which the group can be understood.



HOW TO USE IT

By creating a fictional character to embody the characteristics of a profile group, you don't lose the little details that make someone the person they are. In this way, personas help ensure that your work stays focused on people, rather than an abstract description of the group they are said to represent.

Developing successful personas is all about knowing what to put in, and what to leave out. They're often developed from a range of different sources, each of which might contain lots of detail.

Representative

The trick is to recognise the common characteristics that could form the basis of a persona, and which personal details to include in order to bring them 'to life'.

Realistic

Use the worksheet to compile a portrait of a typical person. Try to make them as close to a real person as possible by adding a name, picture and descriptions of interests, skills and motivations.

Bio & demographics

The bio should be a short descriptor that helps you visualise them easily, e.g.: "stay-at-home dad of two toddlers in Penzance, struggling with ...". Any demographics data should be succinct and kept only to metrics relevant to the situation.

Wishes & engagement

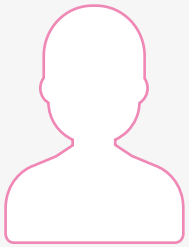
Spell out what they want to achieve; what would be their ideal outcome?

Also identify, from their perspective, why they would want to engage with you and why they might not.

Persona vignette

Date / Author / Topic:

Paint a vivid portrait



Persona name:

Profile/Segment:

Who am I?
Insightful bio

Demographics
Relevant metrics

Wishes
Contextual drivers

Engagement
Reasons to engage:

Reasons NOT to engage:

Interests / Likes

Personality

Skills

Social

Influences

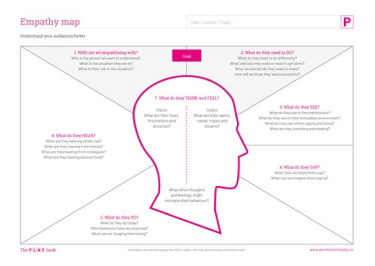
Empathy map

Understand audiences better

WHAT IS IT?

The empathy map builds a deeper understanding of audiences, including their behaviours, motivations and how they interpret the world around them. It is a chance for you to imagine how others might experience a situation.

Developed by Dave Gray at xplane, the exercise can help highlight gaps in your understanding and prompt you through an exploration.



HOW TO USE IT

The aim of the exercise is to gain a deeper level of understanding of people within a specific context, such as a buying decision or an experience using a product or service.

You should be able to make a rough empathy map in about 20 minutes, provided you have a decent understanding of the person and context you want to map. Even if you don't, the empathy-mapping exercise can help you gain insights and identify gaps that need investigating further.

A

Person and goal

Using the empathy map canvas, identify your target audience and what they need to do at the top of the page.

B

Sensory experience

Now, imagine that person's experience and try to view the topic you want to explore through their senses and actions: see, hear, say & do.

C

Think and feel

Try to write their thoughts as they would express them and delve into their emotions. The purpose is to truly understand and empathise with their situation.

D

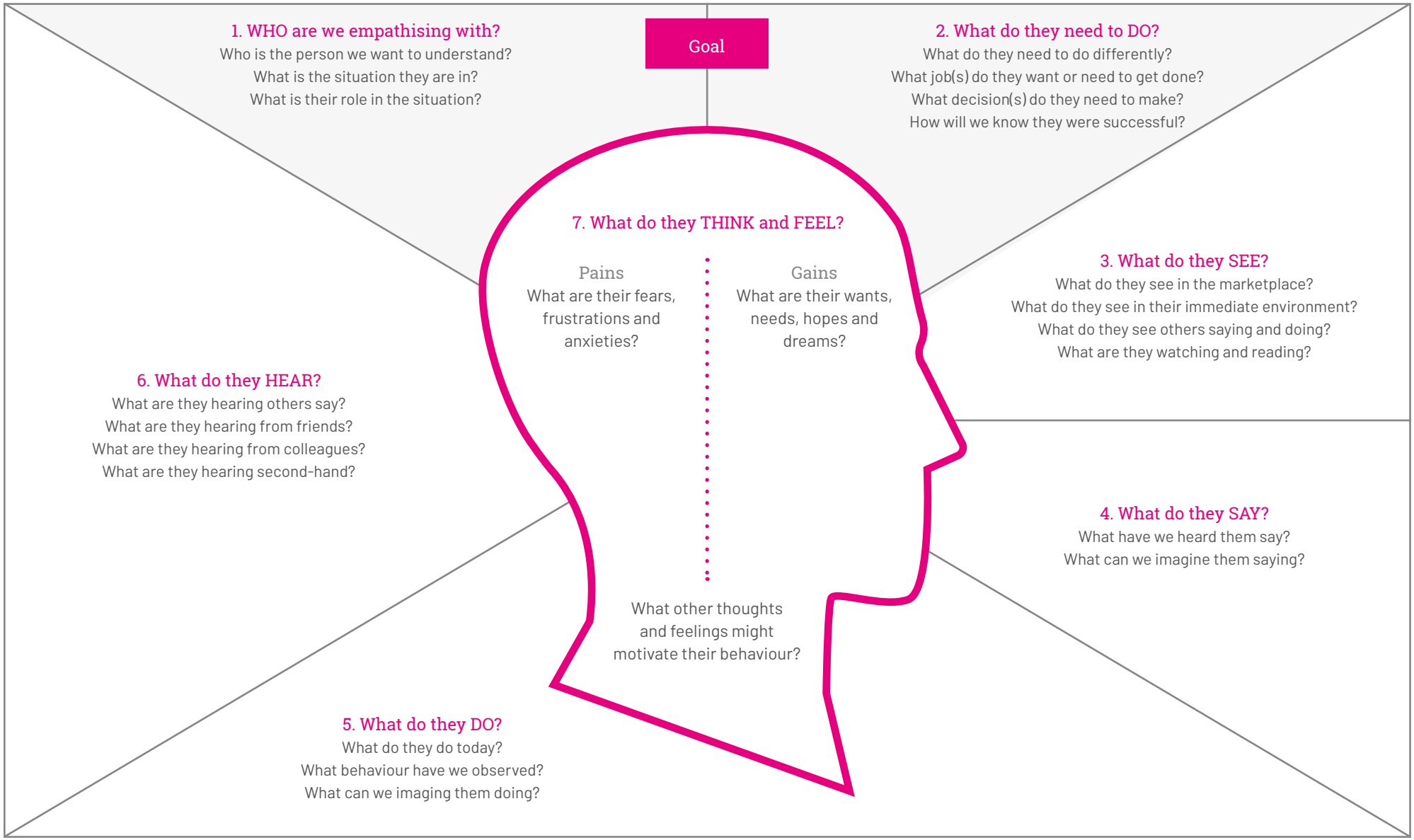
Reflect and repeat

Take a step back and consider how these insights could impact potential designs for a better product, service or experience.

Empathy map

Date / Author / Topic:

Understand your audiences better



The empathy map was developed by Dave Gray at xplane. More info: gamestorming.com/empathy-map/

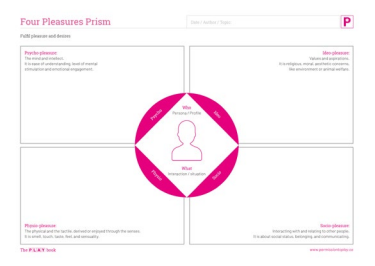
Four pleasures prism

Fulfil pleasures and desires

WHAT IS IT?

Creativity is often about people and understanding the likes - or pleasure - they seek. The field of anthropology suggests looking at pleasures to help us understand people and what they want.

In 1992 Lionel Tiger classified pleasures into four different types. These four human-centred lenses provide a useful prism to explore an issue and concoct more rewarding answers to their needs.



HOW TO USE IT

The four pleasures prism enables us to understand people better by exploring what they want and what drives them. You can use it as guide for research, observation and questioning, or as an effective reflection tool to synthesise your findings.

Each prism should focus on the interaction of one user (a person, persona or distinct group profile) and an experience (such as a message, service or product). Describe these in the centre of the page.

Then explore that interaction and desires through each of the four pleasures in turn:

1 **Physio-pleasure**
That is the physical and the tactile, derived or enjoyed through the senses. It is smell, touch, taste, feel, and sensuality.

2 **Socio-pleasure**
Which comes from interacting with and relating to other people. It is about social status, belonging, and communicating.

3 **Psycho-pleasure**
Is all about the mind and intellect. It is about how easy something is to understand, or how mentally stimulating it is to engage with.

4 **Ideo-pleasure**
Relates to people's values and aspirations. These could be religious, moral or aesthetic concerns. The environment or animal welfare, for example.

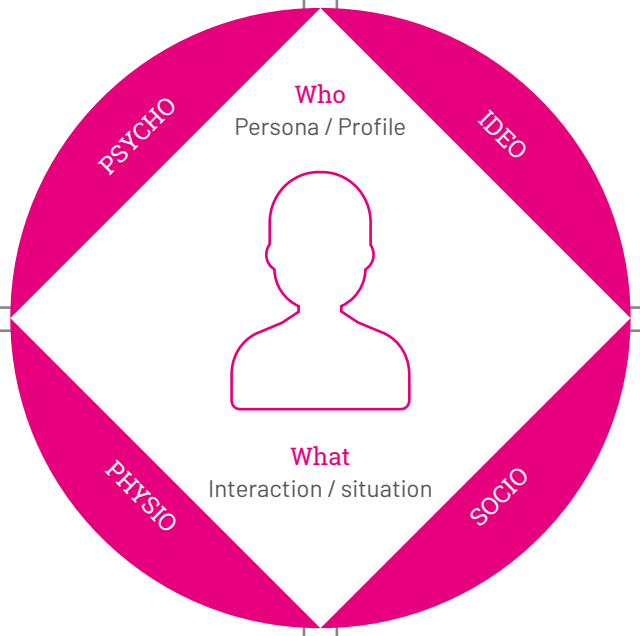
Four pleasures prism

Date / Author / Topic:

Fulfil pleasures and desires

Psycho-pleasure:
The mind and intellect.
It is ease of understanding, level of mental stimulation and emotional engagement.

Ideo-pleasure:
Values and aspirations.
It is religious, moral, aesthetic concerns, like environment or animal welfare.



Physio-pleasure:
The physical and the tactile, derived or enjoyed through the senses.
It is smell, touch, taste, feel, and sensuality.

Socio-pleasure:
Interacting with and relating to other people.
It is about social status, belonging, and communicating.

PLAY

EXPLORE

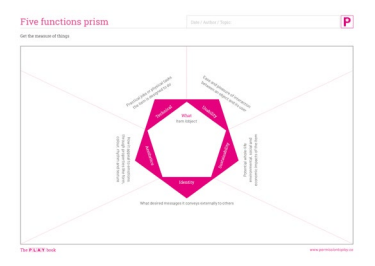
Systems and material things

Five functions prism

Get the measure of things

WHAT IS IT?

The Five Functions Prism is a set of lenses or parameters used to evaluate and get the measure of most things, particularly products.



HOW TO USE IT

What things do for us can be categorised into 5 types of function. Explore and evaluate an item, object or product based on how —and how well— it performs those functions.

Technical function:
The practical job or physical task the item is designed to do. A washing machine washes clothes. A pen flows ink to paper. A cup holds hot liquids without burning you. Technical functions often take an input and transform it into a desired output. Press a button to answer a call, for example.

Usability:
A measure of how easy and pleasurable an interaction is between an object and its user. Is it comfortable, it is clearly understandable, does it feedback appropriately?

Sustainability:
Determines the potential environmental, social and economic impacts. Are its materials from sustainable sources? What impact does its manufacture have on local or distant communities? What type of waste does it produce during operation? What happens at the end of the product's life?

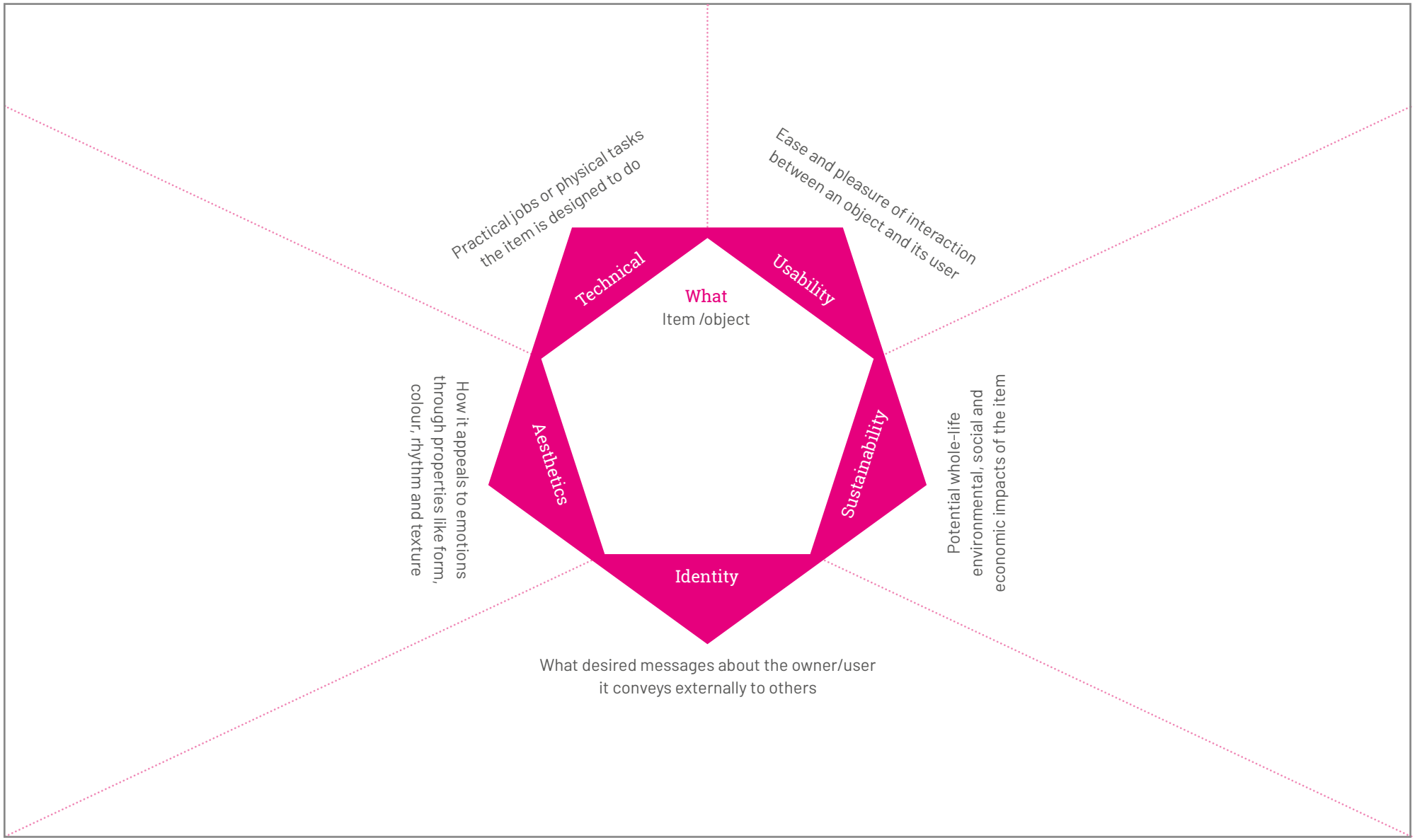
Aesthetics:
Describes an objects ability to appeal to people's emotions through properties like proportions, shape, colour, rhythm and texture. Notions of beauty are subjective and often rely on colloquial references that change over time and across cultures.

Identity:
It is about distinguishing the item or user in a particular way. It is about conveying desired messages externally to others such as "I save the planet" or "I am financially successful". They are often driven by sets of values or beliefs that underpinned all the wonderful variety and colour of our world.

Five functions prism

Date / Author / Topic:

Get the measure of things

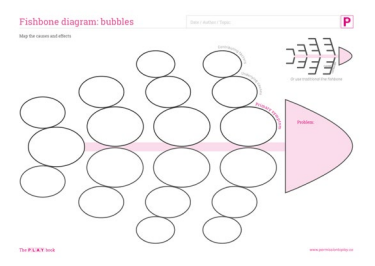


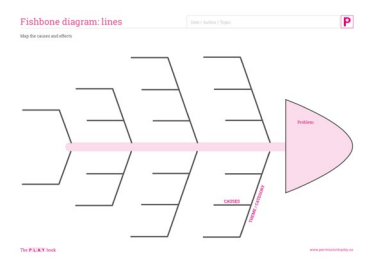
Fishbone diagram

Map root-causes

WHAT IS IT?

Devised in the 1960s by Kaoru Ishikawa, it helps uncover and illustrate the root-causes, bottlenecks, or failure points in a process. Also called a cause and effect diagram or Ishikawa diagram, it usually ends up looking like a fishbone.





HOW TO USE IT

The fishbone diagram is a visual tool to help you think about and categorise potential causes of a problem in order to identify its underlying root causes.

Start with the head

On the right-hand side of the page, draw a triangle or circle, and describe an issue or problem within it.

Layout the backbone

Draw a horizontal line across from the issue on the right to the left-hand side of the page.

Map themes and causes

Identify the primary symptoms or themes of the problem and map them along the backbone. For each of these, explore all the potential underlying causes and any contributing factors.

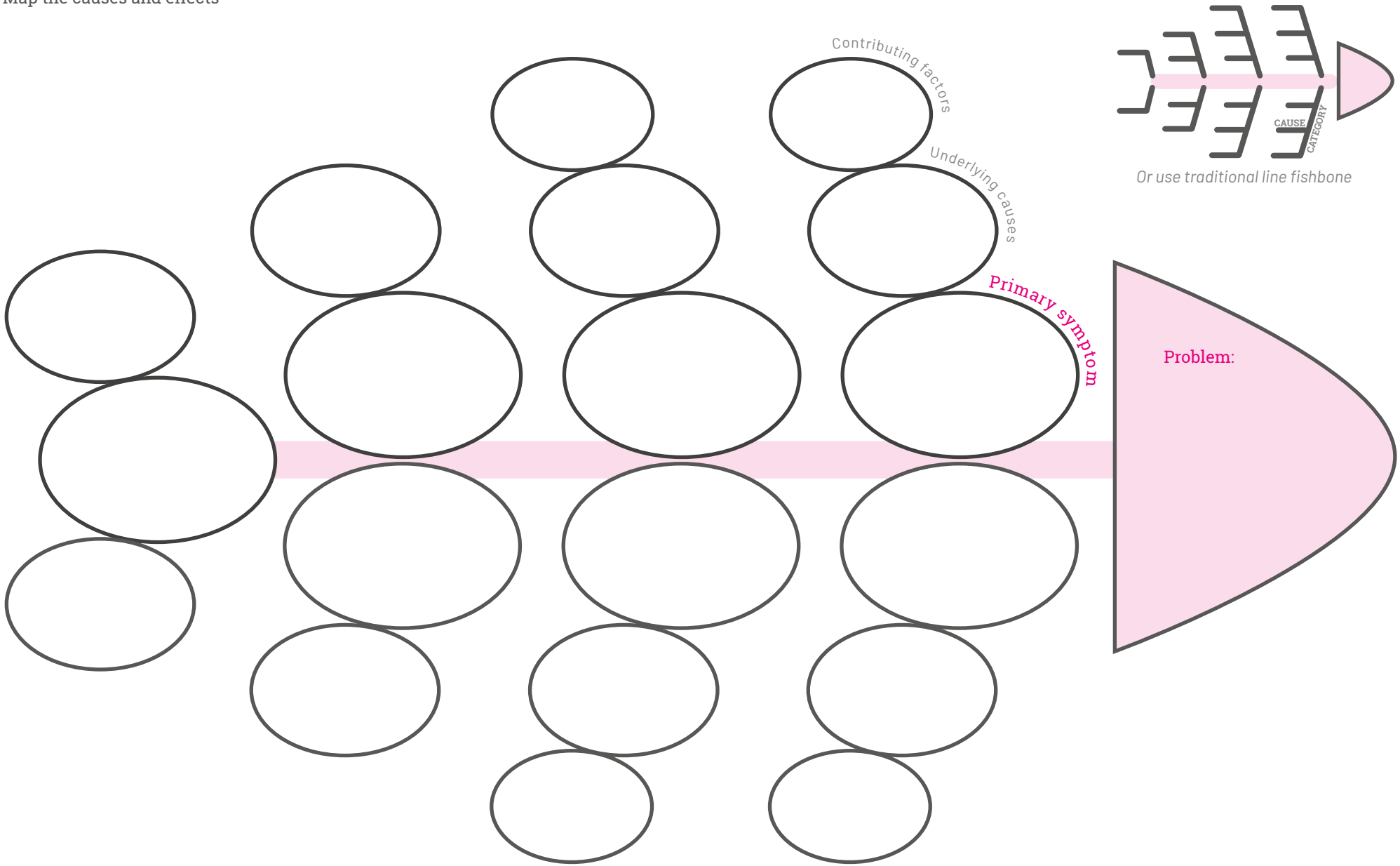
Discuss and reflect

Review the completed diagram for useful insights, revelations and possible hints at how to address the issue.

Fishbone diagram: bubbles

Date / Author / Topic:

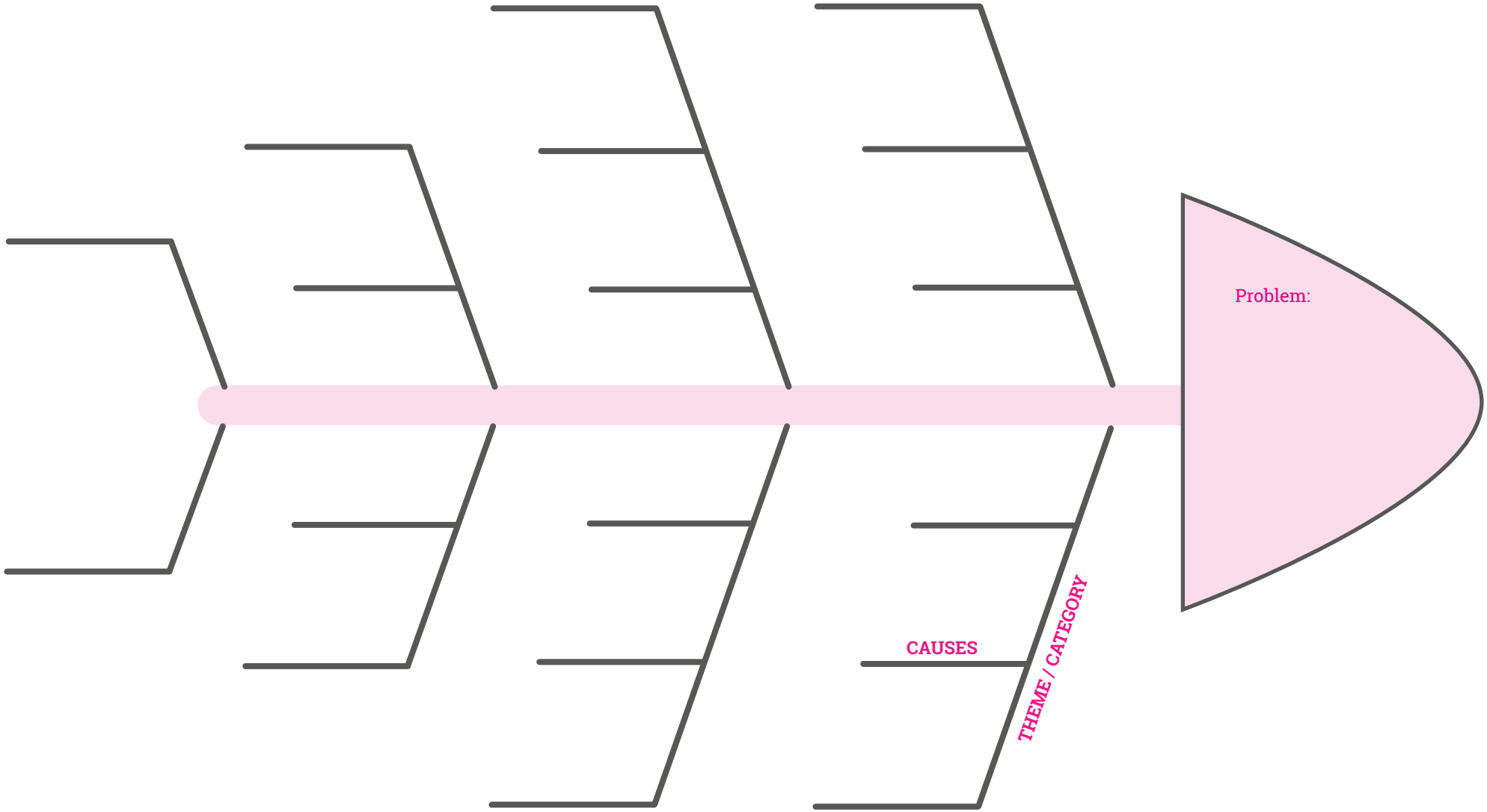
Map the causes and effects



Fishbone diagram: lines

Date / Author / Topic:

Map the causes and effects

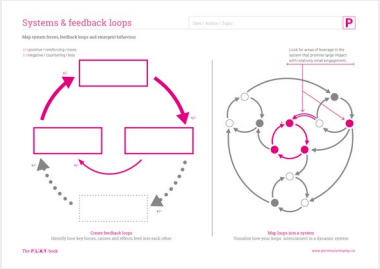


Systems & feedback loops

Looking at the whole

WHAT IS IT?

Problems don't tend to happen in isolation. They tend to be part of complex dynamic webs of interconnected elements and events. Systems Thinking helps us understand those interactions and their effects.



HOW TO USE IT

Rather than focusing on component parts, Systems Thinking sees the whole as a dynamic entity. It explores the forces, interactions and feedback loops to find leverage that can positively affect the overall health of the system.

Map forces and loops

Look for areas where causes and effects feed into each other, and capture these patterns as dynamic loops. Identify how changes in one element affects changes in the next element in the loop:

- positive feedback re-enforces how an element changes;
- negative feedback balances or counters how an element changes.

These loops will become the building blocks for your systems map.

Find leverage points

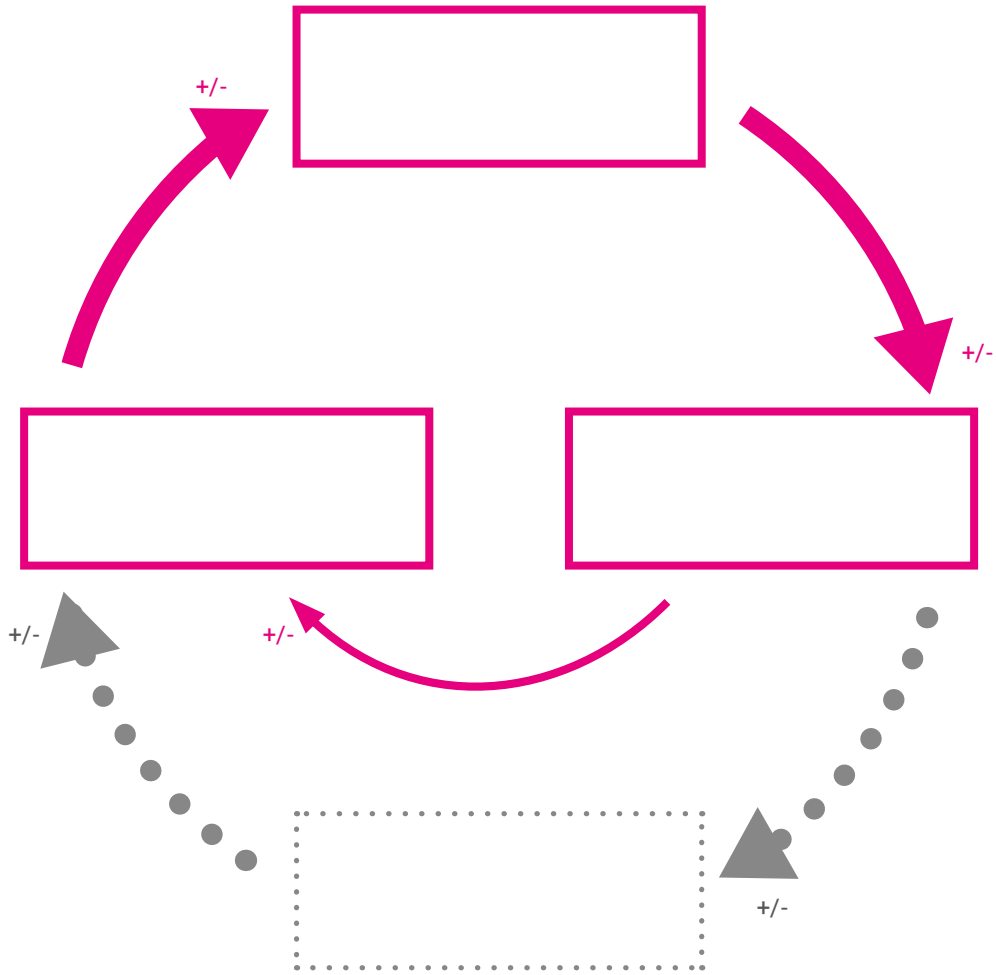
A key premise of Systems Thinking is that sustaining large-scale system change only happens if the patterns that drive the system are changed. Look for areas in your system where a small change could leverage larger system-wide change.

Systems & feedback loops

Date / Author / Topic:

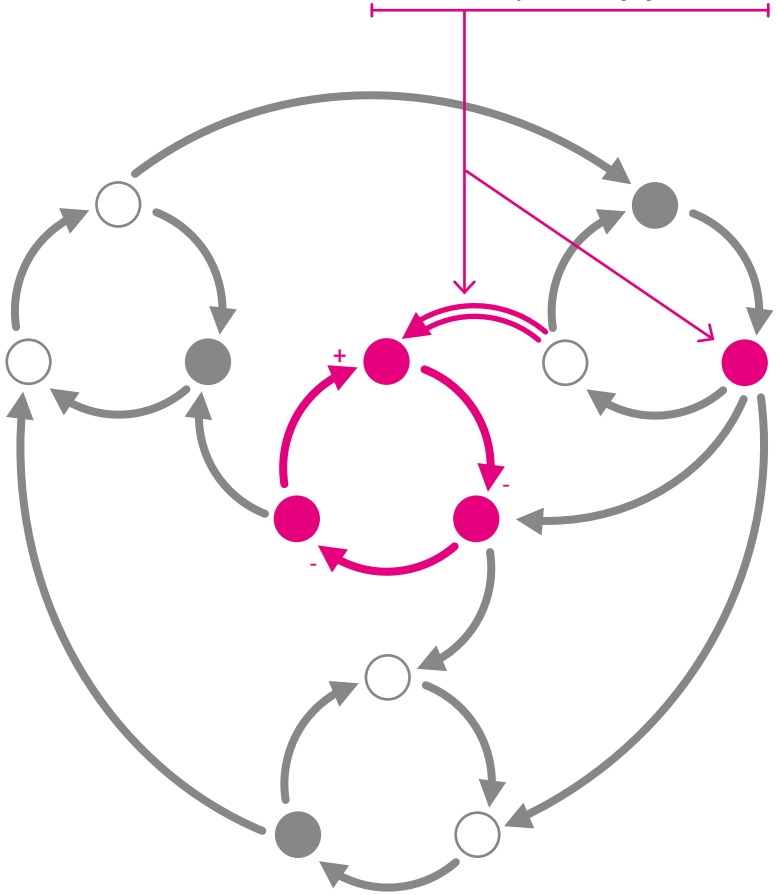
Map system forces, feedback loops and emergent behaviour

(+) positive / reinforcing / more
(-) negative / countering / less



Create feedback loops
Identify how key forces, causes and effects feed into each other

Look for areas of leverage in the system that promise large impact with relatively small engagement.



Map loops into a system
Visualise how your loops interconnect in a dynamic system

PLAY

EXPLORE

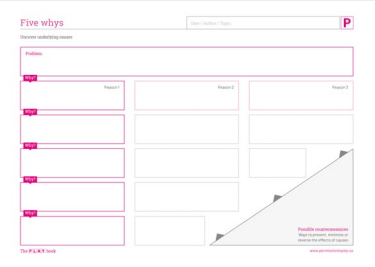
Wider perspectives

Five whys

Drill down and down and down

WHAT IS IT?

Five Whys is an approach that helps you move up and down different levels of a problem and across chains of related aspects. At each level, you drill deeper down into the root causes and true essence of the underlying issue.



HOW TO USE IT

The technique moves you up and down layers of a problem, shifts your focus and alters your frame of reference to shine a light on hidden insights.

Five whys is a quick way of getting to the root of a problem.

It is deceptively simple

When you encounter a problem, just drill down to its underlying causes by asking "why?" five times:

WHY? - WHY? - WHY? - WHY? - WHY?

Importantly, each "why" should be answered with factual reasons, not deductions or assumptions.

The reasons should be detailed and specific. Each "why" may have multiple causes, adding streams to the chain of explanations.

As you go through the exercise, think of countermeasures or ways to prevent, minimise or reverse the effects of causes at different levels.

Five whys

Date / Author / Topic:

Uncover underlying causes

Problem:

Why?

Reason 1

Reason 2

Reason 3

Why?

Why?

Why?

Why?

Possible countermeasures
Ways to prevent, minimise or reverse the effects of causes

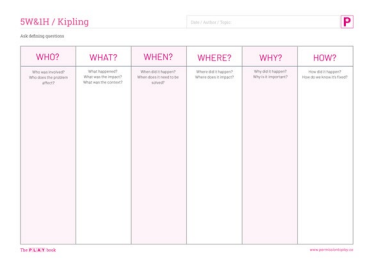
5W&1H Kipling

Ask defining questions

WHAT IS IT?

The 5W&1H are a set of questions that provide a simple, but full, picture of any issue. It is a formula that is almost universally used across fields from creative thinking and journalism, to solving crime.

It is sometimes referred to just as 'five Ws', without the final 'H', or as the Kipling method.



HOW TO USE IT

Rudyard Kipling immortalised these useful questions in the poem:

> I have six honest serving men
> (They taught me all I knew);
> I call them What and Where and When
> And How and Why and Who.

The 5W&1H questions provide an effective way to uncover and tell the essential story behind any problem.

Who:

- Who was involved?
- Who does the problem affect?

What:

- What happened?
- What was the impact?
- What was the context?

When:

- When did it happen?
- When does it need to be solved?

Where:

- Where did it happen?
- Where does it impact?

Why:

- Why did it happen?
- Why is it important?

How:

- How did it happen?
- How do we know it's fixed?

5W&1H / Kipling

Date / Author / Topic:

Ask defining questions

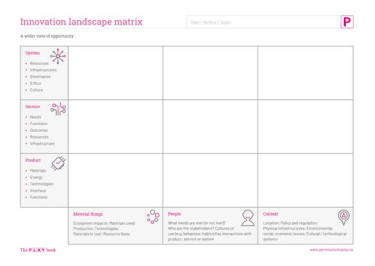
WHO?	WHAT?	WHEN?	WHERE?	WHY?	HOW?
Who was involved? Who does the problem affect?	What happened? What was the impact? What was the context?	When did it happen? When does it need to be solved?	Where did it happen? Where does it impact?	Why did it happen? Why is it important?	How did it happen? How do we know it's fixed?

Innovation landscape matrix

A wider view of opportunity

WHAT IS IT?

The innovation Landscape Matrix maps opportunities for innovation at multiple scales: product, service and system. It provides a framework for exploring the wider landscape of material things, people and context. It was developed in 2014 by Emma Dewberry at the Open University.



HOW TO USE IT

Use the matrix to guide an exploration of the innovation landscape for a specific topic. Each box invites you to ask questions that build a broad view of interrelated factors. Complete one matrix for the current situation, and one for possible innovations.

Product and context:
Explore location(s) of production and use, regulation and standards, ecosystems, distribution, cultural and technological issues.

Service and context:
This square investigates the ways in which context influences the service provision.

System and context:
Looks at the relationships between the system and context.

Product and people:
This square of the matrix looks at relationships between people and product.

Service and people:
This square looks at the relationships between service and people.

System and people:
Looks at the relationships between the system and people.

Product and material things:
Use life-cycle thinking to explore the relationships between products, the materials and energy consumed.

Service and material things:
This square of the matrix explores the material components of services that are part of this innovation landscape.

System and material things:
For example, systems include utilities such as electricity, water, sewage and transportation, ecosystems, rules, regulations and cultural norms.

Innovation Landscape Matrix

Date / Author / Topic:

A wider view of opportunity

System • Resources • Infrastructures • Governance • Ethics • Culture			
Service • Needs • Functions • Outcomes • Resources • Infrastructure			
Product • Materials • Energy • Technologies • Interface • Functions			
	Material things Ecosystem impacts; Materials used; Production; Technologies; Materials in 'use'; Resource flows	**People** What needs are met (or not met)? Who are the stakeholders? Cultures of use (e.g. behaviour, habits) Key interactions with product, service or system	**Context** Location; Policy and regulation; Physical infrastructures; Environmental, social, economic issues; Cultural / technological systems

The innovation landscape matrix was developed by Emma Dewberry at the Open University. More info: oro.open.ac.uk

PLAY

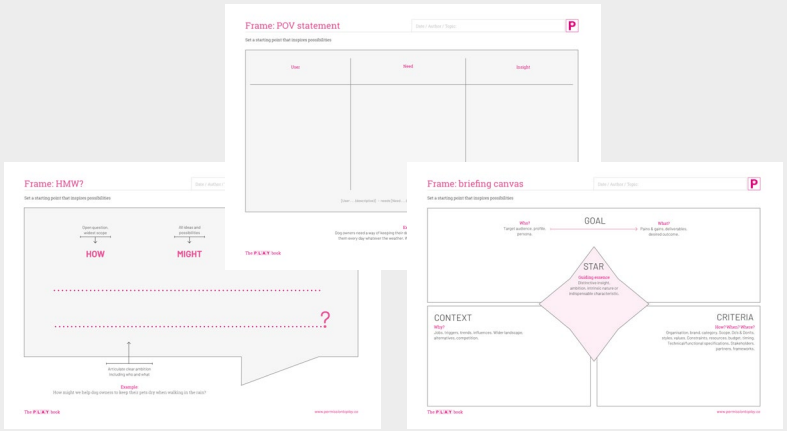
FRAME

Frame the challenge

Set starting points that inspire

WHAT IS IT?

Ideas must start somewhere. Framing is how we define the fundamental challenge to kickstart the creative process.



HOW TO USE IT

A quote often attributed to Albert Einstein says:

> "If I had only one hour to save the world, I would spend fifty-five minutes defining the problem, and only five minutes finding the solution."

In other words, the secret to solving a problem is knowing the problem.
These techniques are different ways of describing and defining any challenge.

HMW?

Simply reframe your problem as: "How might we..."

- "How" is open and broadens the scope.
- "Might" is an invitation for all ideas, however far-fetched.
- "We" infers collaboration & collective responsibility.
- "..." is to articulate the singular ambition to achieve.

A good HMW question should be thought-provoking and focused.

POV statement

A Point-Of-View (POV) statement is a way to articulate the problem in an actionable and insightful way from the user's perpective.

It is an exercise in really getting to the nub of the issue.

To create it you simply focus on three elements:

- describe the user,
- define their need,
- and compelling insights into what drives that need.

Briefing canvas

Most of us don't work alone. We collaborate with others across a mix of disciplines.

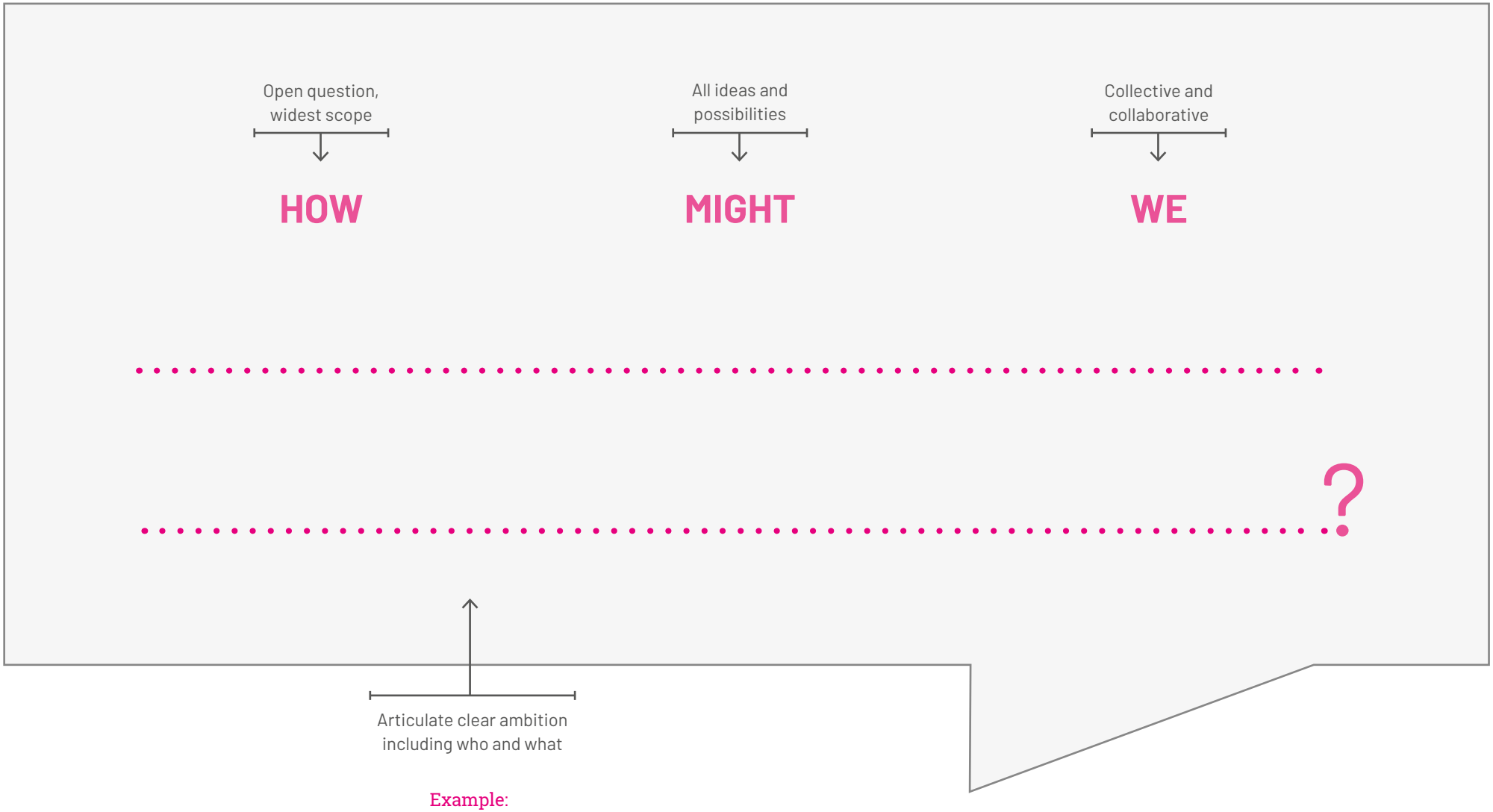
A good brief brings us all to the same page. Our briefing canvas provides a highly focused view of GOALS, CONTEXT, CRITERIA and guiding STAR.

Simply use the briefing canvas to map out a clear direction.

Frame: HMW?

Date / Author / Topic:

Set a starting point that inspires possibilities



Example:
How might we help city dog owners to keep their pets dry when walking in the rain?

Frame: POV statement

Date / Author / Topic:

Set a starting point that inspires possibilities

User	Need	Insight

[User . . . (descriptive)] - needs [Need . . . (verb)] - because [Insight . . . (compelling)]

Example:

Dog owners need a way of keeping their dogs dry when it rains, because they have to walk them every day whatever the weather. Wet dogs can get a chill and they make a mess.

Frame: briefing canvas

Date / Author / Topic:

Set a starting point that inspires possibilities

GOAL

Who?
Target audience, profile, persona.

What?
Pains & gains, deliverables, desired outcome.

STAR

Guiding essence
Distinctive insight, ambition, intrinsic nature or indispensable characteristic.

CONTEXT

Why?
Jobs, triggers, trends, influences. Wider landscape, alternatives, competition.

CRITERIA

How? When? Where?
Organisation, brand, category. Scope, Do's & Don'ts, styles, values. Constraints, resources, budget, timing. Technical/functional specifications. Stakeholders, partners, frameworks.

PLAY

IDEATE

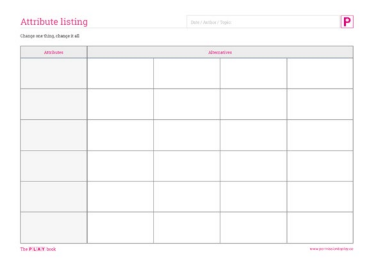
Systematic thinking

Attribute listing

Change one thing, change it all

WHAT IS IT?

Attribute listing is a very effective way of breaking down issues into constituent parts and stimulating creative ideas to change them.



HOW TO USE IT

This technique explores the individual elements that make up a whole, then looks at different ways each can be changed to create a new and different whole.

Start by selecting a product or thing, and take some time understanding it. Find out what parts it is made from, what they look or feel like, and what functions they perform.

1

List attributes

Simply list all the attributes of the item you want to think about. Try to get at least 7 to 10 if you can.

Attributes can be any key physical properties, functional characteristics or other relevant aspects.

Shape, size, weight, colour, material, texture, and function are common attributes.

2

Explore alternatives

Now, for each attribute:

EITHER explore alternatives ways of achieving the same effect or quality;

OR explore what could happen if you changed the attributes' property. Could you change the material, colour, or texture for example? Would that create a better product or potentially a new use?

Attribute listing

Date / Author / Topic:

Change one thing, change it all

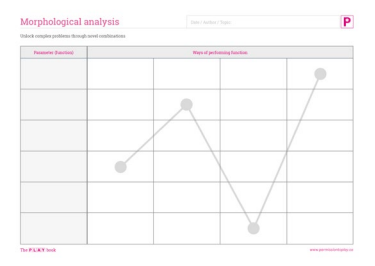
Attributes	Alternatives			

Morphological analysis

Unlock complex problems

WHAT IS IT?

General morphological analysis takes creative thinking about functions and attributes to the next level. It was devised by Swiss astronomer Fritz Zwicky in the late 1960's for tackling problems that were both complex and non-quantifiable, otherwise known as "non-reducible complexity".



HOW TO USE IT

Like functional analysis or attribute listing, this method explores the essential functions of something (a product or system) to break it down into its essential constituent parts. It then looks at different new ways each can be provided and combined.

In its simplest form, it involves first defining a product's main parameters. These are its primary functions, processes and features. Then, the method explores different combinations of ways of meeting the parameters and their requirements.

1

List functions
In the left-hand column of the grid, list all the primary functions of a product or service.

2

Find Alternatives
For each function, identify alternative ways of achieving the same result. Write these down in the corresponding row.

3

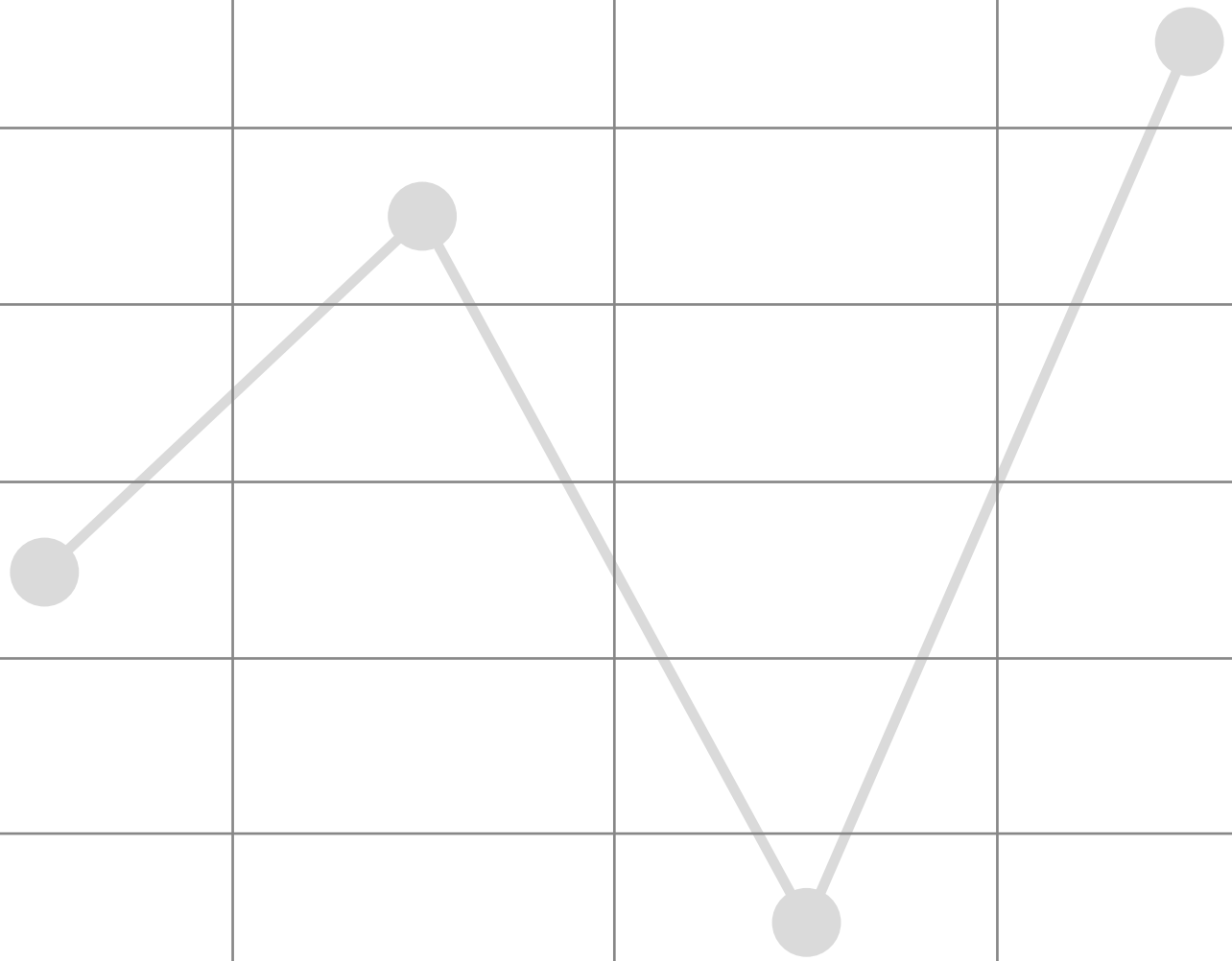
Select combinations
Now select different combinations of ways of delivering the desired functions. Not all will be practical, however some will inspire new approaches.

Morphological analysis

Date / Author / Topic:

Unlock complex problems through novel combinations

Parameter (function)	Ways of performing function			

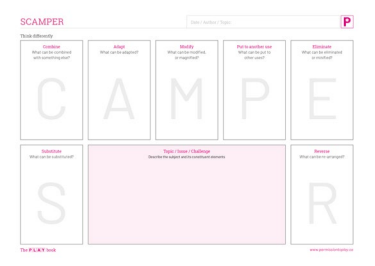


SCAMPER

Thinking differently

WHAT IS IT?

SCAMPER is a well-known technique, rooted in associative thinking.
It helps us to forge those useful and idea provoking connections.
The SCAMPER questions were originally devised in 1953 by Alex Osborn, the reputed inventor of brainstorming. Bob Eberle ordered them into the current acronym in 1971.



HOW TO USE IT

SCAMPER is a useful creativity tool that helps you generate ideas to improve existing products and services, or to create new ones.

The technique is a set of prompts for you to systematically explore facets of a problem or issue. Simply go through each of the 7 steps asking probing and exploratory questions.

Substitute:
What physical elements /components could you substitute? How could you substitute the whole?

Combine:
What other things could you combine with this problem or item? What elements of the issue could be merged to improve it?

Adapt:
How could you change something to make it work differently? What works elsewhere that you could change to solve your problem? What analogy could you use?

Modify:
What could you magnify, emphasise or exaggerate, for improvement? What could you minimize or remove/delete?

Put to another use:
Where or how else could this be used for? Who else might find it useful?

Eliminate:
What can you eliminate or simplify without negative effects? What is not essential or too complicated?

Rearrange/ Reverse:
How could you rearrange elements layouts or sequences? What are the effects of reversing it or speeding/slowing it?

SCAMPER

Date / Author / Topic:

Think differently

Combine
What can be combined with something else?

C

Adapt
What can be adapted?

A

Modify
What can be modified, or magnified?

M

Put to another use
What can be put to other uses?

P

Eliminate
What can be eliminated or minified?

E

Substitute
What can be substituted?

S

Topic / Issue / Challenge
Describe the subject and its constituent elements

Reverse
What can be re-arranged?

R

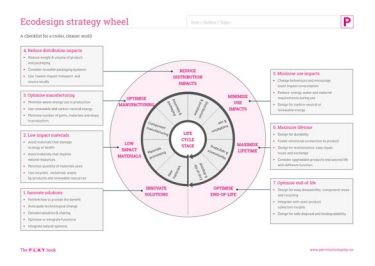
Ecodesign strategy wheel

Cooler, cleaner thinking

WHAT IS IT?

Very few problems are new. Your challenge is most likely very similar to problems that have been faced and answered many times before. Fortunately designers, engineers, scientists and thinkers of the past have collated common approaches to solving them.

Originally developed by Brezet and van Hemel in 1997, the ecodesign strategy wheel is one such framework.



PLAY

HOW TO USE IT

This approach highlights potential strategies along the full life-cycle of any product.

The Ecodesign Strategy Wheel can be a useful checklist or guide to prompt design and solution improvements at key stages in the life-cycle of products.

It's an approach that encompasses choice of materials and manufacturing processes, distribution, energy-efficient use during life, and end-of-life considerations such as disassembly, reuse or recycling.

It helps you consider the life-cycle impacts of the product, service or system.

Ecodesign strategy wheel

Date / Author / Topic:

A checklist for a cooler, cleaner world

4. Reduce distribution impacts

- Reduce weight & volume of product and packaging
- Consider reusable packaging systems
- Use lowest-impact transport and source locally

3. Optimise manufacturing

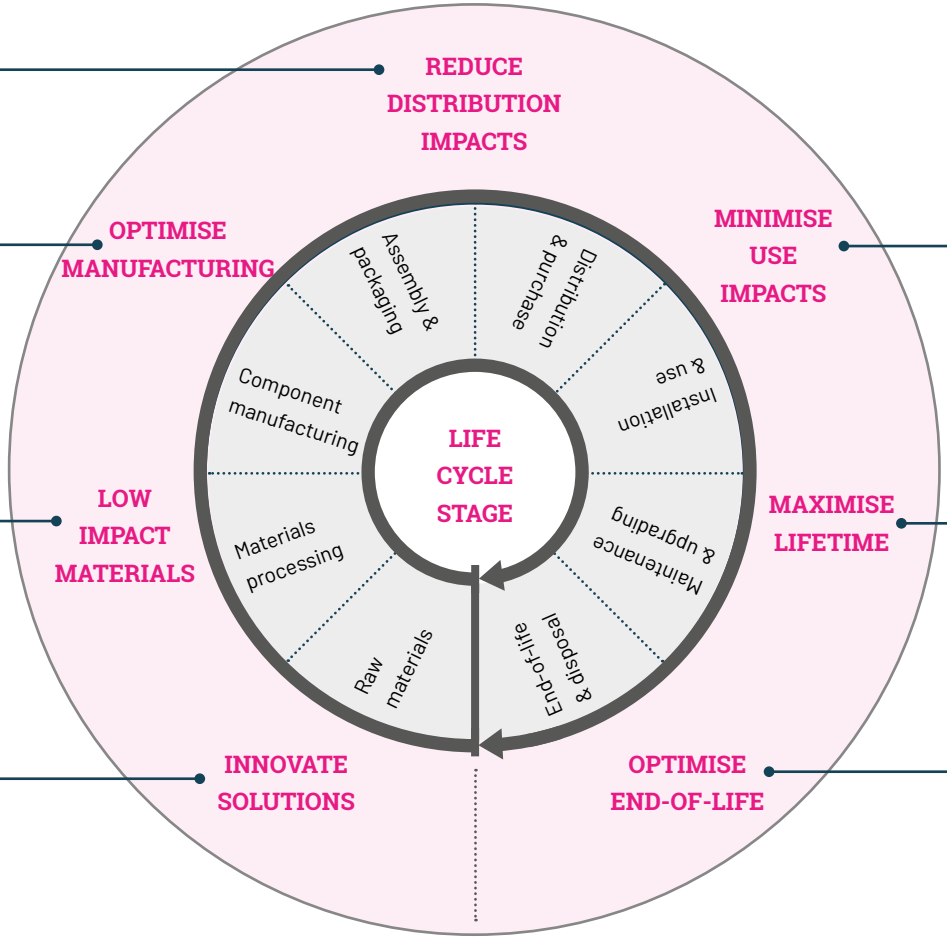
- Minimise waste energy use in production
- Use renewable and carbon-neutral energy
- Minimise number of parts, materials and steps in production.

2. Low impact materials

- Avoid materials that damage ecology or health
- Avoid materials that deplete natural resources
- Minimise quantity of materials used
- Use recycled, reclaimed, waste by-products and renewable resources

1. Innovate solutions

- Rethink how to provide the benefit
- Anticipate technological change
- Dematerialisation & sharing
- Optimise or integrate functions
- Integrate natural systems



5. Minimise use impacts

- Change behaviours and encourage lower impact consumption
- Reduce energy, water and material requirements during use
- Design for carbon-neutral or renewable energy

6. Maximise lifetime

- Design for durability
- Foster emotional connection to product
- Design for maintenance, easy repair, reuse and exchange
- Consider upgradable products and second life with different function

7. Optimise end-of-life

- Design for easy disassembly, component reuse and recycling
- Integrate with used-product collection models
- Design for safe disposal and biodegradability

PLAY

IDEATE

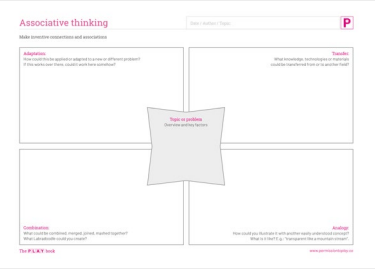
Intuitive thinking

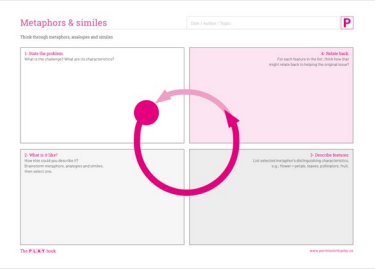
Associative techniques

Make connections

WHAT IS IT?

Creativity is all about forming new connections in the mind. It's about making associations between things which previously had nothing to do with each other.





PLAY

HOW TO USE THEM

Associations are the result of simple repeatable processes and techniques. Here we present two of the best techniques, which over the years have shown to be effective in sparking inventive associations.

For the best results, keep your mind open to ambiguity and possibilities with these approaches:

Associative thinking

Adaptation: take an existing solution to one problem and ask if it can be applied (or adapted) to a new or different problem.

Transfer: is similar to adaptation, but is more about transferring knowledge, technologies or materials from one field to another.

Combination: is simply the process of merging two (or more) concepts together into one: the labradoodle.

Analogy: is using one easily understood or known concept to explain and illustrate another.

Metaphors and similes

Use the characteristics of something similar to suggest new ideas.

Describe a problem using metaphors, for example. Select one metaphor and list its distinguishing characteristics.

Then, brainstorm how those characteristics might relate back to the original issue.

The trick is not being too rigid with how closely items relate. The purpose of the exercise is to stimulate unexpected or surprising possibilities.

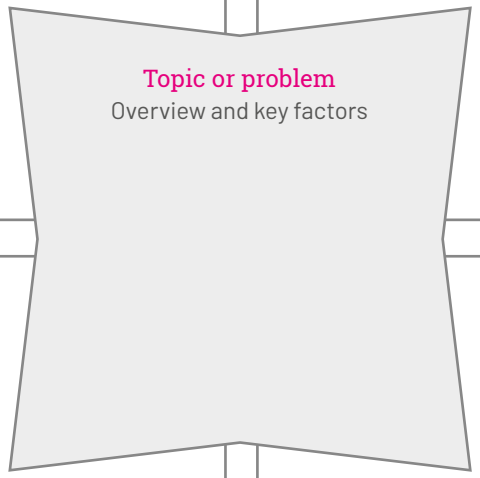
Associative thinking

Date / Author / Topic:

Make inventive connections and associations

Adaptation:
How could this be applied or adapted to a new or different problem?
If this works over there, could it work over there somehow?

Transfer:
What knowledge, technologies or materials could be transferred from or to another field?



Combination:
What could be combined, merged, joined, mashed together?
What Labradoodle could you create?

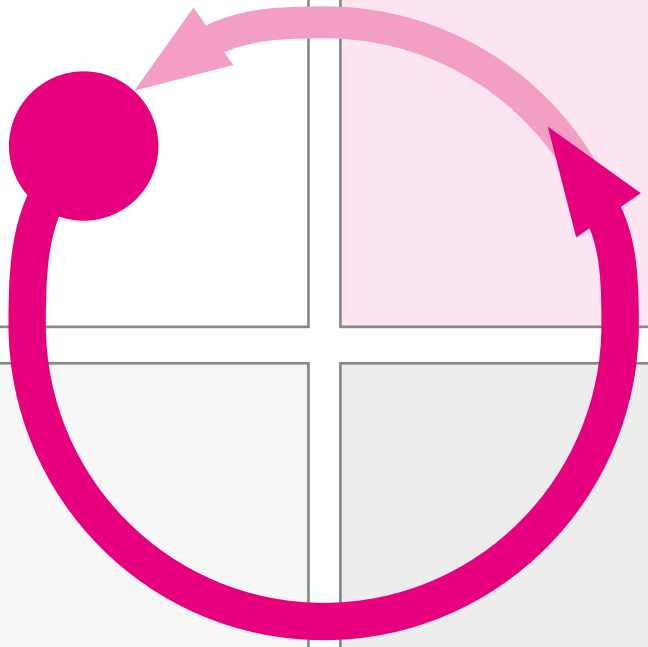
Analogy:
How could you illustrate it with another easily understood concept?
What is it like? E.g.: "transparent like a mountain stream".

Metaphors & similes

Date / Author / Topic:

Think through metaphors, analogies and similes

1- State the problem:
What is the challenge? What are its characteristics?



2- What is it like?
How else could you describe it?
Brainstorm metaphors, analogies and similes, then select one.

3- Describe features:
List selected metaphor's distinguishing characteristics, e.g.: flower = petals, leaves, pollinators, fruit.

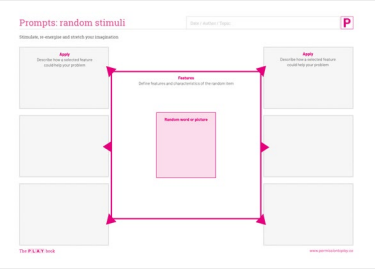
4- Relate back:
For each feature in the list, think how that might relate back to helping the original issue?

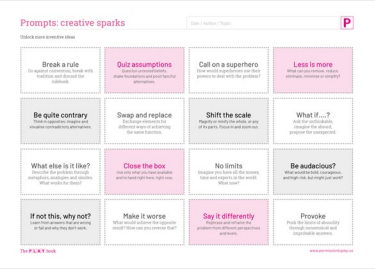
Creative prompts

Generate creative sparks

WHAT IS IT?

Creative prompts help stimulate, re-energise and even redirect the mind. They are great when you've exhausted all the initial obvious possibilities or when you have hit a wall. They work by triggering bi-sociations or other unexpected associative connections.





HOW TO USE THEM

Creative prompts are best used once a flow of initial ideas has dwindled or stagnated. They provide structured and stimulating ways to re-direct the mind and open new possible avenues of thought. Like with all brainstorming, the focus is on quantity and variety. Let ideas flourish freely.

Random stimuli

You could just select a random item and hope that it stimulates an idea.
However, to be really effective, random stimuli works best with a structured 3-step process:

- Step 1: select a word or picture at random from a book or magazine.
  (Example: picture of a bridge.)
- Step 2: as a group, briefly describe the random item. Say what it is; how it works; what some of its key characteristics are.
  (Example: Bridge with a long span, pillars, towers, suspension cables holding up road of multiple lanes, curves slightly to counterweight.)
- Step 3: ask how each of these characteristics could be applied or transformed to help with the problem.
  (Example: can we suspend ...? Can we span ...? Can we use different speeds to ...?)

Creative sparks

These are carefully selected topics and questions designed to help with the creative process. Pick two or three at random to explore your problem from refreshing angles and jolt possible new connections.

Spend no more than 15 minutes on any one question, then move on to another. Ideas are generally best listed on a mindmap or spider diagram where everyone can view and contribute.

Prompts: random stimuli

Date / Author / Topic:

Stimulate, re-energise and stretch your imagination

Apply
Describe how a selected feature could help your problem

Apply
Describe how a selected feature could help your problem

Features
Define features and characteristics of the random item

Random word or picture

Prompts: creative sparks

Date / Author / Topic:

Unlock more inventive ideas

Break a rule
Go against convention, break with tradition and discard the rulebook.

Quiz assumptions
Question untested beliefs, shake foundations and posit fanciful alternatives.

Call on a superhero
How would superheroes use their powers to deal with the problem?

Less is more
What can you remove, reduce, eliminate, minimise or simplify?

Be quite contrary
Think in opposites; imagine and visualise contradictory alternatives.

Swap and replace
Exchange elements for different ways of achieving the same function.

Shift the scale
Magnify or minify the whole, or any of its parts. Focus in and zoom out.

What if....?
Ask the unthinkable, imagine the absurd, propose the unexpected.

What else is it like?
Describe the problem through metaphors, analogies and similes. What works for them?

Close the box
Use only what you have available and to hand right here, right now.

No limits
Imagine you have all the money, time and experts in the world. What now?

Be audacious?
What would be bold, courageous, and high-risk, but might just work?

If not this, why not?
Learn from answers that are wrong or fail and why they don't work.

Make it worse
What would achieve the opposite result? How can you reverse that?

Say it differently
Rephrase and reframe the problem from different perspectives and levels.

Provoke
Push the limits of absurdity through nonsensical and improbable answers.

PLAY

IDEATE

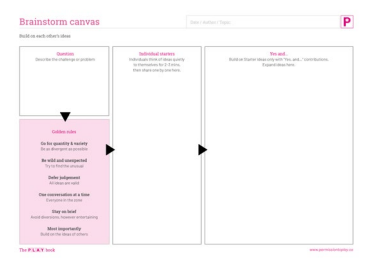
Collaborative thinking

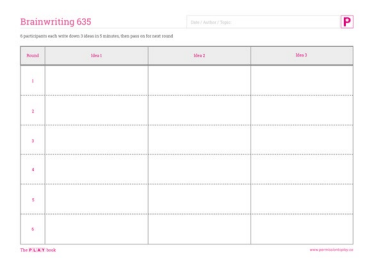
Brainstorming & brainwriting

Build off each other

WHAT IS IT?

Brainstorming is the go-to technique for any group based exercise. These two techniques incite creativity and take brainstorming up a level.





HOW TO USE THEM

Give people the structure and freedom to think individually and collaboratively.

Brainstorm canvas

The brainstorm canvas encourages a more structured exercise. It is designed to guide people to build on the ideas of others. By bringing out quieter contributors and muting loud-mouths, it results in more creative and collaborative ideas.

Use the canvas to build on each others ideas more inventively.

Individually write down thoughts then build on them with "Yes, And..." contributions.

Brainwriting 635

Brainwriting is the quiet brainstorming technique, where people write down ideas, then pass them on to stimulate further thoughts. This method is great for diffusing groupthink and ensures even the shy people can have as much voice as the extroverts.

Ask 6 participants to jot down 3 ideas on a sheet of paper in 5 minutes, then pass it onto the next person.

Ask them to read the existing answers and add 3 more ideas. Repeat until the sheets go all the way round.

Brainstorm canvas

Date / Author / Topic:

Build on each other's ideas

Question

Describe the challenge or problem

Golden rules

Go for quantity & variety
Be as divergent as possible

Be wild and unexpected
Try to find the unusual

Defer judgement
All ideas are valid

One conversation at a time
Everyone in the zone

Stay on brief
Avoid diversions, however entertaining

Most importantly
Build on the ideas of others

Individual starters

Individuals think of ideas quietly
to themselves for 2-3 mins,
then share one by one here.

Yes and...

Build on Starter ideas only with "Yes, and..." contributions.
Expand ideas here.

Brainwriting 635

Date / Author / Topic:

6 participants each write down 3 ideas in 5 minutes, then pass on for next round

Round	Idea 1	Idea 2	Idea 3
1			
2			
3			
4			
5			
6			

PLAY

EVALUATE

Selection matrix

Compare and contrast

WHAT IS IT?

Once you have generated ideas or concepts, you need to narrow them down and select only the best for development. This tool helps you decide.

Derived from the concept selection method coined by Stuart Pugh in 1981, it is frequently used in design, engineering and other fields.

HOW TO USE IT

Compare your novel ideas against each other and against existing solutions.

More often that not, the creative process itself will identify the best criteria for evaluation. For example, in the discovery stage, users may have voiced what is important to them; what their key success criteria were. Or in researching technologies and alternatives, you may have identified areas for competitive advantage and differentiation. Certainly, if you formulated a brief, it would have identified clear goals, criteria and limitations.

The selection matrix compares ideas and designs against a benchmark – called the datum. This is usually and existing product or alternative.

List your criteria, then for each idea simply score them [Better] [Equal] or [Worse] against the datum. The idea with be best net score wins.

Selection matrix

Date / Author / Topic:

Compare and contrast alternative concepts

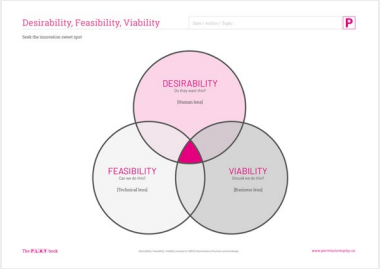
Datum = existing solution or benchmark idea • (+) Better than datum • (=) Same as datum • (-) Worse than datum If no datum exists, score alternatives 0-5	Idea 1	Idea 2	Idea 3	Datum
Criteria 1:	+ / = / -	+ / = / -	+ / = / -	=
Total Better (+) count				
Total Worse (-) count				
Net Score (Better - Worse) — or Total Score				

Desirability Feasibility Viability

Seek the innovation sweet spot

WHAT IS IT?

This is an effective lens through which to evaluate the potential of ideas. The concept was originally developed by IDEO as the three lenses of human centred design.



HOW TO USE IT

The three lenses shine a light on the success potential of any innovation. Check your ideas against these to weed out the chaff or to identify areas to develop further.

The technique suggests that innovations can only be successful if three conditions are met: someone wants it (desirability), you can deliver it (feasibility) and it makes economic sense (viability). Test all your ideas through these three lenses to evaluate their potential.

1

Desirability

Is your idea needed or wanted? Does it resolve their problems? Does the intended audience see its value?

2

Feasibility

Do you have the know-how, skills, resources and technology to deliver? How realistically can you make it happen?

3

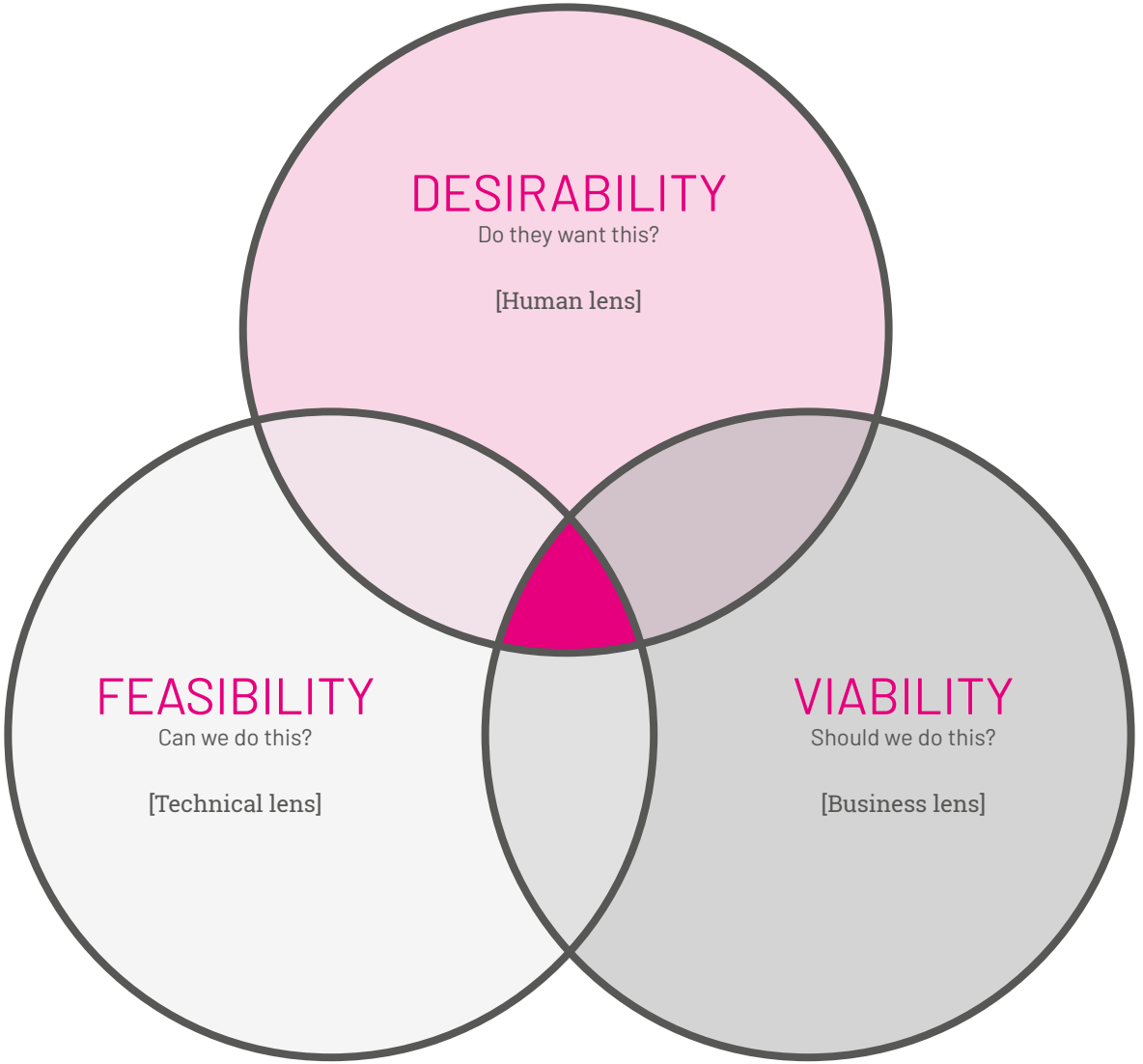
Viability

Does the business case stack-up? Is it commercially or economically beneficial? Is the business model sustainable?

Desirability, Feasibility, Viability

Date / Author / Topic:

Seek the innovation sweet spot



Desirability, Feasibility, Viability is based on IDEO's three lenses of human centred design.

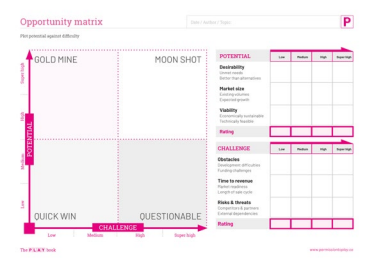
Opportunity matrix

Plot potential

WHAT IS IT?

The opportunity matrix evaluates ideas on two axes: their potential and the difficulty of delivering them. These criteria are largely based on the Market Opportunity Navigator by Gruber and Tal of WhereToPlay.

There are many alternative 2X2 grids you could use, or you could even define your own criteria and grid.



HOW TO USE IT

The matrix plots ideas on a grid to enable you to rank them in order of opportunity: questionable, quick win, gold mine and moon shot.

Select a number of potential ideas to evaluate, then take each through the following process to evaluate their potential and their challenges.

Use a four-level rating scale: Low, Medium, High and Super High.

1

Rate the potential

First rate the idea's potential, looking at:

Desirability
Unmet needs
Better than alternatives

Market size
Existing volumes
Expected growth

Viability
Economically sustainable
Technically feasible

2

Rate the challenge

Then rate the difficulty in bringing the idea to life:

Obstacles
Development difficulties
Funding challenges

Time to revenue
Market readiness
Length of sale cycle

Risks & threats
Competitors & partners
External dependencies

3

Plot on matrix

Finally, using the potential and challenge ratings, plot each idea onto the matrix.

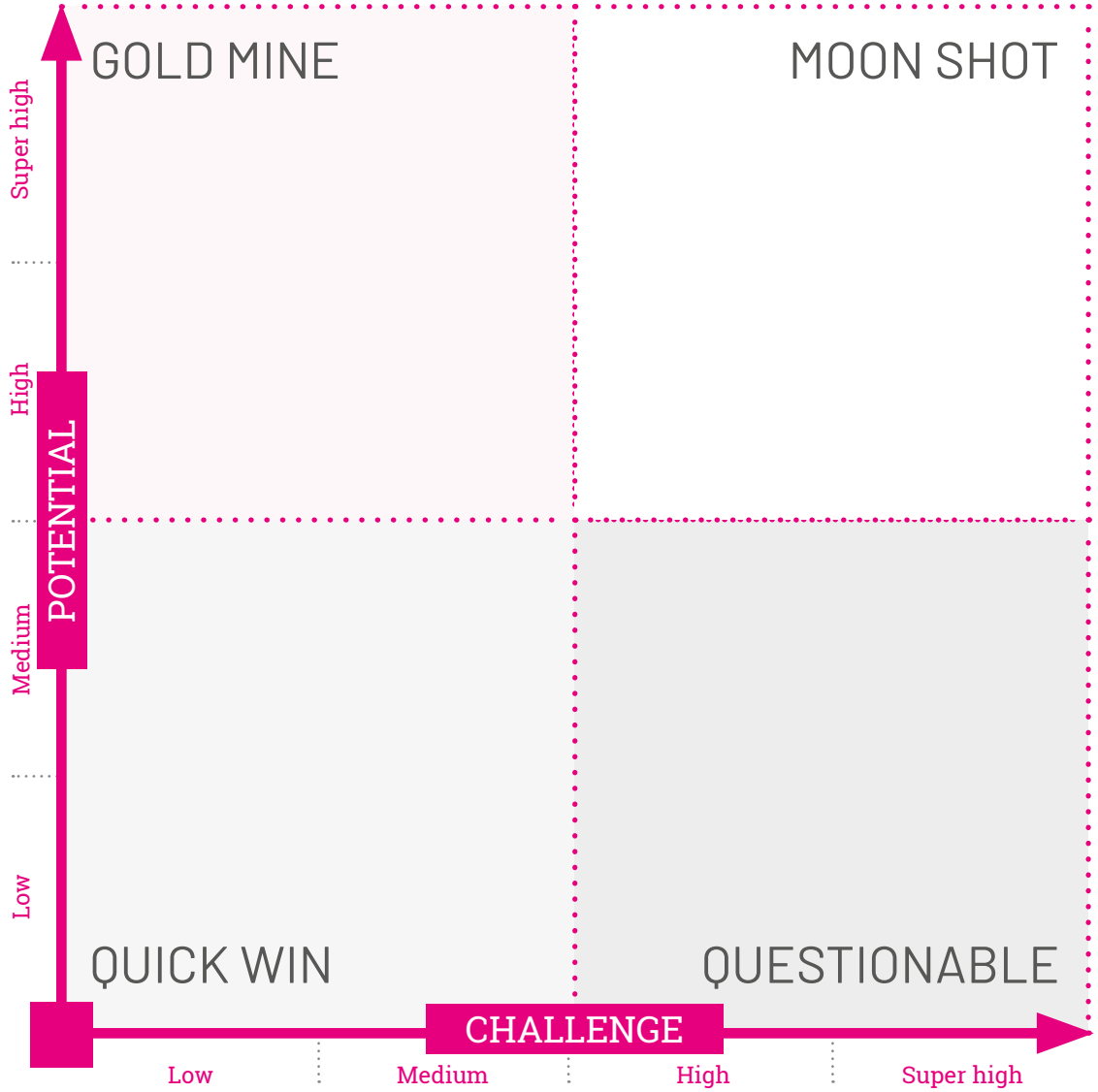
This will filter ideas into four categories of opportunity:

- Questionable
- Quick wins
- Gold mine
- Moon shot

Opportunity matrix

Date / Author / Topic:

Plot potential against difficulty



POTENTIAL	Low	Medium	High	Super high
Desirability Unmet needs Better than alternatives				
Market size Existing volumes Expected growth				
Viability Economically sustainable Technically feasible				
Rating				

CHALLENGE	Low	Medium	High	Super high
Obstacles Development difficulties Funding challenges				
Time to revenue Market readiness Length of sale cycle				
Risks & threats Competitors & partners External dependencies				
Rating				

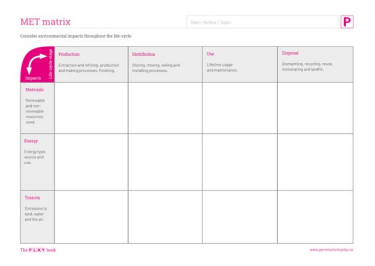
Adapted from Market Opportunity Navigator by Marc Gruber and Sharon Tal. More info: wheretoplay.co/navigator/

MET matrix

Explore environmental impact

WHAT IS IT?

The MET (Materials, Energy, Toxicity) matrix technique is a qualitative assessment of the environmental impacts of a product throughout its life-cycle.



HOW TO USE IT

The MET matrix is a way of looking at all the types of environmental problems that a product could cause. Complete a separate matrix for your evaluation of each product or idea option.

When to use

It is particularly useful in the early stage of a project for evaluating the environmental impacts of existing solutions and identifying areas for improvement. It can also be used in the concept development stage to analyse the potential impact of alternatives on the environment or to seek a competitive advantage.

Life-cycle

This technique considers the environmental impacts materials, energy use and toxic emissions at each stage of its life.

The product life-cycle has been divided into its main stages: extraction and production, distribution, use during its lifetime, and end-of-life disposal. You can break this down further if you need a finer grained evaluation.

The distribution stage is presented only once, however you should consider all distribution stages in the product life cycle.

Fill in the MET matrix

Materials
This row records environmental problems from the input and output of material across each stage of the life-cycle. It should note materials which are non-renewable or create emissions during production (such as copper, lead and zinc).

Energy use
Quantify energy consumption during all stages of the life-cycle, including through product use,transport and recovery. Inputs of materials with extremely high energy content are listed first.

Toxic emissions
In the final row identify of toxic emissions to land, water and the air in the life-cycle stages.

MET matrix

Date / Author / Topic:

Consider environmental impacts throughout the life-cycle

Impacts / Life-cycle stage	Production Extraction and refining, production and making processes, finishing.	Distribution Storing, moving, selling and installing processes.	Use Lifetime usage and maintenance.	Disposal Dismantling, recycling, reuse, incinerating and landfill.
Materials Renewable and non-renewable resources used.				
Energy Energy type, source and use.				
Toxicity Emissions to land, water and the air.				

Sustainability case

The triple bottom line

WHAT IS IT?

The United Nations says that "sustainable development meets the needs of the present without compromising the well-being of future generations". This technique evaluates how sustainable ideas and concepts are.

HOW TO USE IT

Based on the three-legged stool concept of sustainability, this technique encourages a balanced view of environmental, social or societal, and economic benefit. Think of it as the triple bottom line.

It is important for all three legs or pillars to be sustainable. If one leg is weak or broken, the stool falls over. Whether you are assessing just one idea or comparing several concepts against each other, rate ideas for their potential in each category.

1

Environment

- What is the environmental impact throughout its life-cycle?
- What habitat is affected?
- What emissions does it cause?
- Does it fit into the circular economy?
- How can it be re-used or recycled at the end of its life?

2

Social

- What positive or negative impacts does it have on communities?
- Does it reward workers with a living wage and potential to grow?
- Does it tackle discrimination, equality and diversity issues?
- Does it support health, happiness and well-being?

3

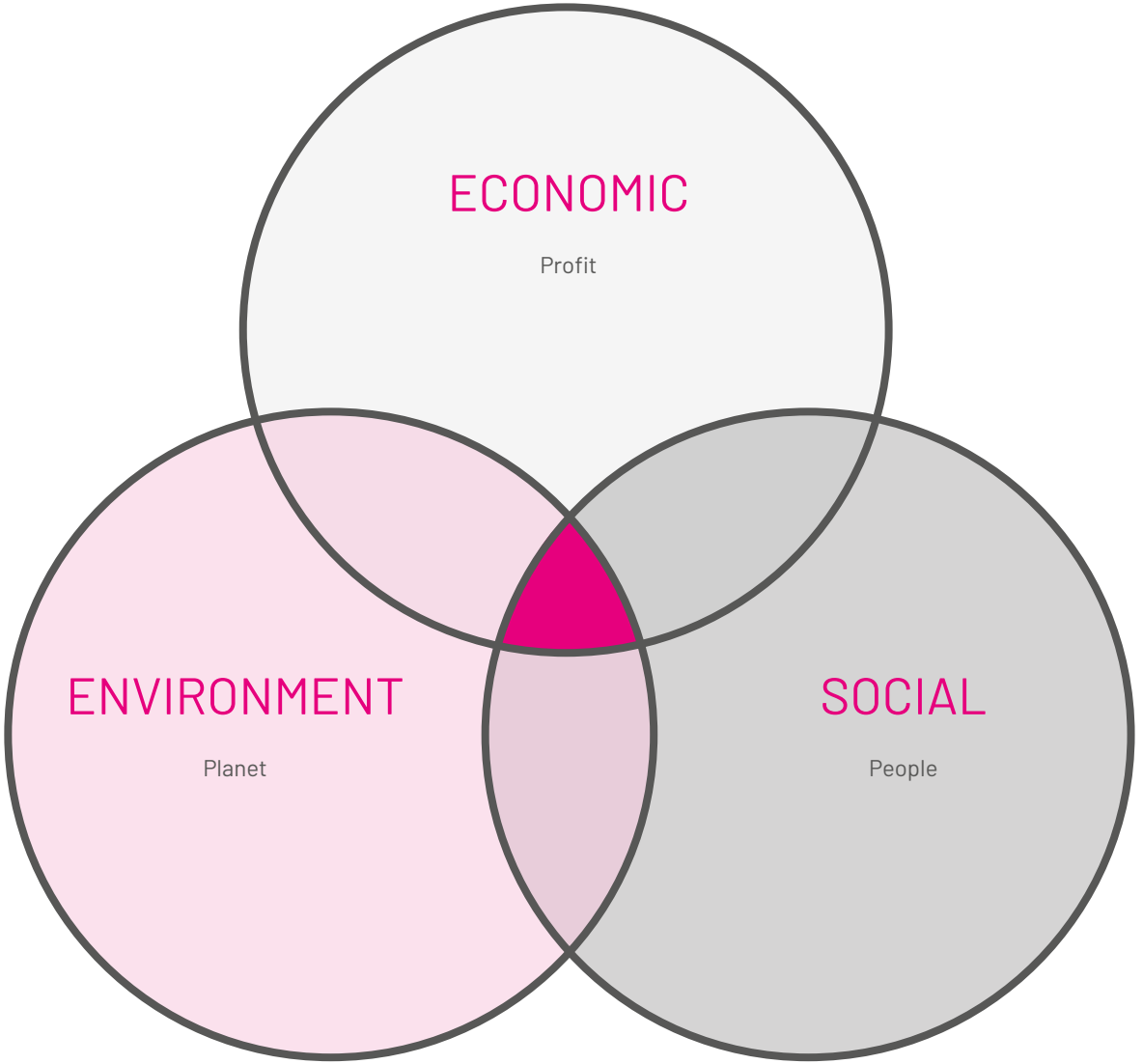
Economic

- Is it profitable or do revenues outweigh costs?
- What is the ROI?
- Does the business case stack-up?
- Can the investment be found?
- Does it align with the business objectives and capabilities?

Sustainability case

Date / Author / Topic:

The triple bottom line



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