

Impact Design:

A crash course in Systems
Thinking for positive impact



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Why design for positive impact?

Aligning purpose amongst designers and innovators

Why? *Because it's not easy!*

Across the planet you can find individuals and organisations that are highly motivated to make the world a better place, but struggle to find the frameworks, methods and toolkits to take action.

It might go without saying, but making a positive impact is a complex problem...

Thankfully, **Design Thinking** is uniquely adept at tackling complex problems, and *'tech for good' starts with design.*



An intro to this guide

On the business and tech front, 75% of CEOs are currently investing in digital to address [sustainability challenges](#). (Source: UN Global Compact) As designers, innovators and business leaders, our challenge is to make best use of this investment.

Whether you have a holistic strategy in measuring positive impact, or are just starting to dip your toes in the water, **this guide will give you the vision, theory and practical tools to ideate and build new products and services with positive impact at their core.**

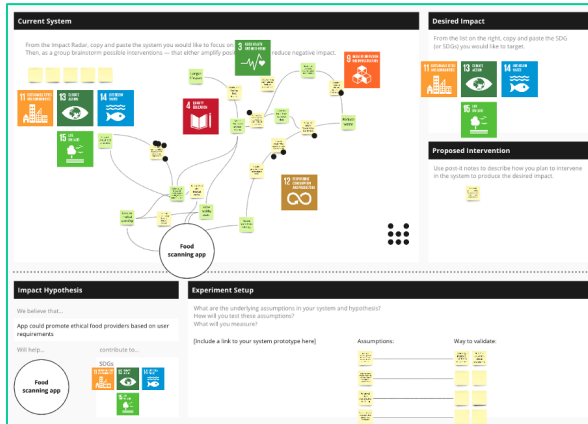
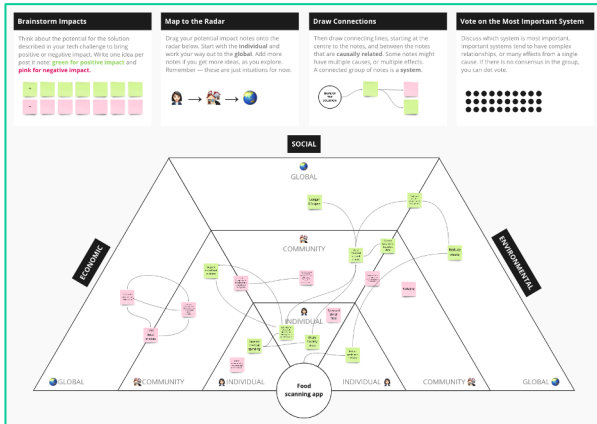
If you run into any questions along the way, [drop the PALO IT team a note anytime](#), our team of innovators is at your fingertips.



Interested in taking these activities further?

This crash course is simply step one in the impact design process!

PALO IT runs workshops designed to transform projects and business models from the ground up - in-person using **Agile methodology** and a **bespoke Kanban board**, or virtually using a **Miro board** and **interactive Zoom sessions**. Activities can be delivered in a single workshop or broken up into parts and run throughout a project.





How can we develop a shared understanding?

What it means to make an impact as a designer or innovator

What does positive impact mean?

We might consider that an action has positive impact when it addresses the following considerations:

CREATING WELLBEING

The action has ‘valence’.

It bears a conscious intention — it designed to help, to bring about opportunity, wellbeing, wealth and flourishing, or to reduce suffering, pain, inequality and injustice.

BEYOND THE SELF

There is also a conscious recognition that actions have an effect beyond the experience of the immediate self.

Actions and choices directly impact those close to us, but also have wider indirect effects.



CREATING WELLBEING

Types of wellbeing

A helpful way to think about the positive impact of an action is to consider these categories:

- **Economic**
Does the action create wealth or alleviate financial hardship?
- **Social**
Does the action create equality, strengthen relationships or encourage cooperation?
- **Environmental**
Does the action create a safe, sustainable and abundant environment?

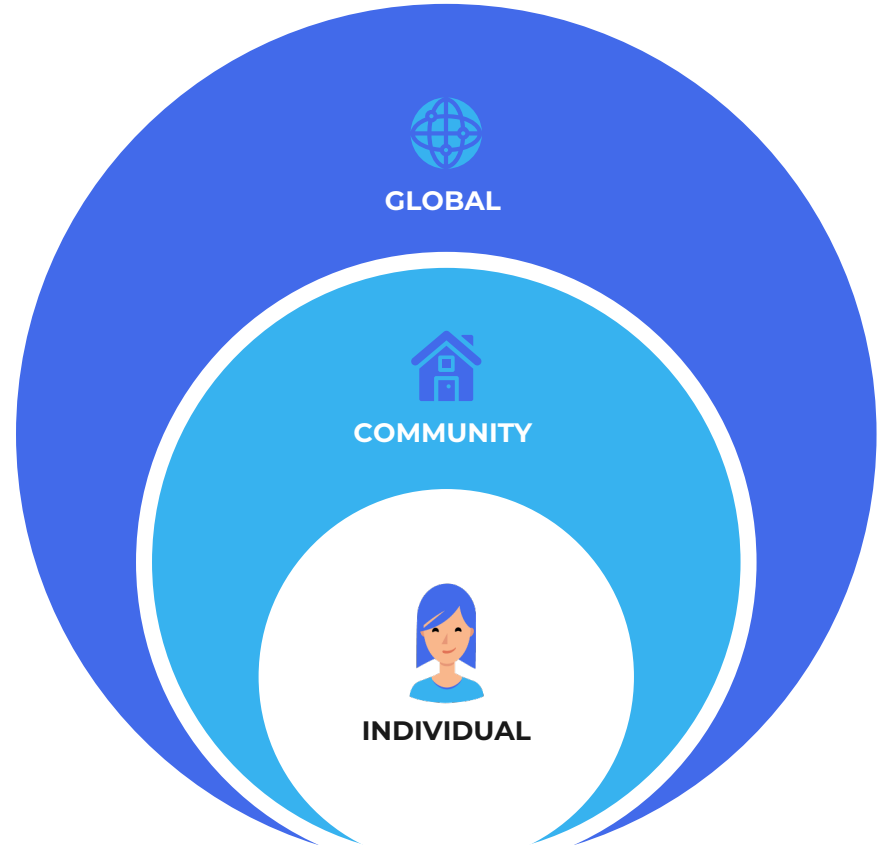


BEYOND THE SELF

Impact at varying scales

We can also think about the level at which effects can be observed:

- **Individual**
Does the action change someone's life or their behaviour?
- **Community**
Does it change organisational structures, or the way a community of individuals interact?
- **Global**
Does it contribute to global trends?
Does it help change the course of history?



REFLECT FOR A MOMENT

How might we...

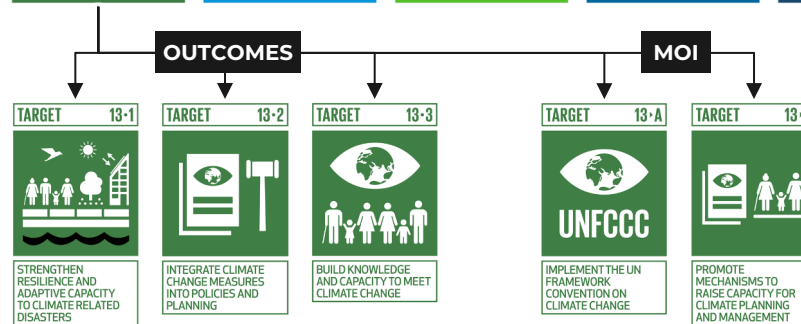
Put our intentions into action?

With so many complex problems facing the world, how can adopt a distinct focus?

The 17 SDGs

The 17 Sustainable Development Goals (SDGs), are “an urgent call for action by all countries in a global partnership.”

Their intent is to ultimately end poverty, while working in tandem with strategies that improve health and education, reduce inequality, act as a catalyst for economic growth, and tackle climate change.



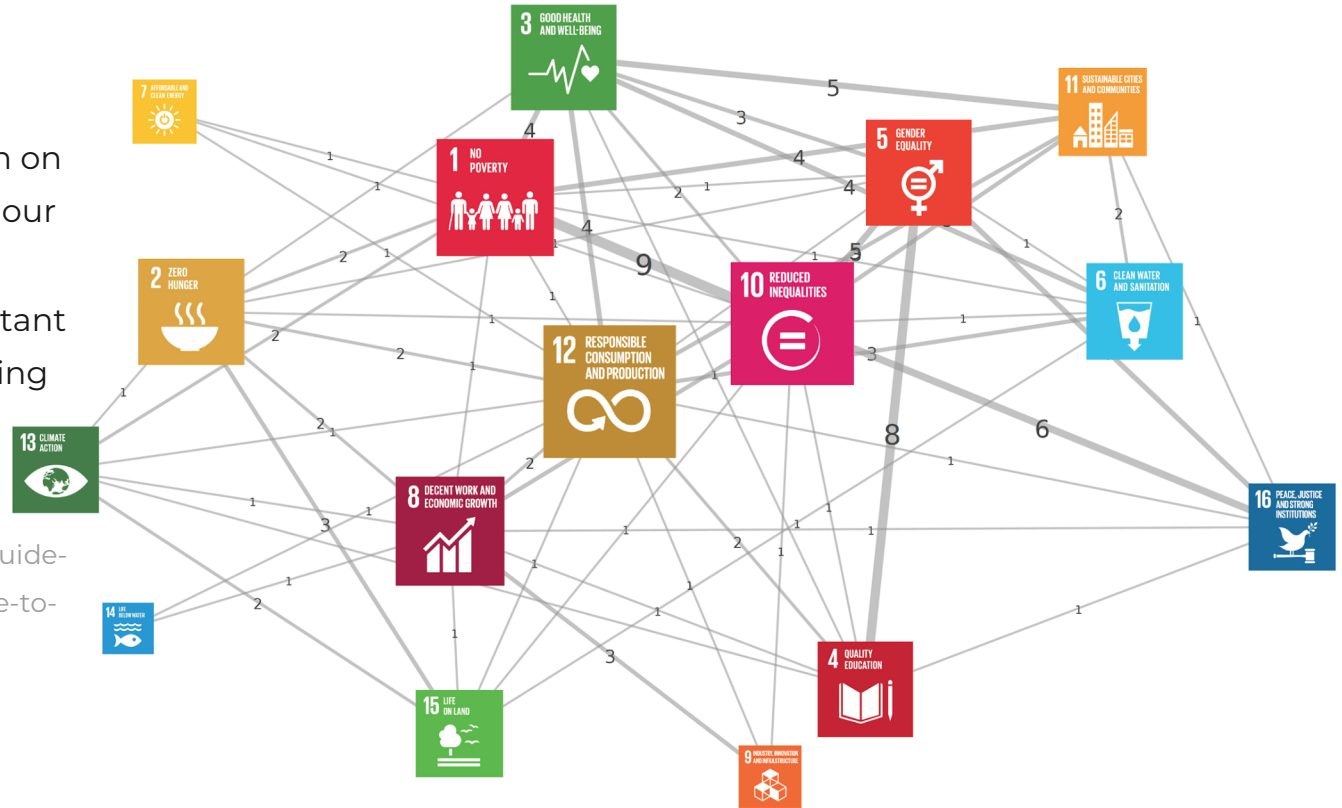
globalgoals.org

sdgs.un.org

How they are connected

Although we might hone in on specific goals according to our own interest, talents or business models, it's important to remember that influencing one SDG will undoubtedly affect others.

council.science/publications/a-guide-to-sdg-interactions-from-science-to-implementation/



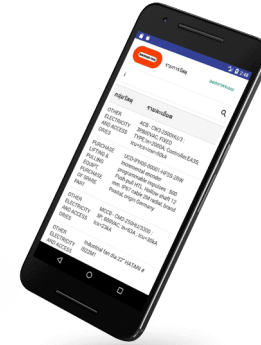
How the SDGs inform projects at PALO IT



Precision Agriculture Greenhouse automation

We used AI & machine learning to automate a farming community, including fanning, misting, and dripping systems, and optimising resources based on historical data. Read more at:

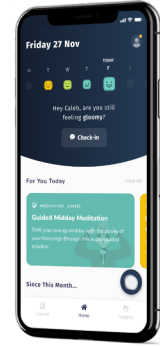
<https://www.palo-it.com/en/case-study/agritech>



Waste Management System App

We reversed the waste management paradigm, building an app promoting better business and sustainable practices in the construction industry.

Read more at: <https://www.palo-it.com/en/case-study/flipping-the-script-on-waste-management>



Mental Healthcare Application

We prototyped the next generation of a digital behavioural health platform, introducing empathetic AI for modern workforces.

Read more at: <https://www.palo-it.com/en/case-study/neurum-health>



At PALO IT, the UN SDGs serve as our North Star. Each project we undertake carries along with it the aim of addressing at least one UN SDG. Need some food for thought? See a few examples of successful projects on the right.



A brief introduction to Systems Thinking

An activity to adopt an impact mindset amongst your team

“

A system is an interconnected set of elements that is coherently organised in a way that achieves something.

Donella Meadows

Author of *Thinking in Systems*



The features of a system



ELEMENTS

These are the visible, tangible parts that make the whole.

a tree has
leaves and branches

a university has
buildings and courses

Facebook has
posts and comments



INTERCONNECTIONS

Relationships between the elements, information flows.

a tree has
metabolic processes

a university has
student-teacher interactions

Facebook has
connections between friends



FUNCTION / PURPOSE

An overall directed behaviour that the system perpetuates.

the function of a tree is to
seed more trees

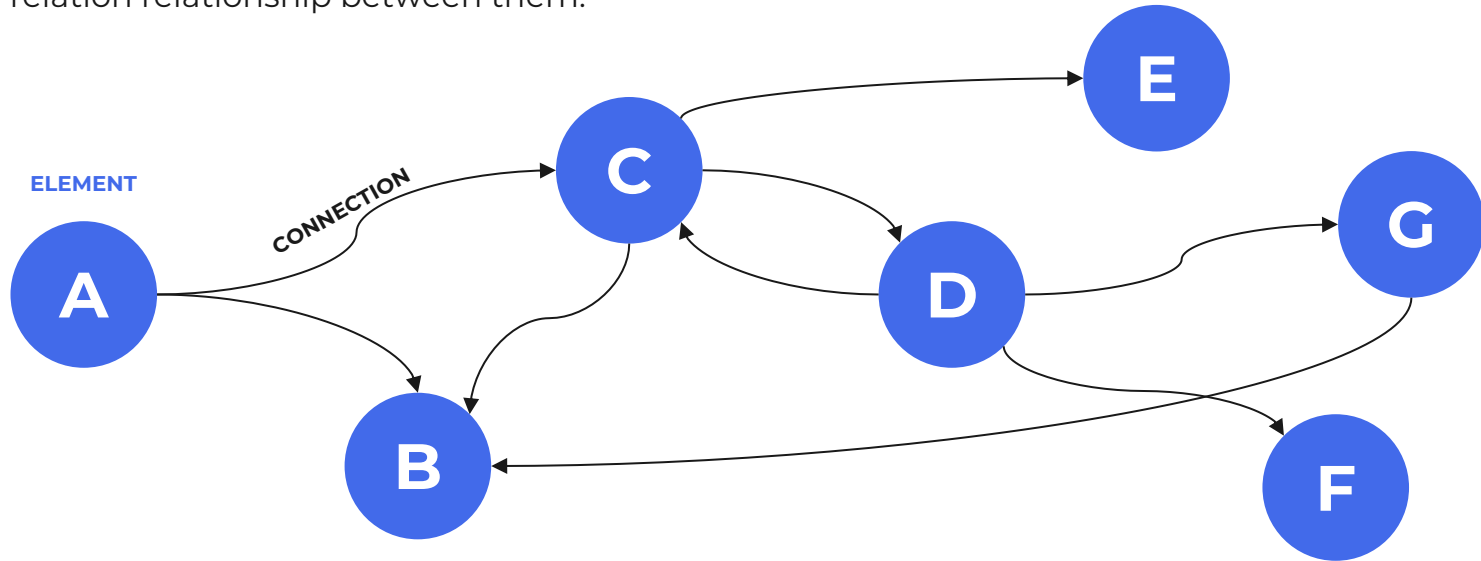
the purpose of a university is to
discover knowledge and preserve culture

the purpose of Facebook is to
profit from data it collects on users

Mapping the system features

The best way to understand a system is to start mapping it out.

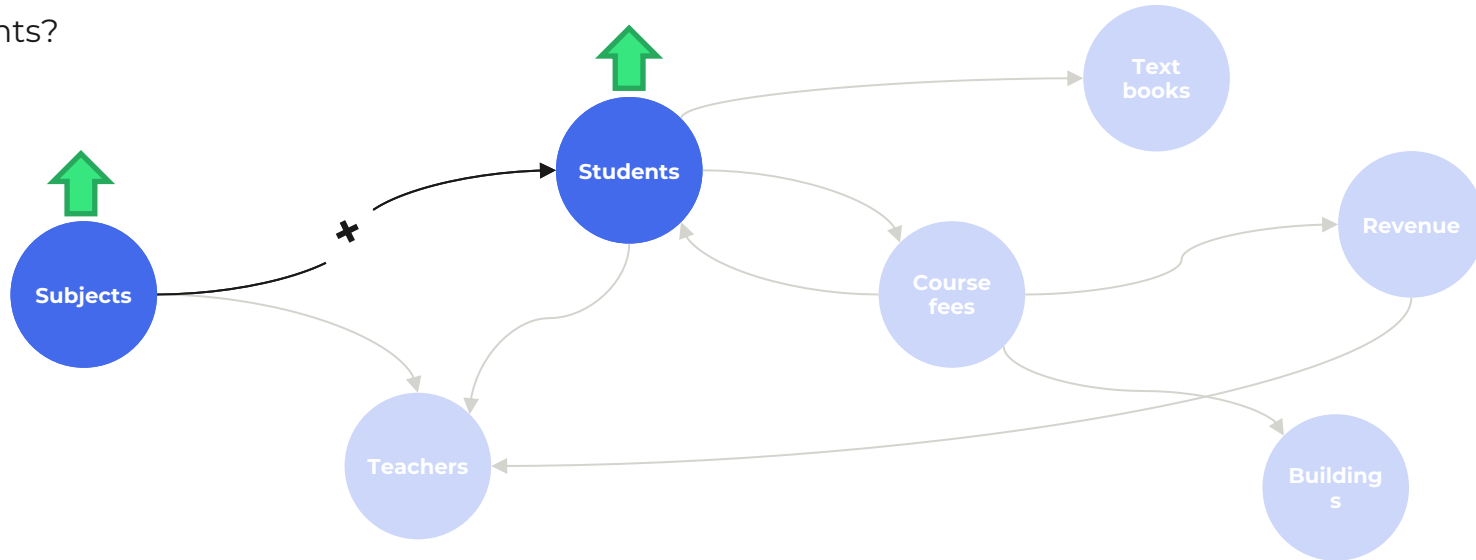
Lay out all the elements first, then think about the information flow or causal relationship between them.



SYSTEMS THINKING

Behaviour of the system over time

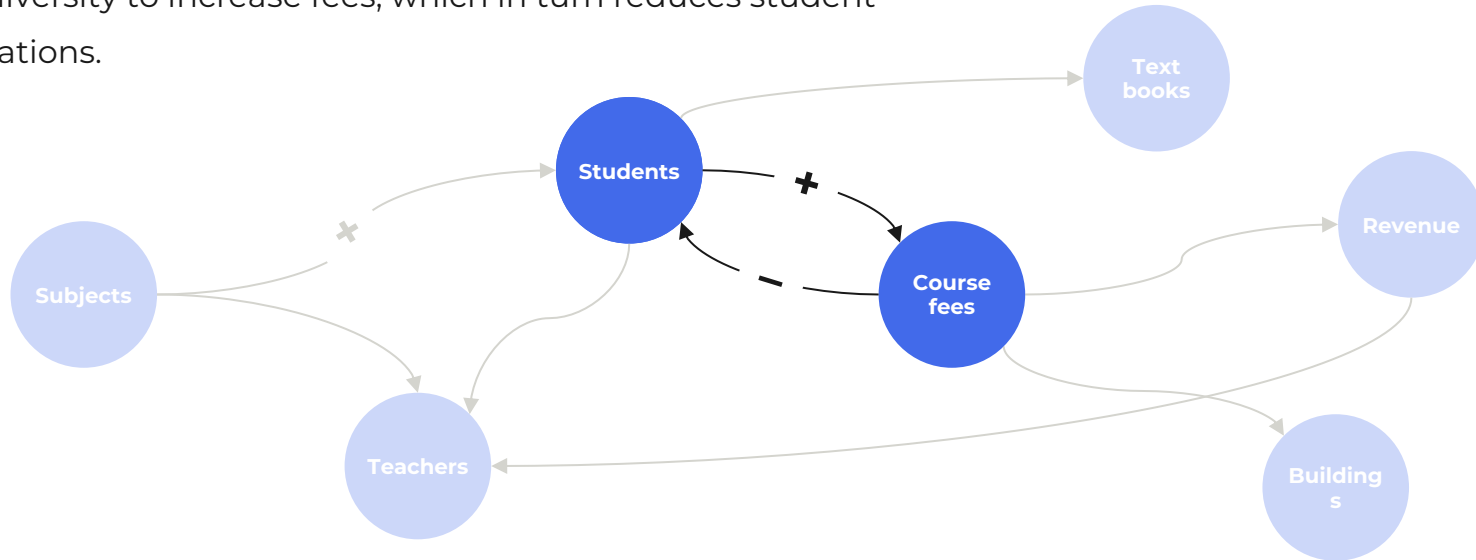
Then we can think about what happens if we increase the **stock** of one of these elements. E.g. what happens if a university starts to offer a wider a range of subjects? How does that affect the stock of students?



SYSTEMS THINKING

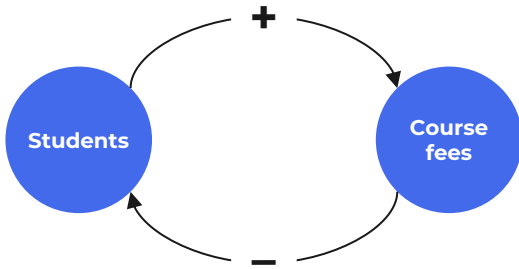
System feedback

Occasionally there exists a causal link between two elements that flows both ways. E.g. an increase in students applying might prompt the university to increase fees, which in turn reduces student applications.



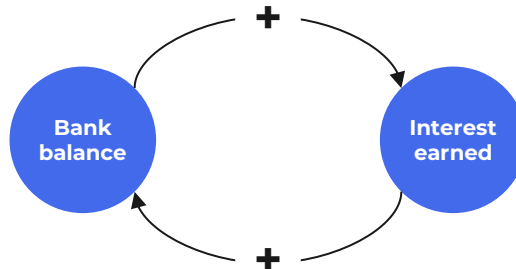
Types of feedback loops

BALANCING



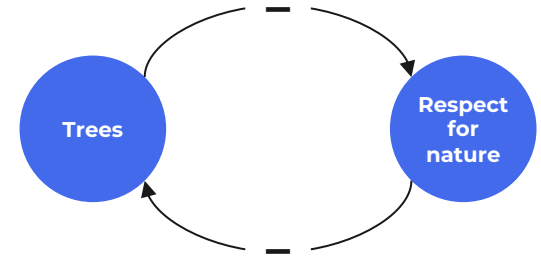
These feedback loops counterbalance extreme change in either direction, keeping a system in stable equilibrium.

POSITIVE REINFORCEMENT



Also known as a “virtuous cycle”, this kind of loop can exponentially increase the stock of elements in the system.

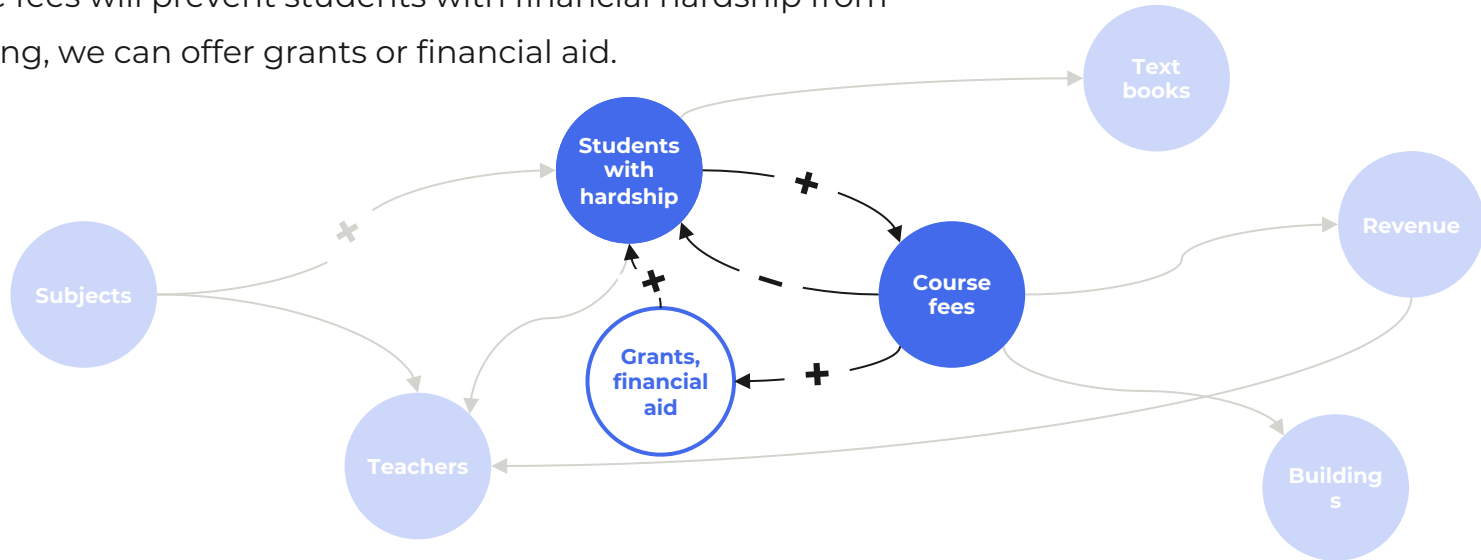
NEGATIVE REINFORCEMENT



Also known as a “vicious cycle”, this kind of loop (without intervention) tends to result in the collapse of the system.

System interventions

Once we understand the system better, we can design interventions to achieve a desired outcome. E.g. if we are concerned that high course fees will prevent students with financial hardship from enrolling, we can offer grants or financial aid.



ACTIVITY

Experimenting with loops

This exercise is designed to get you familiar with creating simple systems with elements (or nodes), connections and feedback loops.

1

Open this link in your browser:

ncase.me/loopy/v1.1

See some examples by clicking the link in the top right.

2

Draw your own system with nodes, causal flows and at least one feedback loop.

3

Run the simulation! What happened to the stock of each of your elements? See what sort of results you get when you apply this to your own business model.

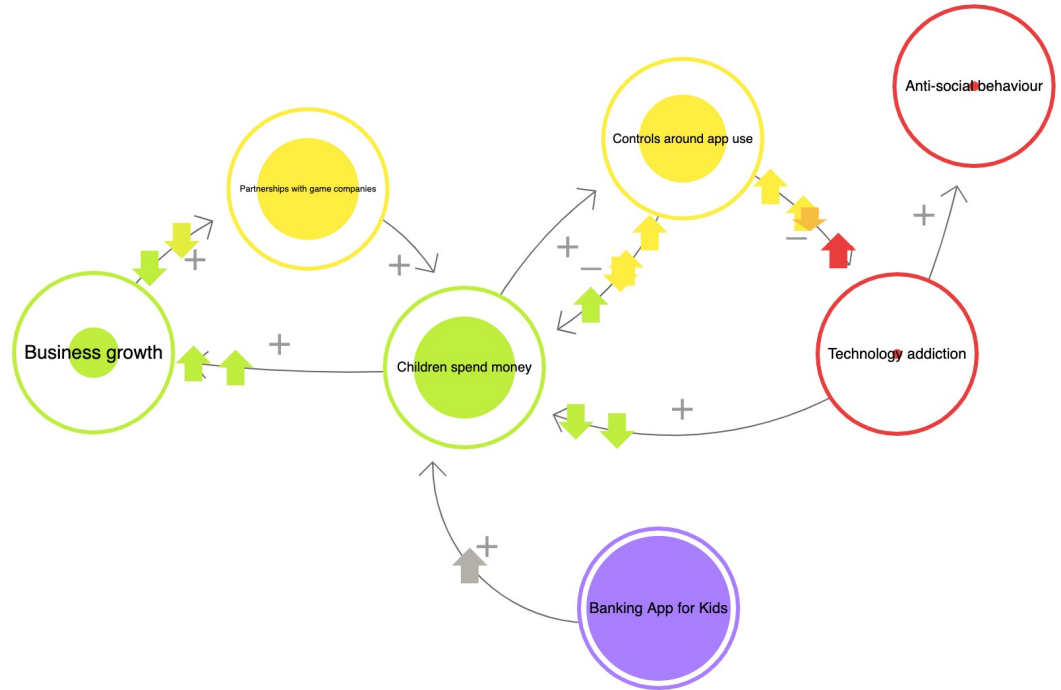


SYSTEMS THINKING

Results

Check out the *Loopys* system on the right as an example - we can see that a banking app for kids results in children spending money and businesses growing. It also leads to tech addiction, which in turn leads to anti-social behaviour. But, notably, these drawbacks are offset by increasing controls around app use.

Consider that ***circumstances surrounding impact design projects often fluctuate***. In your own simulation, try increasing your stock of a node to see how it affects others, or move your nodes around to see alternative developments.





What tools and methods can we use?

A practical series of exercises to use with your team



The Impact Radar

Exploring the systemic impact of a digital product or feature

What is its purpose?

The *Impact Radar* helps us explore the positive (or negative) impact potential for an existing or new digital product, so that we can intervene to produce a better outcome.



What you need to run the session

The following activity can be delivered in a single workshop or in combination with the *Intervention Experiment Canvas*. What you need:

PEOPLE

Ideal group size is **four to eight participants**. Suitable for cross-functional teams with a variety of backgrounds and capabilities.

It's advisable to break out large groups into smaller teams, with one facilitator guiding each team of four participants.

MATERIALS

All workshop activities are designed to be run remotely, online with **Miro and Zoom** (or MS Teams). Breakout functionality is critical for larger groups of participants.

Participants aren't required to bring anything or prepare anything before the workshop

TIME

The activity can be run in **1 hour** (+ 30 mins for larger groups).

THE WORKSHOP

Let's get started!

1. Open the Miro Link:

https://miro.com/app/board/o9J_l11qAQo=/

(to duplicate an editable copy of the board,
create a *free* Miro account).

2. Read the example brief.
3. Follow the activity instructions.

ACTIVITY

The Impact Radar

An exercise in expanding our understanding of impact at different scales beyond the user, and to discover causal relationships across the system.

1

Think about the potential positive and negative impact of your project or business model. Write these on post-its and add them to what we call your *Impact Radar*.

2

Draw connections between impacts that have a causal relationship. Any set of notes linked causally can be considered a system. Look for loops!

3

If you're working in a team, **dot vote** on the system that you think is most important. You'll look at this system in more detail in the next exercise.





The Intervention Experiment Canvas

Proposing ways to change a system for the better

What is its purpose?

We can use the *Intervention Experiment Canvas* to ideate ways to change the features of a product to create positive impact, then define experiments to validate the intervention.



What you need to run the session

This activity requires an existing system map — which can be created using the Impact Radar activity. What you need:

PEOPLE

Ideal group size is **four to eight participants**. Suitable for cross-functional teams with a variety of backgrounds and capabilities.

It's advisable to break out large groups into smaller teams, with one facilitator guiding each team of four participants.

MATERIALS

All workshop activities are designed to be run remotely, online with **Miro and Zoom** (or MS Teams). Breakout functionality is critical for larger groups of participants.

Participants aren't required to bring anything or prepare anything before the workshop

TIME

The activity can be run in **45 mins** (+ 30 mins for larger groups).

THE WORKSHOP

Let's go again!

1. Return to the Miro board:
https://miro.com/app/board/o9J_l11qAQo=/
2. Read the activity instructions.
3. Start brainstorming!

ACTIVITY

The Intervention Experiment Canvas

Now it's time to widen our thinking and explore ways we could change the system in a positive way, and construct experiments to test our assumptions about impact.

1

Add your system to the Intervention Experiment Canvas. **Brainstorm** potential ways to modify the solution to change the effects. Add your notes.

2

Vote on your most important intervention. Think about how your intervention might target one or more SDGs, and **create** your *Impact Hypothesis*.

3

Discuss the assumptions that underlie your hypothesis. Come up with a way to **test** your hypothesis by addressing your underlying assumptions.



THINK FOR MOMENT

Let's reflect...

- What worked well?
- What was surprising?
- What was challenging?



Kickstart your journey!

Get in touch with PALO IT to run a collaborative workshop, and start building towards sustainable digital transformation.

CONTACT US

