



Strategic Design and Product Stewardship



**Product
Stewardship
Centre of
Excellence**

**PRACTICE
NOTES**

May 2024

Steve Baty
Chief Executive Officer Australian Design Council
Chair, Meld Studios



SUMMARY

Strategic Design provides the perspectives and tools needed to drive a shift in product design practice out of the mindset of a linear economy and towards a whole-of-life, stewardship approach. Strategic Design tools help position the design activity within a broader systems context, connecting design decisions made within the organisation with the impacts felt in society and the natural environment.

Strategic design, at its most simplistic, is about crafting decision-making. *Designing Tomorrow*¹ offers the following description:

“Taking a whole-of-system approach, strategic design operates on multiple levels simultaneously. This requires not only new design methods, but also more-than-human perspectives to holistically understand how business operations are interlinked with the external factors defined by our global-scale crises - the complex systems within which organisations operate.”

From the Helsinki Design Lab²:

“Traditional definitions of design often focus on creating discrete solutions - be it a product, a building or a service. Strategic design applies some of the principles of traditional design to ‘big picture’ system challenges like health care, education, and climate change. It redefines how problems are approached, identifies opportunities for action, and helps deliver more complete and resilient solutions...”

This works best when design is integrated into the DNA of organisations, creating new opportunities for designers with a strategic aptitude to migrate from studios and ateliers to integrated positions, embedded within organisations and governments.”

Strategic Design helps organisations shift their thinking and their problem-solving focus beyond the individual product to include issues such as supply-chain effectiveness, second-hand markets, repair networks, business models and partnerships with complementary organisations

¹ *Designing Tomorrow*, M.Tomitsch & S.Baty, pp72-73

² Helsinki Design Labs <https://www.helsinkidesignlab.org/pages/what-is-strategic-design>



Strategic Design in Practice

Design is already deployed in useful ways to enhance the longevity of products and materials through considerations of elements such as:

- The type, quality and durability of materials and component parts
- The ability for damaged or faulty parts to be repaired or replaced
- The considered use of electronic components, batteries and power sources
- The considered use of cleaning agents, solvents and lubricants
- These all directly impact the material and energy intensity of the product itself

Strategic design helps to expand the design practice to think and make decisions beyond the immediate boundaries of the organisation and its specific product or service. *Designing Tomorrow*³ offer three sets of tools through which Strategic Design affects this shift:

- Networks
- Interventions
- Partnerships
- These are discussed in the subsequent sections.

1. Networks

Product Stewardship sits within larger, overlapping and dynamic systems which impact on product design decisions and are impacted in turn by the decisions of the product design team. Shifting our perspective into a more strategic frame begins by developing an understanding of those systems; the relationships between the individual components; and decisions within the system can have an impact more broadly. In particular, Networks introduce the concepts of:


- System mapping
- System boundaries & externalities
- Ripple Effects.

System Mapping

System mapping is a visualisation technique used to show the components of a system and the relationships between them. Typically, systems are cyclical in nature, with behaviour in one component having a positive or negative effect on the components around it. For example, a lack of exercise can impact on sleep quality, which can in turn make it more difficult to get up the energy to exercise.

Relationships are described in terms of the positive or negative impact one component has on another. Sometimes - such as in the example above - two components will act on one another creating a self-reinforcing spiral; in other cases, they may create a self-moderating (dampening) loop.

³ *Designing Tomorrow*, M.Tomitsch & S.Baty, pp73



If we take the example of professional women's sport, player salaries are often too low to allow players to focus full time on their sport. They instead are forced to split their time between sport and a paying job in order to get by.

Splitting their time means less time for strength, conditioning and skills training, artificially lowering the quality of play of which they're capable.

The subsequent lower standard of play is then used to justify lower salaries.

The reverse cycle is possible as well: pay players a higher salary so they can focus 100% on their sport. Extra time can then be spent on strength, conditioning and skills training, resulting in higher on-field performance, increased attendance at games and TV viewership; increased revenues from sponsorships; and, therefore, more money available for player salaries and the development of younger players.

Self-moderating cycles can be seen in the attractiveness of an industry or market to new entrants.

A new market is created through innovation or regulation. Early entrants are able to take advantage and make profit (whilst wearing first-mover risk). Profitability attracts more entrants creating downward pressure on profitability, which reduces the attractiveness of the market and slows the pace of new entrants.

Creating a system map requires us to identify each component of the system we're interested in and understand how a change in one component will affect other components in the system - for better or worse. Early versions will almost certainly be messy representations of these relationships, and refinement will be necessary in order to create a clear picture.

Another important step in the creation of a system map is to be explicit about whether or not an effect is direct or indirect. System maps should focus on the direct impacts of one component on another; indirect impacts will be represented as a series of direct impacts.

System Boundaries and Externalities

When creating a system map, we must of necessity define system boundaries. Since it is possible to describe relationships infinitely, any system map created within an organisational context will be arbitrarily constrained on the basis of what the organisation feels is within its purview.

Whilst this step is necessary it is not without consequence; the process of drawing boundaries creates externalities, which comprise anything we've decided will be somebody else's responsibility - these can quickly become significant problems, particularly in areas such as exploitation, waste & pollution. Consider the practice of shipping excess clothing and fabric to developing nations for disposal, enabling fast fashion in the Western world.

One example of how organisations have recently been forced to redraw their system boundaries has been the introduction of Modern Slavery legislation, shifting the onus of removing labor exploitation from the entire supply chain onto each participant in that chain.

The same can (and should) be done with issues of waste, pollution, and extraction.

Recent examples might include the conscious (and policy-driven) shift towards the use of recycled materials for packaging, and the move away from single-use plastics. These are both cases in which the system boundaries have been redrawn to include downstream waste and pollution, bringing responsibility for the disposability of packaging back to the product manufacturer, and shifting packaging decisions from an externality (somebody else's problem) to a design decision for the product manufacturer.



Ripple Effects

The final characteristic of Networks and systems thinking is the consideration of flow-on or ripple effects resulting from a design decision.

In 1989 Mexico City implemented a policy change aimed at cutting car pollution. On each day of the week, cars with licence plates ending in certain numbers were not allowed on the roads. The policy sought to reduce pollution levels by 20% as a result. The primary impact was seen - cars with those number plates were kept off the road. However, because people still needed to get around, families purchased a second car with different numbers that would allow them to still drive on that day. And because it was a second car, it tended to be cheaper, of less quality and *more* polluting.

Under the scheme, after an initial decline, pollution levels in the city *increased*.

Second and third order effects like these can be beneficial, if they're considered up-front.

Design decisions relating to improving repairability, for example, can have positive benefits on technical trades, increase apprenticeship opportunities, increase demand for VET/TAFE education, and provide opportunities for small, local businesses focused on repair.

2. Interventions

There are three core topics within Interventions to explore:

- Visualising impacts
- Envisioning futures
- Implementing changes

Visualising Impacts

According to the Helsinki Design Lab⁴, visualisation is one of the core skills of strategic design:

“Fluent in visual representation, the strategic designer uses this skill as an important and iterative means of communicating complex, even contradictory relationships - which would be difficult or impossible to explain in text and numbers alone.”

This is particularly true in the world of systems, where starting points for a narrative description are arbitrary, and the overall structure is cyclical and tangled. Furthermore, visualisations act as a means of externalising thinking into a shared space that facilitates and encourages shared meaning-making and idea generation.

In the context of product stewardship, this act of visualisation is particularly useful in identifying and mapping impacts as they flow outwards from our chosen points of intervention. This subsequently helps us to identify the potential barriers (negative influences) that might occur as a result.

Visualisations, finally, are useful in providing the means by which different dynamics and impacts can be quickly and meaningfully compared. This enables one of Design's core capabilities - the exploration of multiple ideas in parallel - to play out in an efficient and effective manner.

Regardless of our ability to communicate well in writing, visualisations of systems, and impacts, are very much more effective.

⁴ Helsinki Design Labs <https://www.helsinkidesignlab.org/pages/what-is-strategic-design>



Envisioning Futures

When planning interventions in the context of dynamic systems - such as those that relate to Product Stewardship - it can be tempting to look for 'big bang', short-term impacts, instead of steady, long-term changes. This is driven by many factors, including the ways in which many businesses measure success and are rewarded for short-term changes, even when they fail to stick.

Strategic design calls for a shift towards longer-term thinking, measured in years and decades instead of weeks, months, or the end of the quarter.

One powerful way to overcome this tendency to focus on short-term impacts is to look at a longer time horizon and work backwards to today; or project far enough into the future that slow and steady gains, compounding over time, have the time to overtake the short-term impacts.

We can do this by looking ahead a decade, or a generation, at what the future might be if we implement different possible changes. Envisioning these futures helps overcome a key barrier to system change: that they can feel too small in the face of the scale of the problems. By looking at long-term impacts, compounded over time, we are more likely to take the first steps of change necessary today.

Implementing Changes

The final topic of intervention is the process of beginning execution and the ongoing stewardship of good ideas over time, from conception to release and beyond. According to the Helsinki Design Lab⁵:

“Good ideas are easy to come by; implementing the right ones is not... successful design is not only about creative thinking. It also involves implementation and ensuring key ideas maintain their integrity during that process. Designers must be involved over the duration of change processes, providing constant expertise and feedback to identify, test and deliver durable solutions.”

In the process, Product Stewardship shifts firmly into the realm of a team pursuit, involving participants up and down the supply and value chains, from raw material suppliers and transportation right through to consumers, repair networks, and material reclamation; and back again.

3. Partnerships

We present here only a cursory introduction to the final component of strategic design, which picks up on the collaborative nature of product stewardship to think of it more formally and intentionally as a series of partnerships right along the supply and value chains. This mindset positions Product Stewardship within the broader system context in which it belongs.

An interconnected view of product stewardship activities, as a series of intentional partnerships, affords us with a more realistic perspective of the role of each product manufacturer in bringing new things into the world - one that is significant, but not solo.

⁵ Helsinki Design Labs <https://www.helsinkidesignlab.org/pages/what-is-strategic-design>

Summary

Strategic Design is an embedded capability that sits across an entire organisation, influencing decision-making at all levels of activity.

Strategic Design presents three set of tools and perspectives to improve Product Stewardship:

- Networks
- Interventions; and
- Partnerships.

This is further outlined in Figure 1 below:

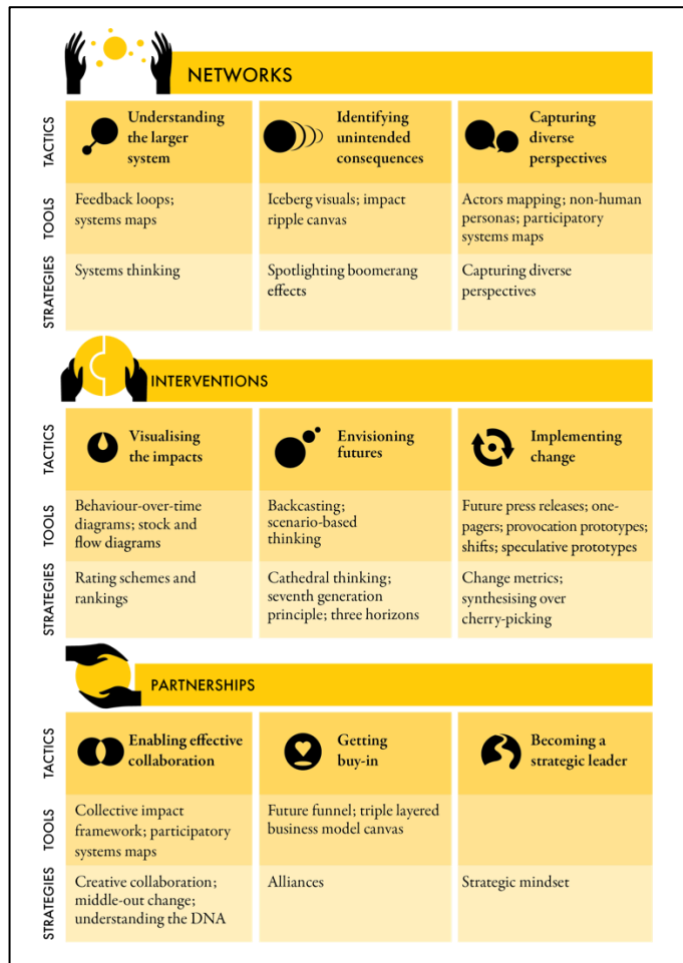


Figure1: The three pillars of strategic design; nine tactics to drive positive change; and tools and strategies to embed the tactics into organisations in *Designing Tomorrow*, M.Tomitsch & S.Baty (2023), p75

Taken together, the tools of Strategic Design provide product manufacturers with the broader context in which product decisions sit, and the means with which to navigate that context in a meaningful way.



Getting Started

What are some of the first steps an organisation might take to start adopting Strategic Design as a capability in their product stewardship journey:

- Develop a system map, paying particular attention to where you draw your boundaries about what's "in" and what's "out"
- Look at the System map and ask where Repair sits, as an example. Are repairs easy to undertake for a customer? Are replacement parts freely available? Are diagnostic tools distributed to unaffiliated repair shops? A Customer Journey map might help clarify this process from the customer's perspective.
- What does the end of your product's life look like? What would it take to keep it out of landfill? Where does that sit on your system map, and are those things you've defined as your problem, or an externality for someone else to deal with? How might that change if you redraw your system boundary and took on those responsibilities for yourself?
- Look at all of the inputs to your product from the perspective of your system map. How many of those *might* be fully circular, and how many can never be made circular? What's one component you might change to begin the shift to circularity? Can you source it from your own products when they reach end-of-life?

These are all things that can be tackled tomorrow, and they'll help set you on the longer path of product stewardship.

References

Designing Tomorrow, M.Tomitsch & S.Baty, BIS 2023

Helsinki Design Labs: www.helsinki.designlab.org

Dark Matter and Trojan Horses: A Strategic Design Vocabulary, Dan Hill, Strelka Press, 2012

Dark Matter Labs: darkmatterlabs.org/Projects

Australian Design Council: www.australiandesigncouncil.org

Acknowledgement

The Product Stewardship Centre of Excellence extends its thanks to Steve Baty, Chief Executive Officer Australian Design Council; Chair, Meld Studios for preparing this Practice Note.

MORE INFORMATION

Spyro Kalos, Product Stewardship Centre of Excellence

info@stewardshipexcellence.com.au



Product Stewardship Centre of Excellence c/- Institute for Sustainable Futures | University of Technology
PO Box 123 | Broadway NSW 2007

www.stewardshipexcellence.com.au