Real projects - real problems to solve

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- **software engineer**
  - 14 years at neuland
- **sustainability professional**
  - Circular Economy
  - sustainable e-commerce
  - everything Sustainable Tech
  - My job is internal and external sustainability consulting.
- **generalist**
  - aspiring systems thinker

The situation at neuland

software for large scale e-commerce

Customers aspire being second, not first.

planning cycles of at least several months in advance

IT footprint is almost invisible in customers' sustainability reports (<1% of total).

Any access to systems and actionable data needs customer approval.

High level of technical expertise,
colleagues take pride in their work.

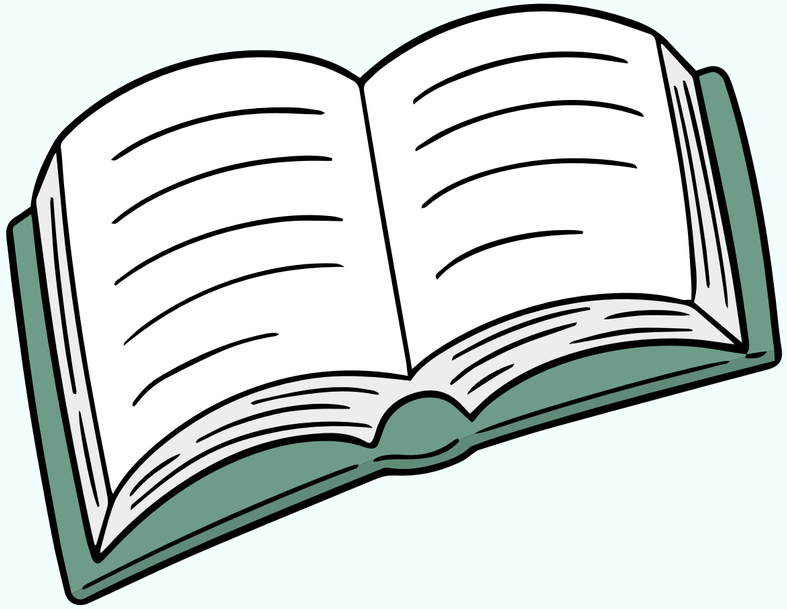
North German reservation,
“Let’s wait and see if it’s any good.”

I’m an Englishman in New York.

“EcoCompute brings together
a wide range of actors in the IT space to
understand intersectional barriers
and implementation hurdles.”

Source: https://gruene-startups.de/die-ecocompute-conference-2024/

Let me tell
you a story.



Dr. Rebecca Parsons,
CTO Emerita of thoughtworks

Source: thoughtworks.com

There’s a problem?
I’ll build a solution for it!

There you go - fixed!

Are we solving the right problems?

What if people don’t want us to fix what they don’t think is broken?

What if the solution to a problem isn’t technical?

The dilemma

We’ve spread the word
and the knowledge.

People are interested -
but then they move on and
nothing much happens.

Why don’t companies start?

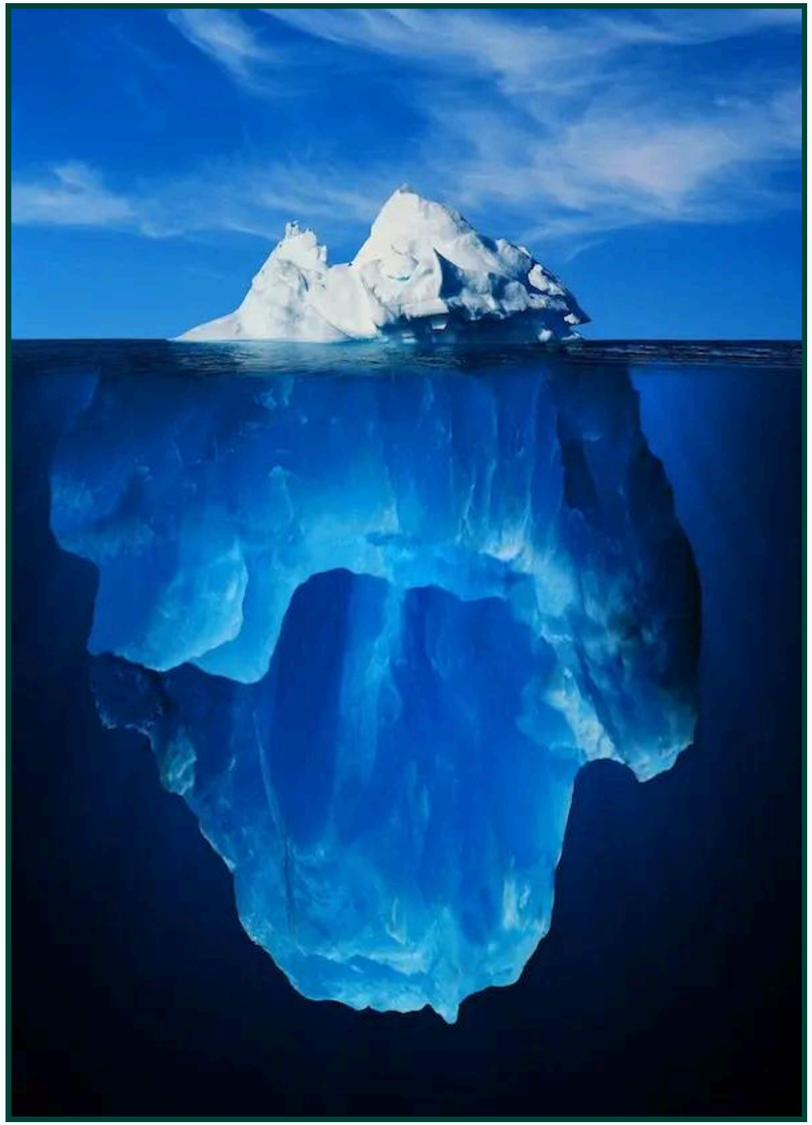
Why do initiatives fail to spread throughout a company?

01

Systems, everywhere

“I find that one of the things that holds technologists back is that they're often only thinking about the technology and they only are thinking about the technology from one view of the technology system.”

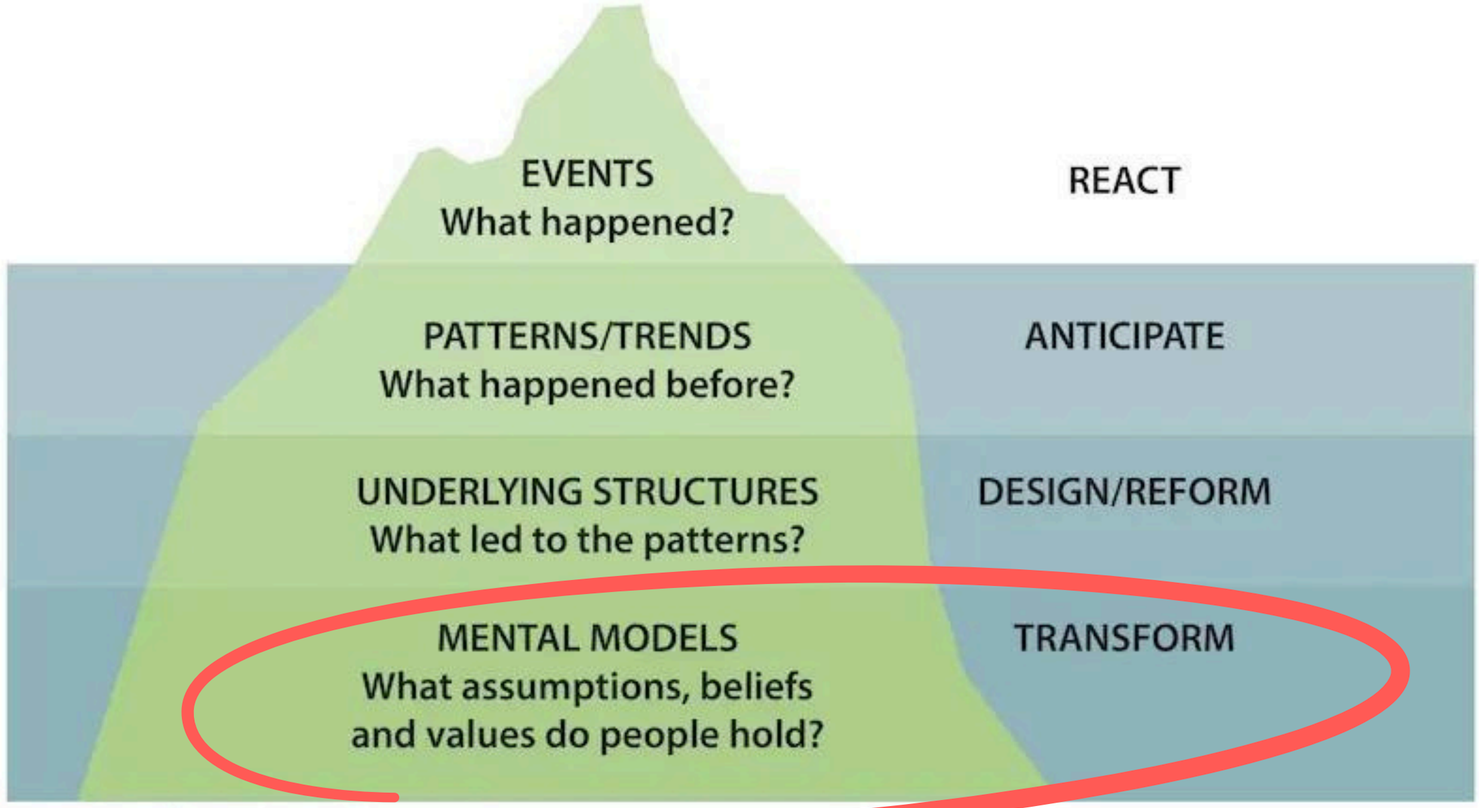
Diana Montalion



Source: Ecosia

It’s never just about what we can see.

SYSTEMS THINKING MODEL
(GOODMAN, 2002)



Source: https://katherinesandersphd.com/systems-thinking/

A real-world example

Events

What happened?

“Rillenoptimierung”

(optimizing something
even if there’s minimal
potential for optimization)

Patterns / Trends

What happened before?

FinOps project,
constant surveillance of systems

Underlying Structures

What led to the patterns?

need for cost control,
cross-functional teams

Mental Models

What assumptions, beliefs and values do people hold?

“We’re doing good work and we’ve already done everything we can.”

Learnings

Nobody sees or knows everything.
Measuring can make the invisible visible.

Saving carbon can be more
motivating than saving cost.

One verbal person with doubts
can spoil a whole team.

Mental Models

What assumptions, beliefs and values do people hold?

“We’re doing good work and we’ve already done everything we can.”

“Sustainable Tech is Coding + Ops.”

First principle of the Circular Economy:
“Design out waste”

Over 80% of all product-related environmental impacts are determined during the design phase.

Source: https://joint-research-centre.ec.europa.eu/scientific-activities-z/sustainable-product-policy_en

Start conversations about

How much / how often?

Architecture, data policies, SLAs, UX, ...

More whiteboard time +
cross-functional collaboration!

A bunch of “Rillenoptimierung”
makes a difference, too!

In large scale software systems,
even small savings add up a lot.

Removing unused JS in one of
our online shops can save
about a ton of CO2e a year.

02

If you can’t change the system,
make use of its mechanisms!

Changing the system is,
and will always be, the goal!

Find out what goals companies and people have and align them with sustainability.

Becoming more innovative

Customer satisfaction

Security

Keeping your best talents

Compliance

Making money

Saving money

Performance

Developer productivity

Edge on competition

Security

Developer
productivity

Removing unneeded logging information reduced log file size by 30-35% (several GB of data).

This makes finding useful information after an attack way faster and easier.

Becoming more innovative

Keeping your best talents

Find out which innovative
technologies / new best practices
go well with sustainability.

e.g. new tech for Serverless,
smaller models for AI,
“back to the roots” trend for front-ends, …

Edge on competition

Edge on competition

How far have you come
without realizing it?

How well do Green Coding Best Practices
already match your way of working?

Incentive to go all in!

03

“No one is a prophet in their own land.”

As an internal voice, getting heard
can be very difficult (even risky).

Find powerful external voices
who support your cause.

Who might your colleagues
listen / look up to?

(videos of) talks
books
articles

04

Cornerstones of successful internal transformations

Sustainability is a “change” topic.
All areas of a company are affected.

Successful change needs:

a sense of urgency

X

a vision + strategy

X

small, doable steps

If one is 0,
it all turns to 0!

Communication is key:

Start with “Why”!

Why should we move at all?

Where do we go?

Why is that worth it?

You can start bottom-up.

But for it to be successful,
you absolutely need your
leadership’s buy-in!

Thank you - let’s connect!

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