

THE SYSTEM IS THE STRATEGY

A Framework for Effective
Engineering Management

FRANCISCO TRINDADE

Vice President of Engineering at Braze
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**“YOUR TEAM IS
NOT
PERFORMING”**



**THIS WAS THE FIRST
MEETING WITH MY NEW
MANAGER**

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THIS WAS THE FIRST MEETING WITH MY NEW MANAGER

Joined a company managing two teams

One of them was in trouble.
Couldn't meet deadlines.

I was asked to improve it.

People are likely underperforming

**IN THE FIRST TWO
WEEKS, I OBSERVED
THE WORK**

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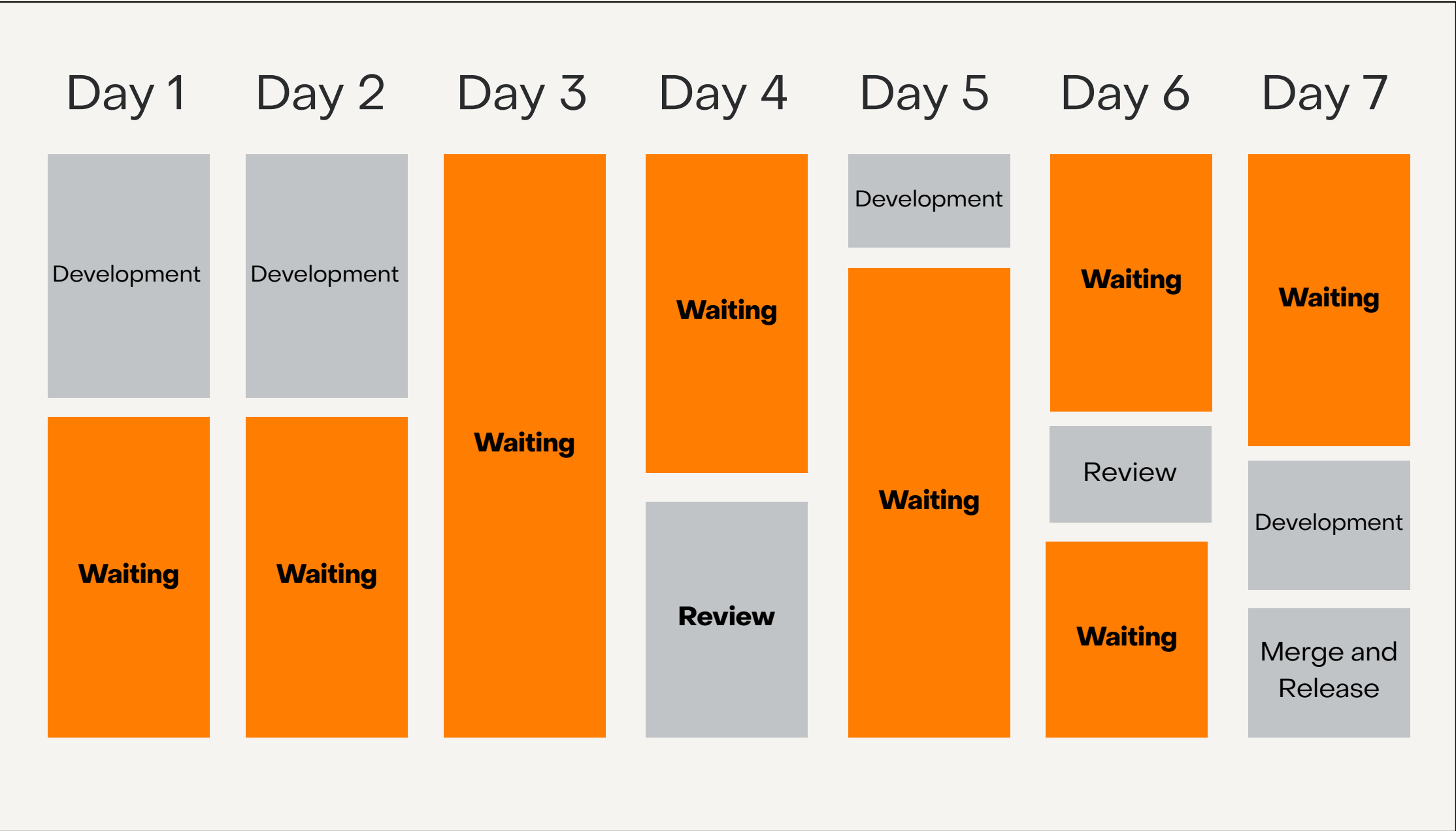
Spoke with engineers and people around the team

Went into meetings where work was being discussed

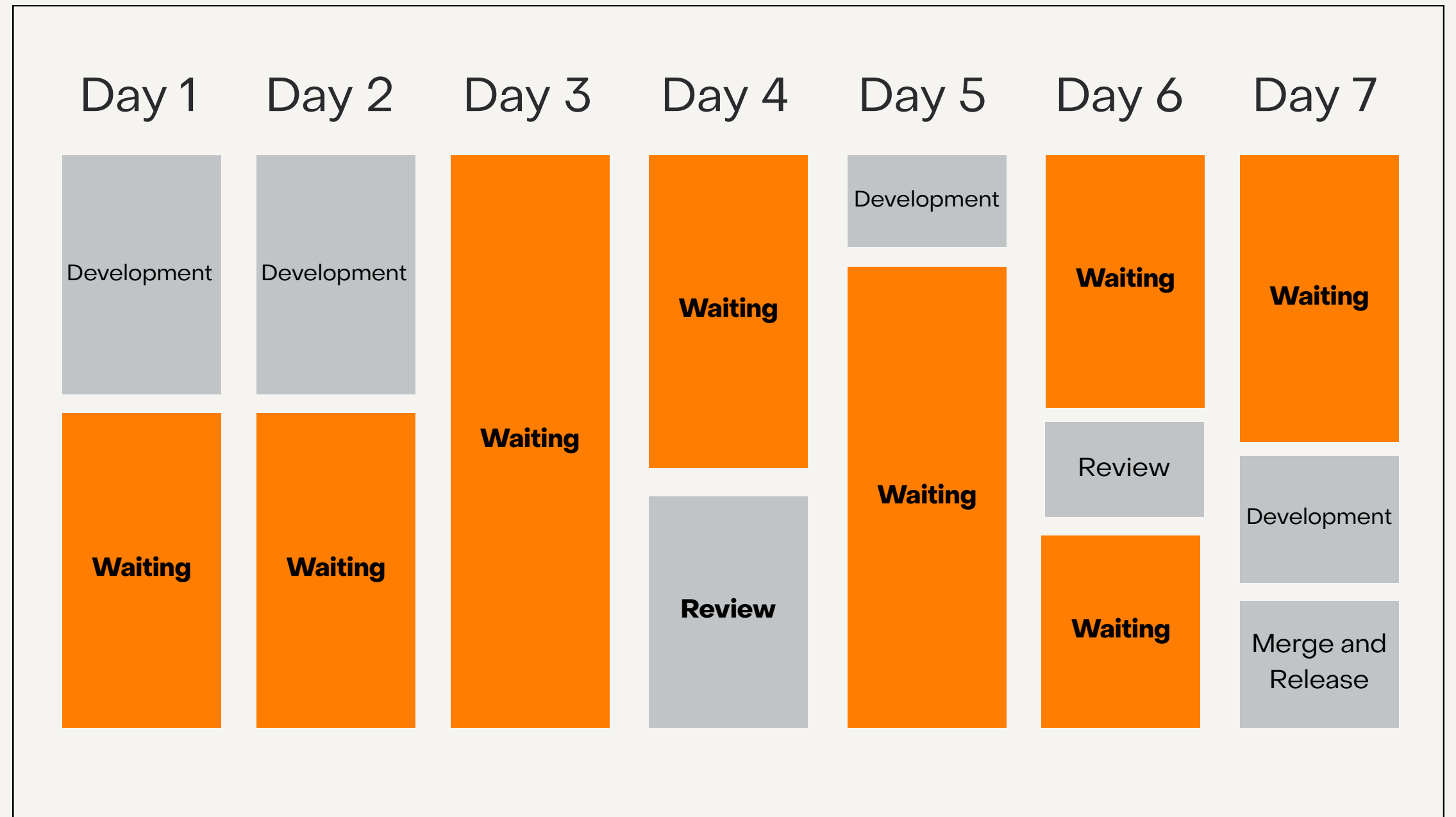
Reviewed status of projects

Measured how work was flowing

“YOUR TEAM IS NOT PERFORMING”



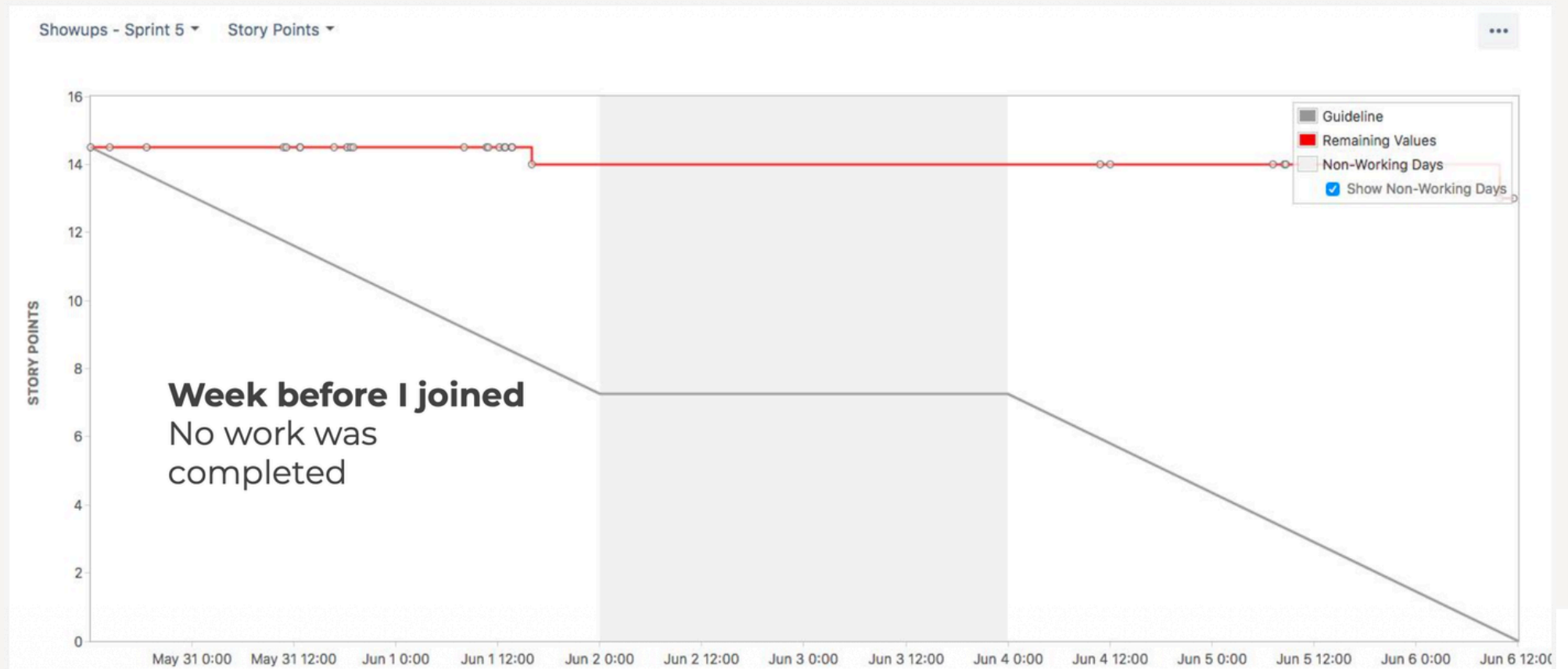
“YOUR TEAM IS
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This was a typical Pull Request:

- 56 hours to be merged
- 29 hours waiting for people to engage with it
- **51% of the time** work was not progressing

“YOUR TEAM IS
NOT
PERFORMING”



We changed the priority of Code Reviews and the results changed almost immediately.

A Bad System Will Beat a Good Person Every Time

W. Edwards Deming

**“YOUR TEAM IS
NOT
PERFORMING”**

This case was the perfect example of the well-known systems quote.

And it happens all the time.



HI, I'M
FRANCISCO
TRINDADE



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**FRANCISCO
TRINDADE**



VICE PRESIDENT OF ENGINEERING AT BRAZE

Braze: a customer engagement platform that enables businesses to deliver personalized, cross-channel marketing campaigns in real time.

Previously:

- Product Engineering in different companies
- Consulting at Thoughtworks
- Started companies twice

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TL;DR

I've seen my fair share of
struggling software teams

**MOST ISSUES
ARE SYSTEMIC**



MOST ISSUES ARE SYSTEMIC



I should estimate that in my experience most troubles and most possibilities for improvement add up to the proportions something like this:

- *94% belongs to the system
(responsibility of management)*
- *6% special*

W. Edwards Deming

MOST ISSUES **ARE SYSTEMIC**

I assume I'm preaching to the choir

And managers I work with also agree
with this idea



**SO WHY DO I KEEP SEEING TEAMS
WORKING LIKE THIS?**

**MOST ISSUES
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Focusing on individual performance when there are team issues.

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Running more projects than there are engineers at any given time.

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Organized in a mini-waterfall process across product, engineering, and design.

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SO WHY DO I KEEP SEEING TEAMS WORKING LIKE THIS?

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Running more projects than there are engineers at any given time.

Organized in a mini-waterfall process across product, engineering, and design.

And with many other examples of waste across the development lifecycle?

SYSTEMIC THINKING IS A
PART OF ENGINEERING
LEADERSHIP

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WHEN IT SHOULD BE
MOST OF IT

We orient the Engineering Leadership roles around:

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We orient the Engineering Leadership roles around:

People: managing the individuals.

Technology: delivering software competently.

Process: organizing the team effectively.

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**AND WE TREAT SYSTEMS AS
SOMETHING THAT APPLIES ONLY TO
HOW WORK IS ORGANIZED.**

WE SAY MOST ISSUES
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BUT DO WE REALLY
PRACTICE IT?



Systemic thinking does not have to be only about how you organize your team.

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Systemic thinking does not have to be only about how you organize your team.

It can be a **framework** that shapes how you lead it.

One that applies from **idea to production**. Across **all aspects** of team leadership.

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IT'S NOT ONE OF YOUR TOOLS. IT IS YOUR WHOLE TOOLBOX.

LEADING WITH SYSTEMS

That means not managing people, technology, and process as **separate** parts.

But thinking about **your team as a system.**

And using systems thinking as a **holistic framework** to lead it.



LEADING WITH SYSTEMS

You cannot separate these concerns.

The way your team works influences how technology is built.


The way they build software impacts how people perform.



LEADING WITH SYSTEMS

In fact, it's not only one system...

Business
Outcomes



**YOUR TEAM
AS A SYSTEM**

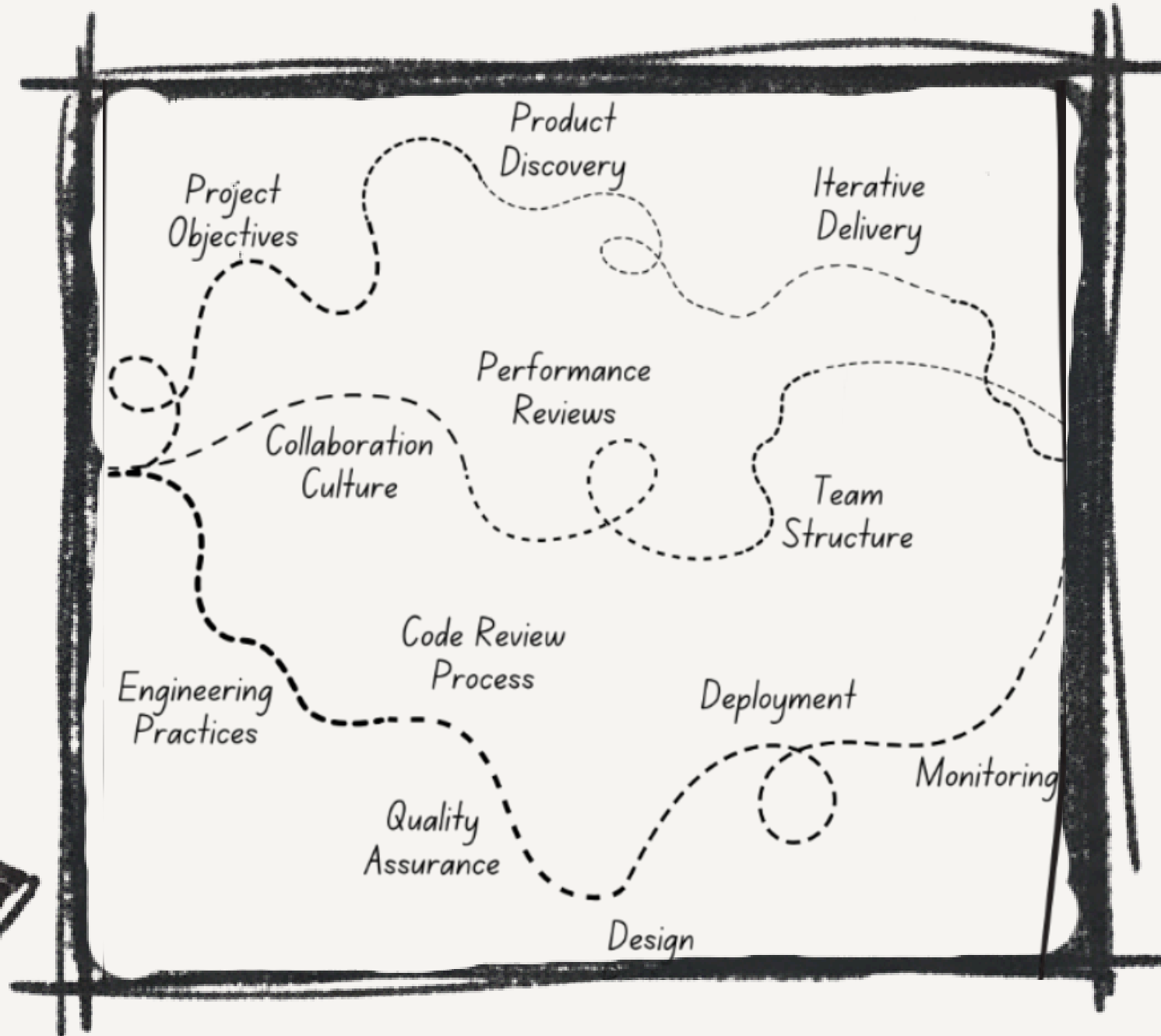
Customer
Needs

LEADING WITH SYSTEMS

But multiple interconnected ones

Business Outcomes

Customer Needs



LEADING WITH SYSTEMS

*"The whole is simpler than the sum of its parts!"
– Willard Gibbs*

Thinking in parts leads
to **reactive**
management

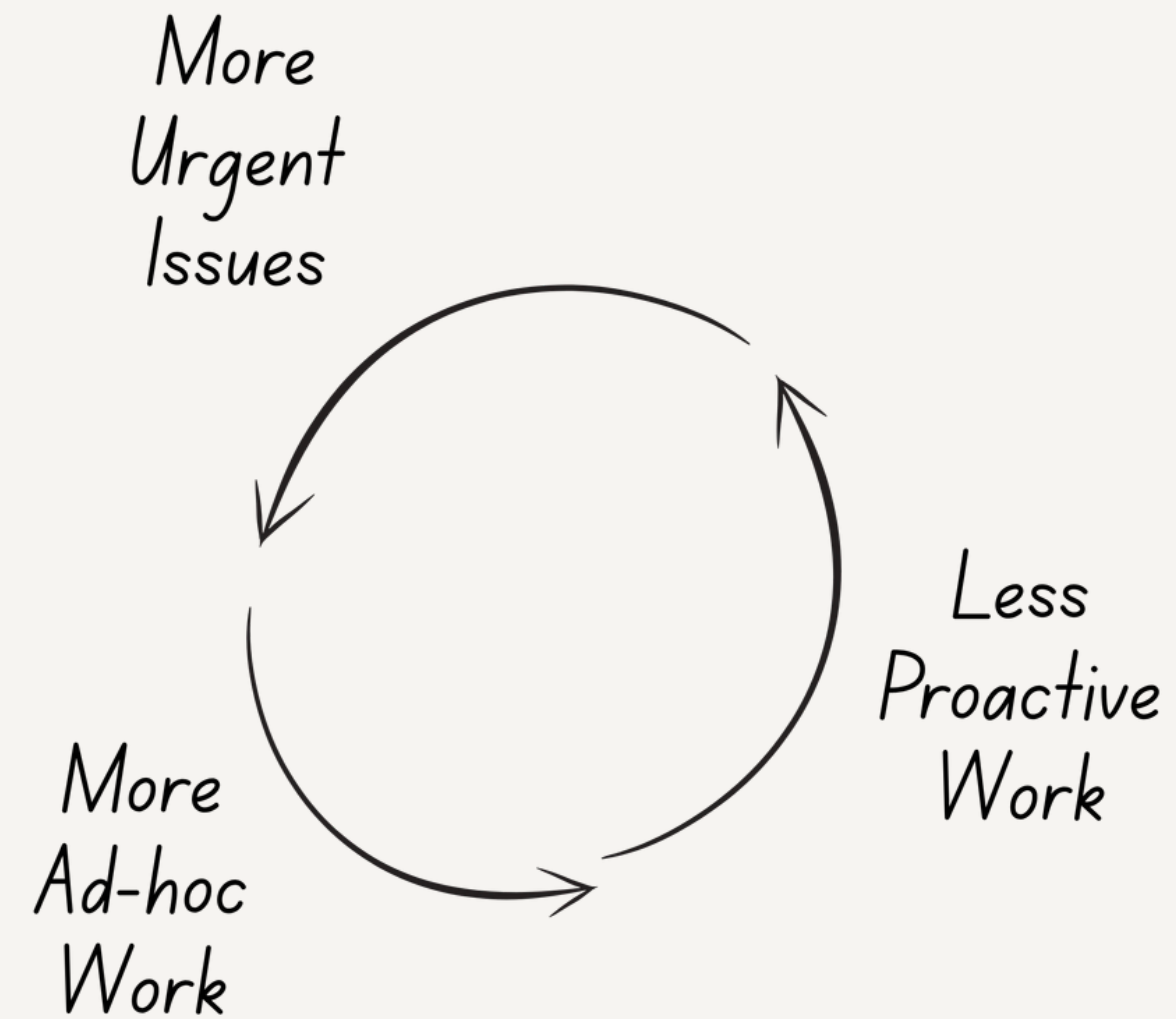
I need to improve
someone's
performance

I need to change how
our process works

Thinking in parts leads
to **reactive**
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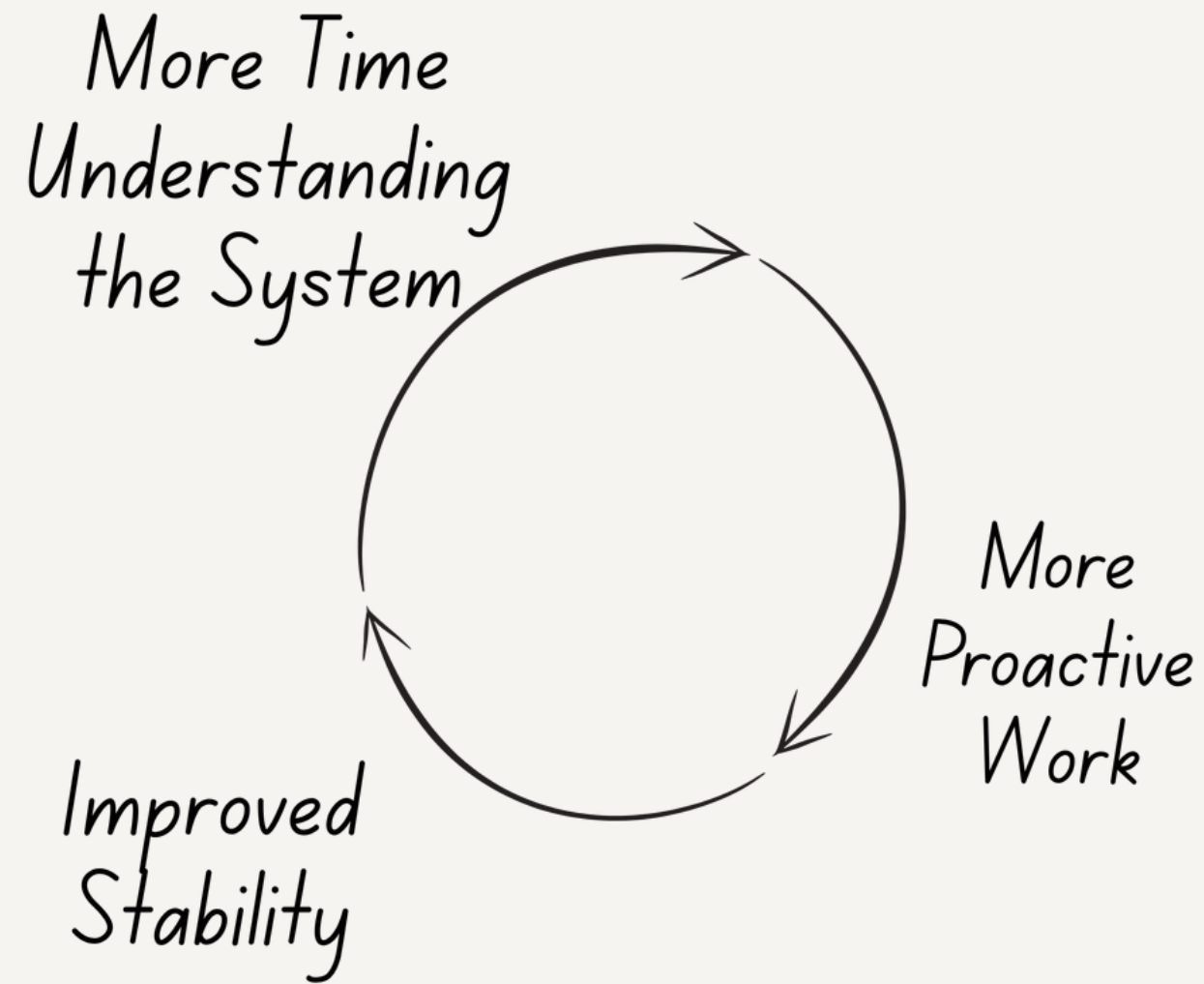
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Thinking in systems
leads to **proactive**
leadership

I can improve how my
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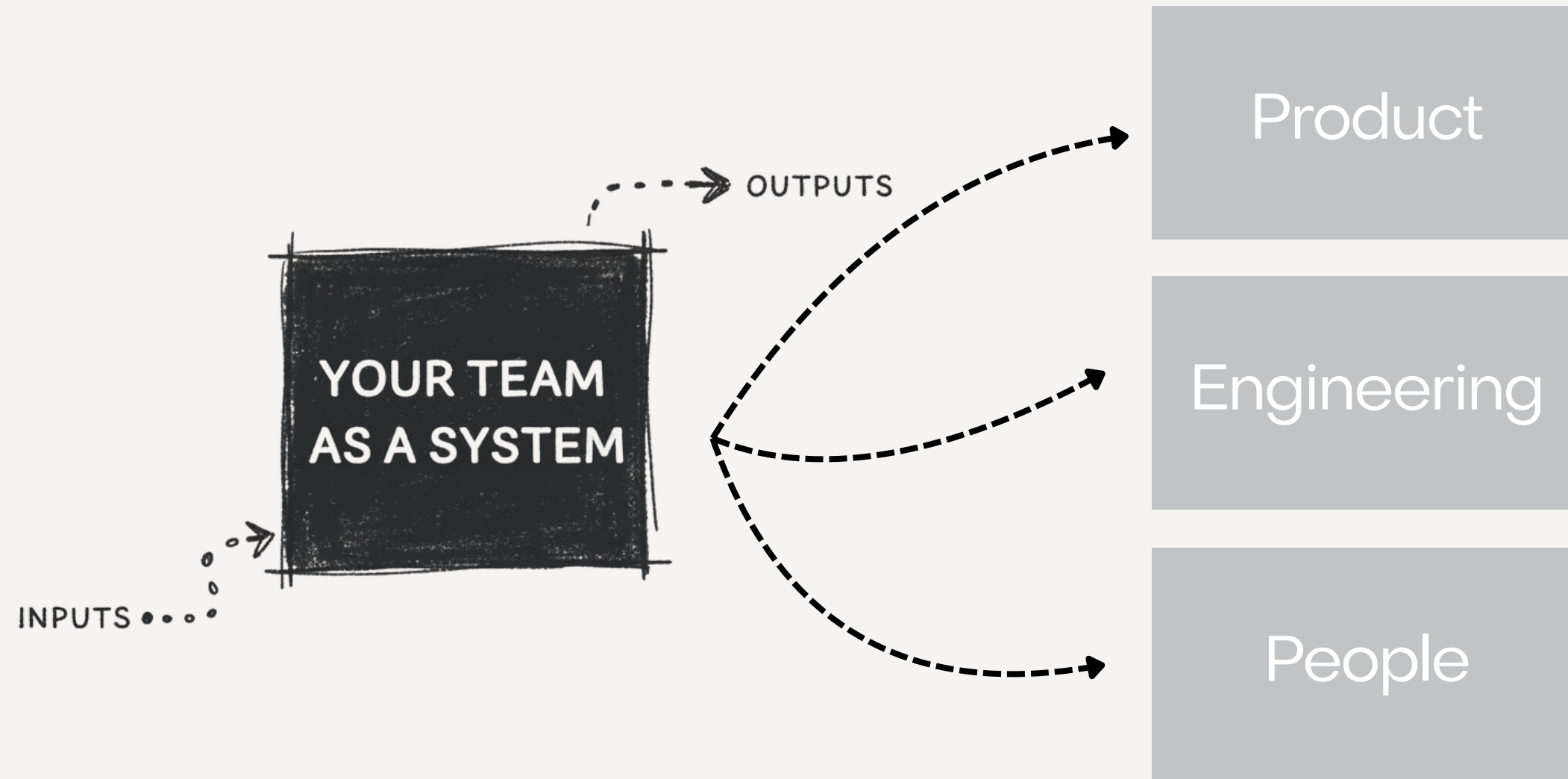
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In practice



LEADING WITH SYSTEMS

In practice,
you need to understand areas needed for success



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In practice,
you need to understand areas needed for success

Product

are we delivering value?

Engineering

are we delivering the right level of quality?

People

are team members fulfilled?

LEADING WITH SYSTEMS

In practice,
you need to understand areas needed for success
and how they interact

Product

How does our planning impact delivery?

Engineering

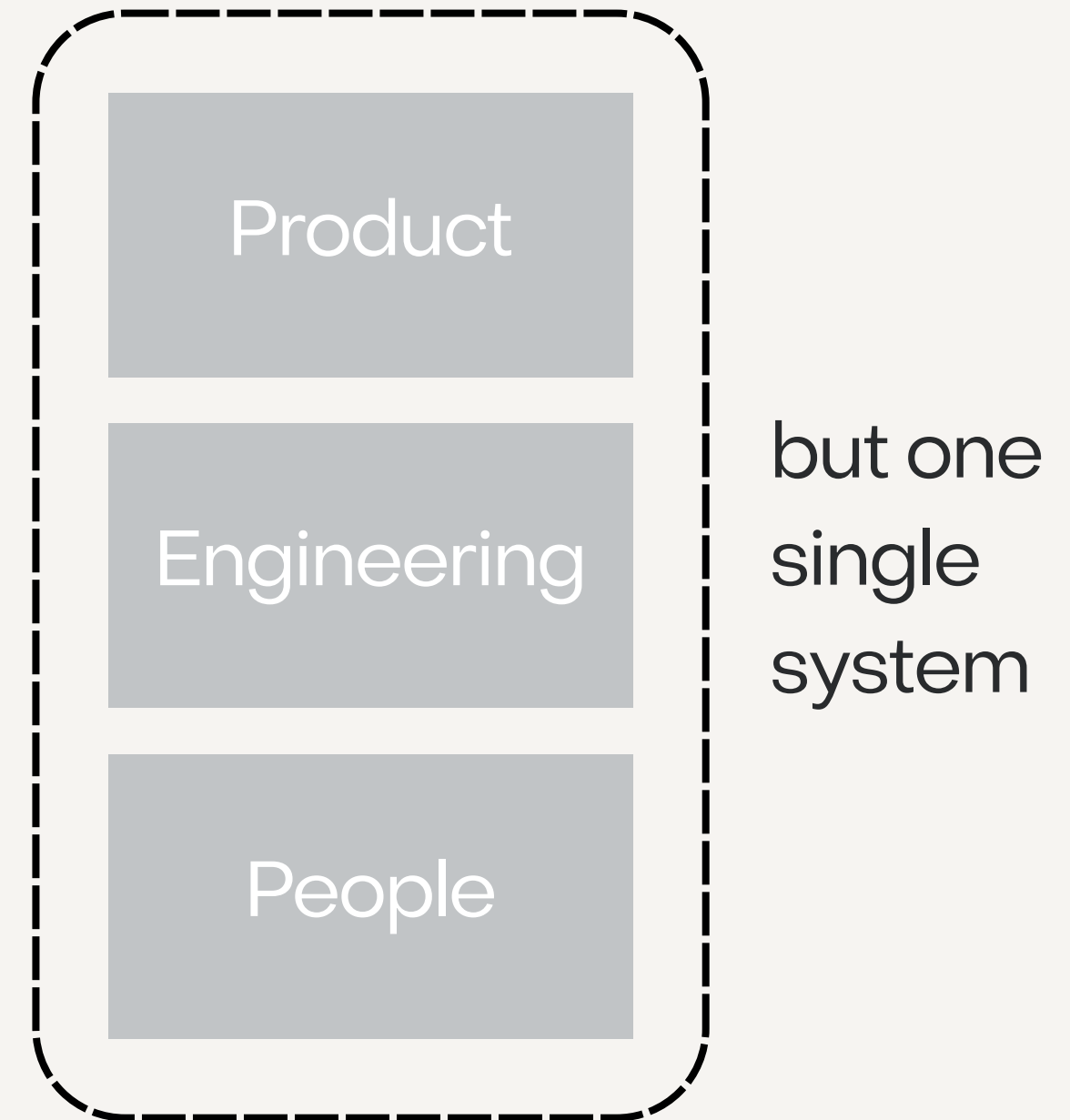
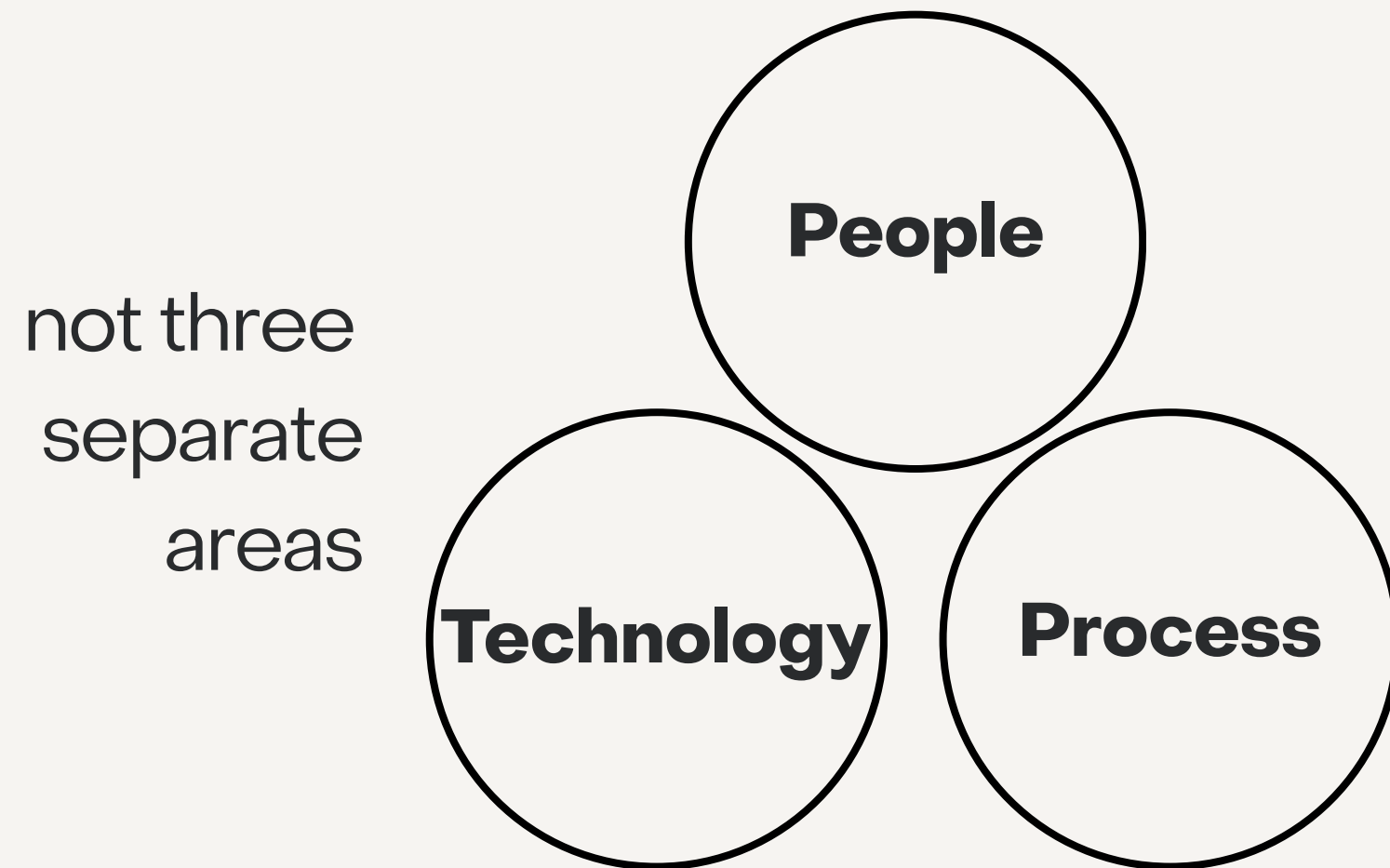
How does our codebase impact our capacity?

People

How do our incentives impact execution?

LEADING WITH SYSTEMS

In practice,
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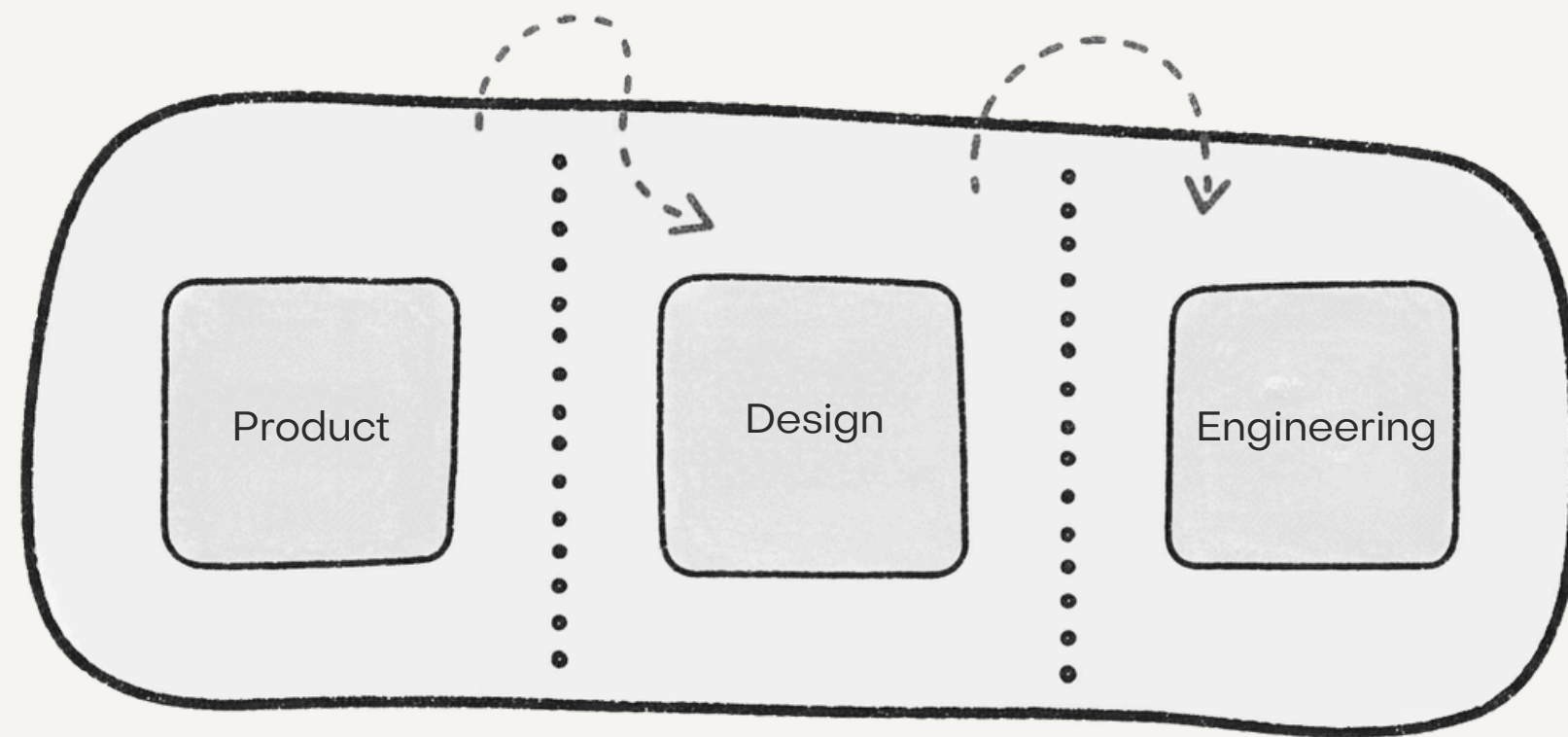


LEADING WITH SYSTEMS

IF YOU THINK IN
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YOU CAN
ACT EFFECTIVELY

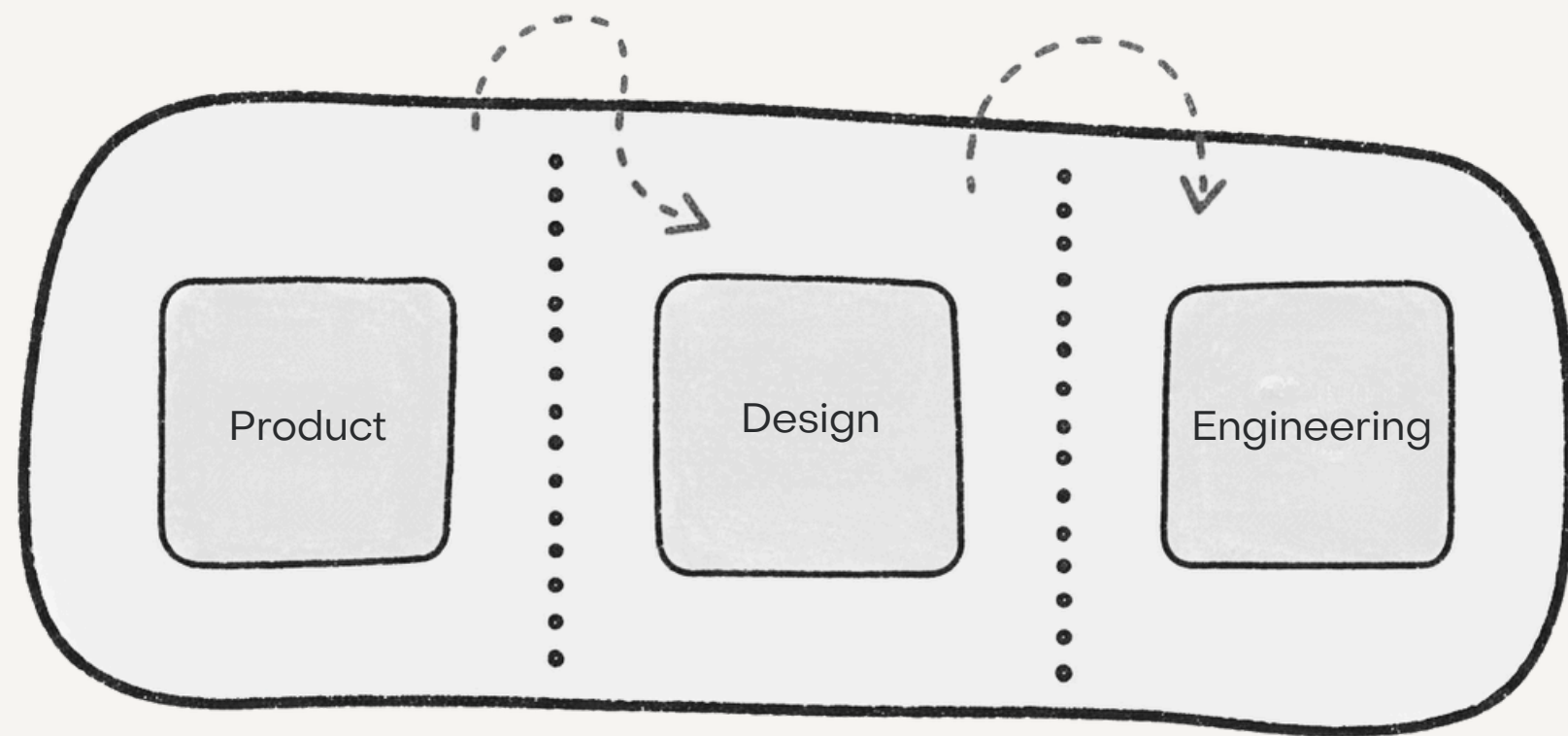
Looking at your team holistically will create more leverage points to act on.

IF YOU THINK IN SYSTEMS,
**YOU CAN
ACT EFFECTIVELY**



←..... 3 months→
The design was considered too complex to be delivered

**IF YOU THINK IN SYSTEMS,
YOU CAN CHANGE YOUR PLANNING
AND AFFECT EXECUTION**



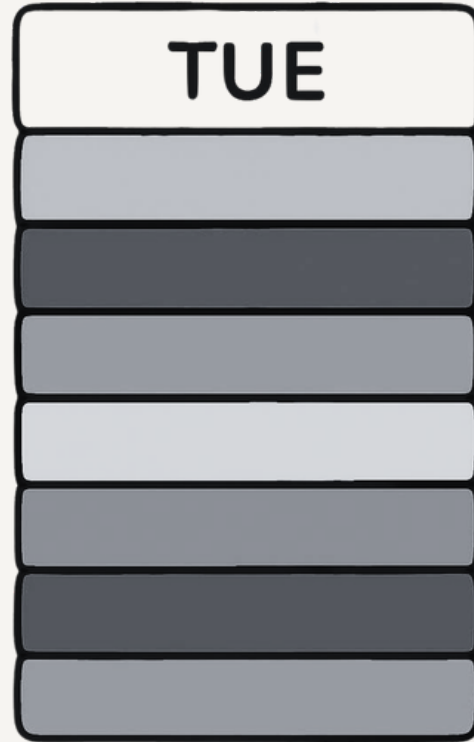
←..... **3 months**

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**IF YOU THINK IN SYSTEMS,
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Planning together in one week led to a first version delivered in **one month**, making engineering more efficient

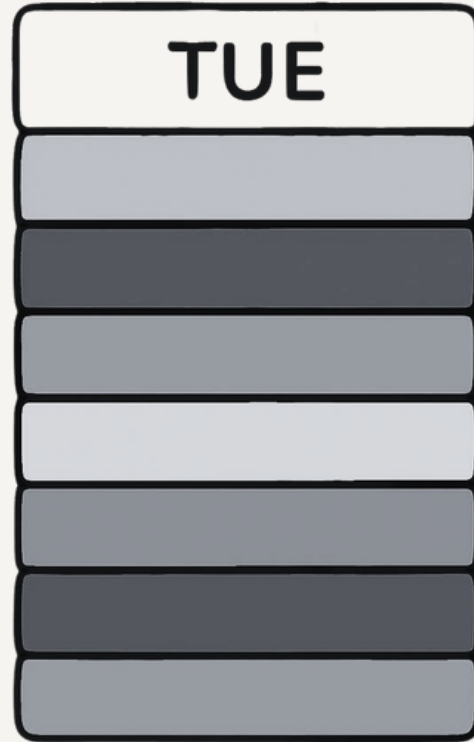


The most senior engineer on my team wanted to quit.

Being a leader meant too many meetings and no technical input.

And the team lacked technical support

**IF YOU THINK IN SYSTEMS,
YOU CAN ADAPT ROLES TO
UNLOCK PERFORMANCE**



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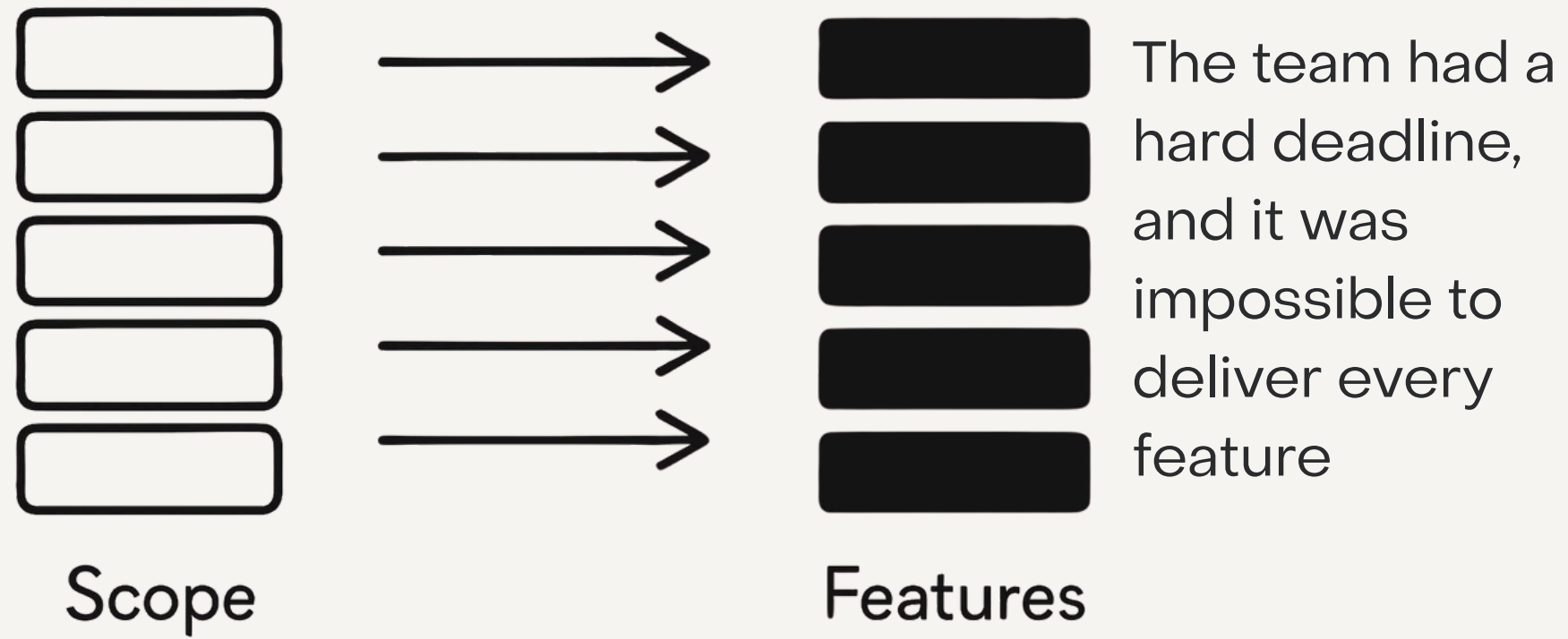
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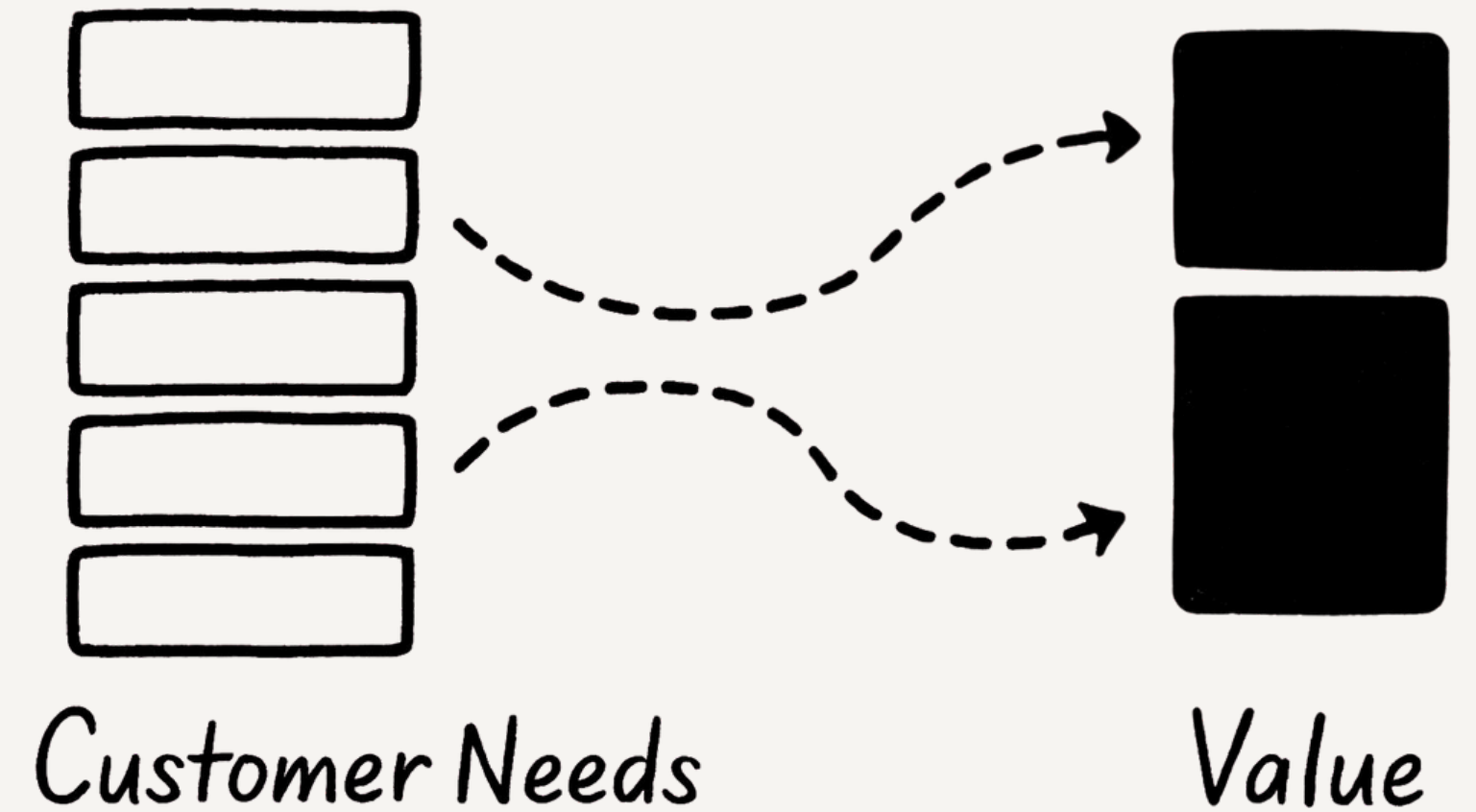
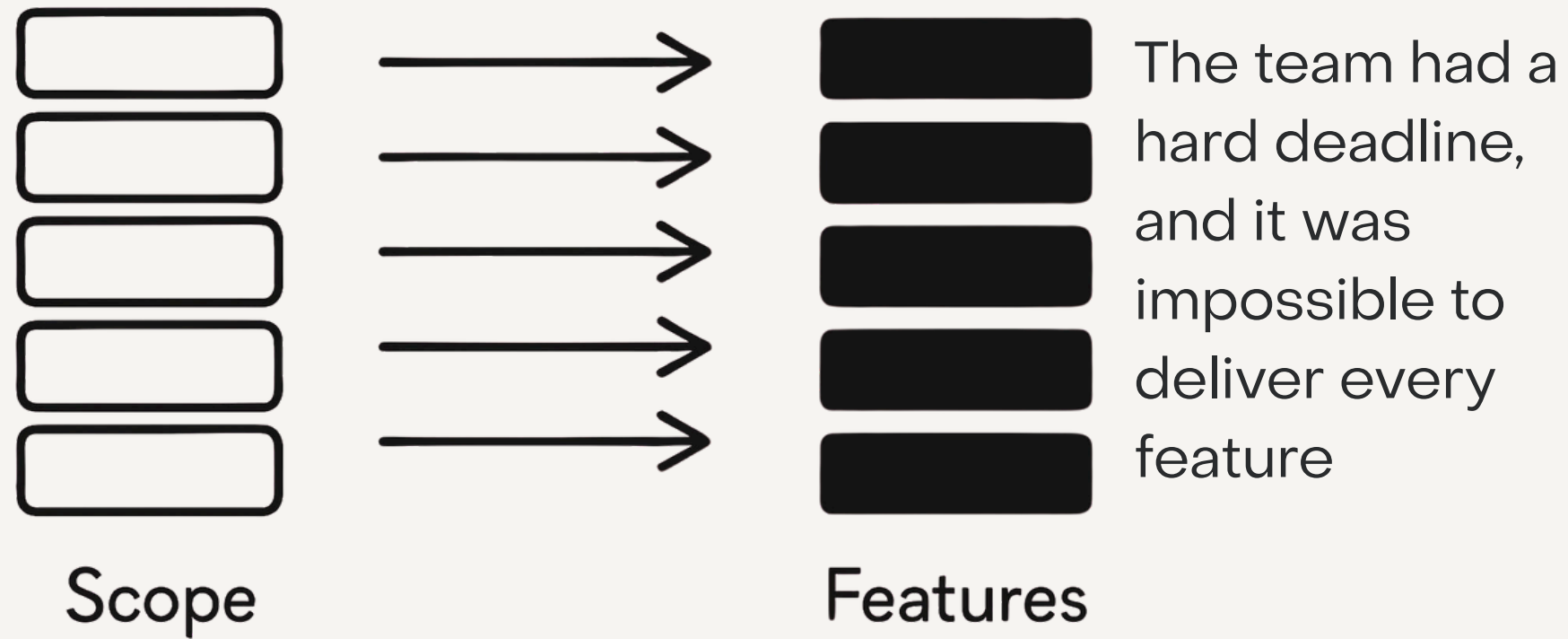


Reframing the Engineering Lead role put **technical expertise** where the team needed it.

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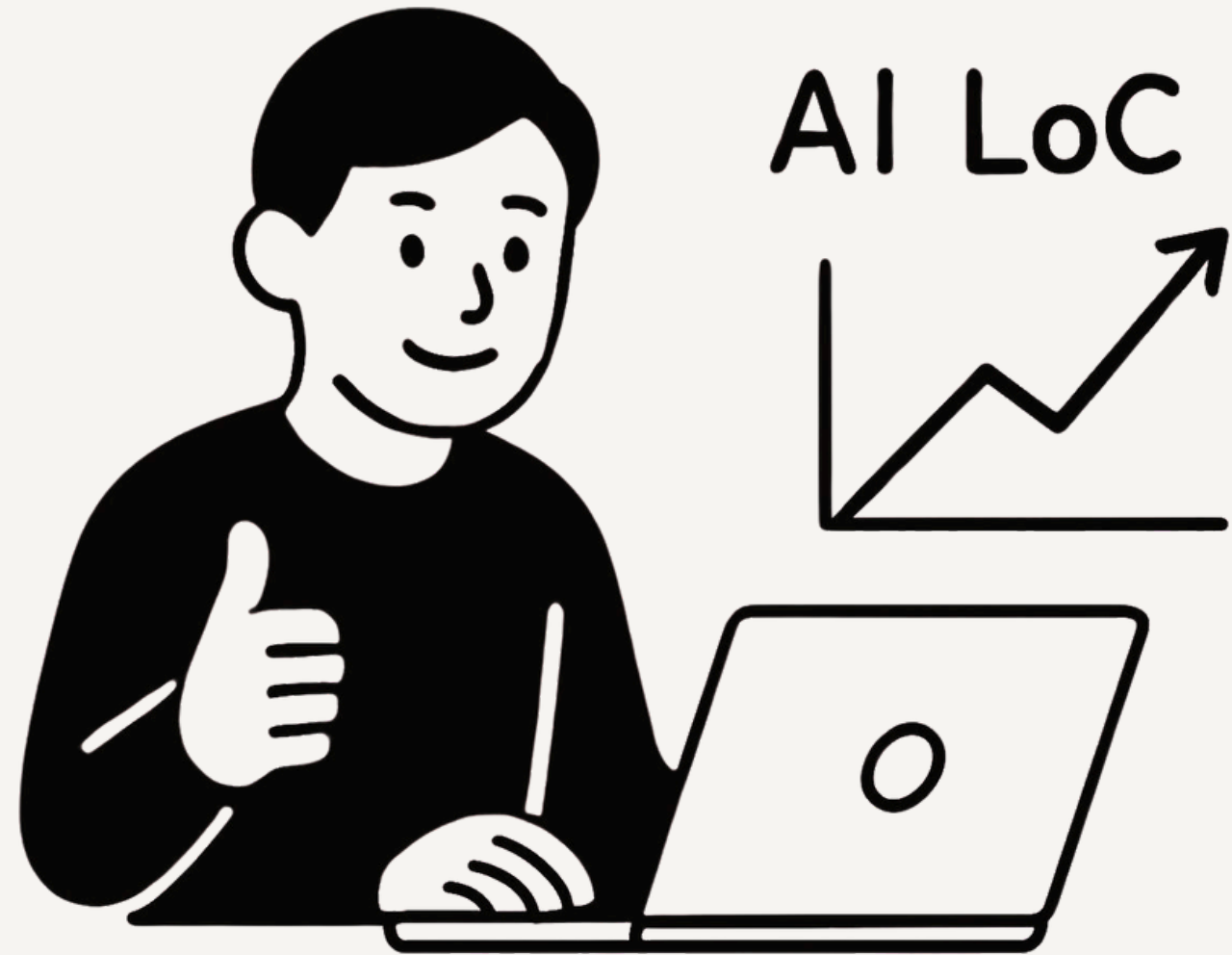


**IF YOU THINK IN SYSTEMS,
YOU CAN SHAPE SCOPE
TO REDUCE EXECUTION RISK**



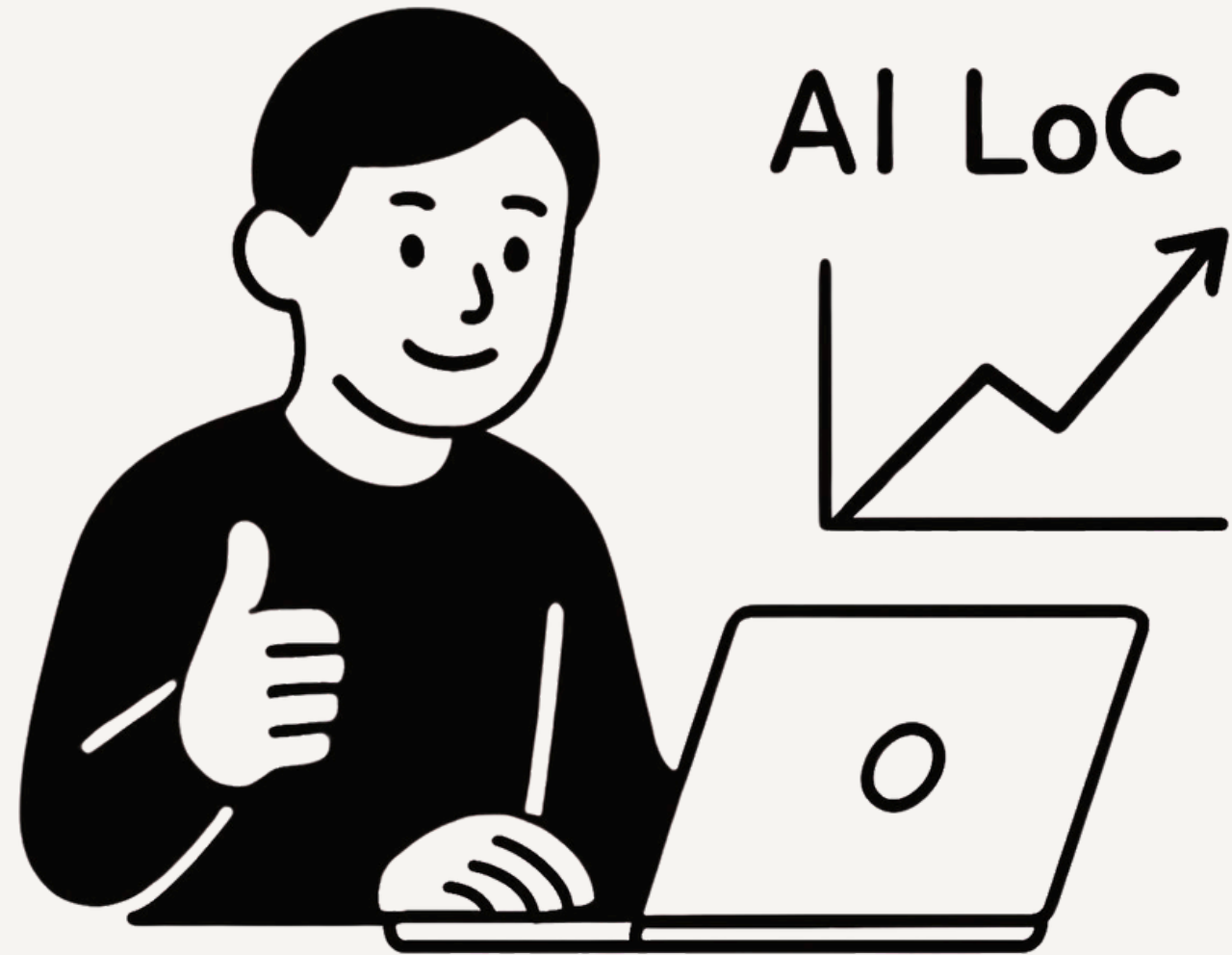
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Reshaping the scope around value allowed to **deliver what was needed without overstressing the team**

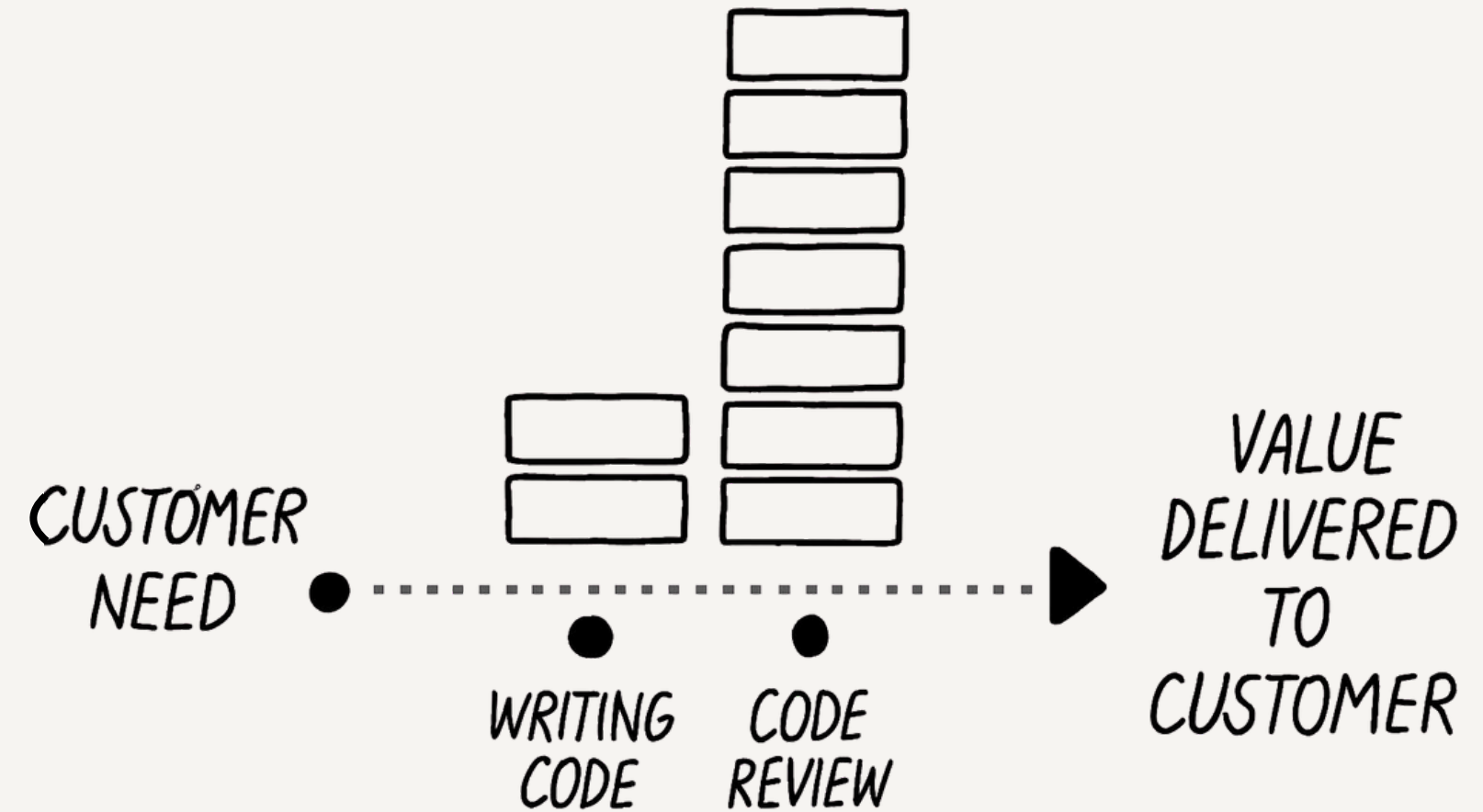


Because output became easier, output-driven metrics came back

**IF YOU THINK IN SYSTEMS,
YOU CAN UNDERSTAND VALUE
AND SKIP THE HYPE**



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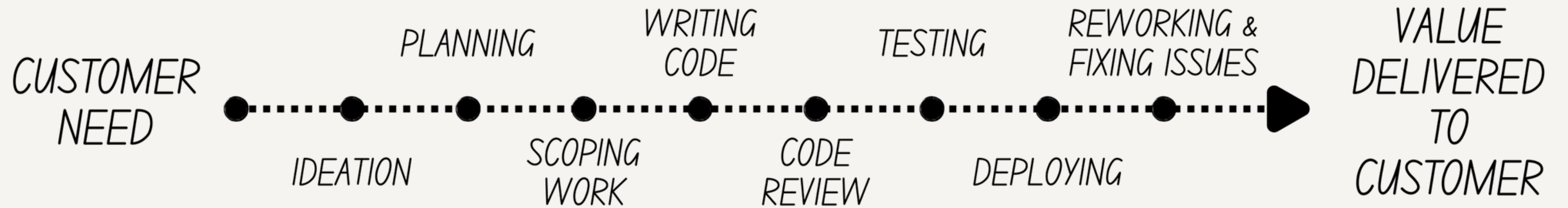


Often ignoring that the **bottleneck has moved**

**IF YOU THINK IN SYSTEMS,
YOU CAN UNDERSTAND VALUE
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IT'S EASIER SAID
THAN DONE.
**WHAT TO KEEP
IN MIND**

Follow the work
and the value



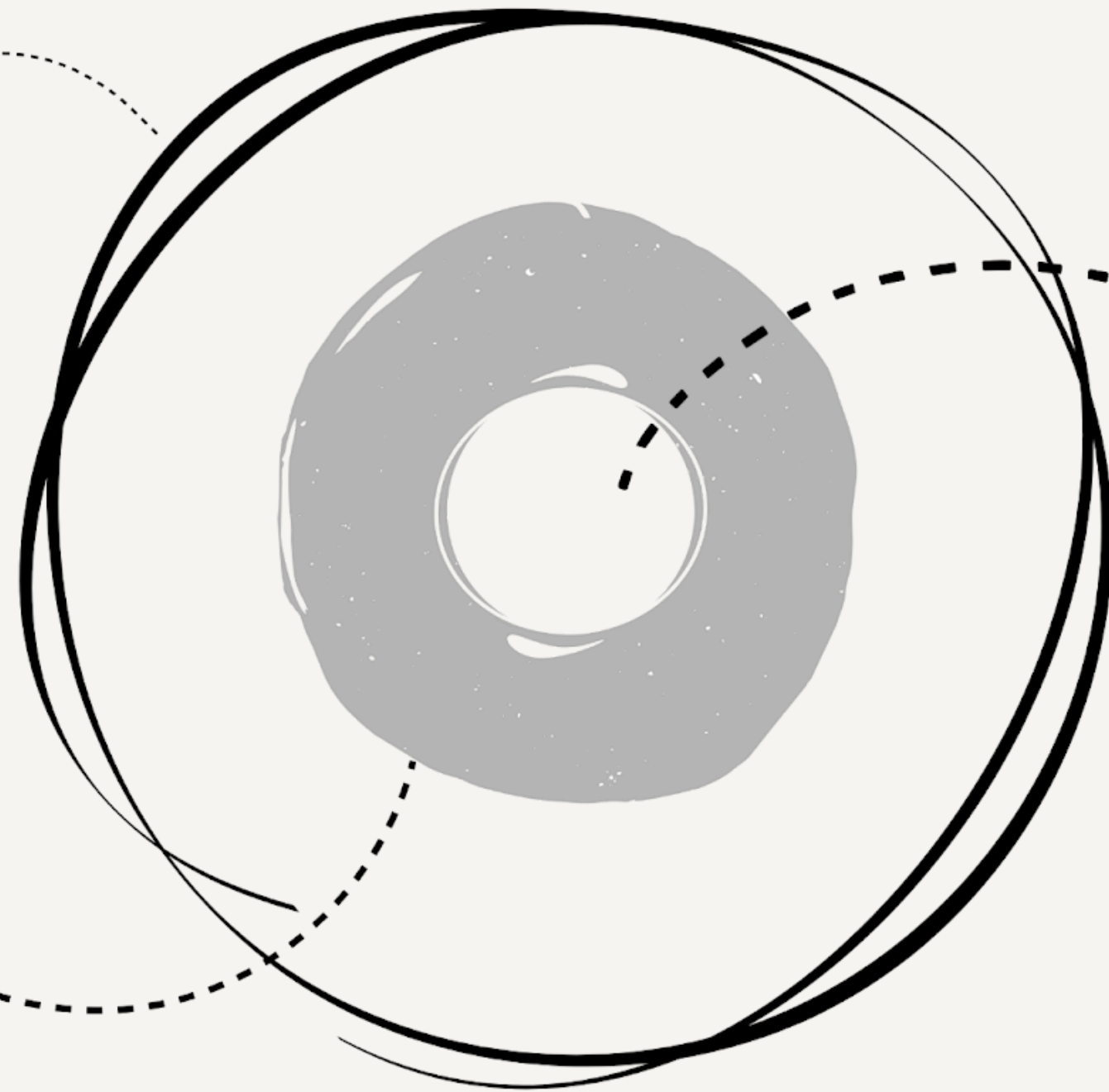
A FEW TIPS

Understand your circle of influence

Your area of concern is what impacts your work, but you don't have influence on

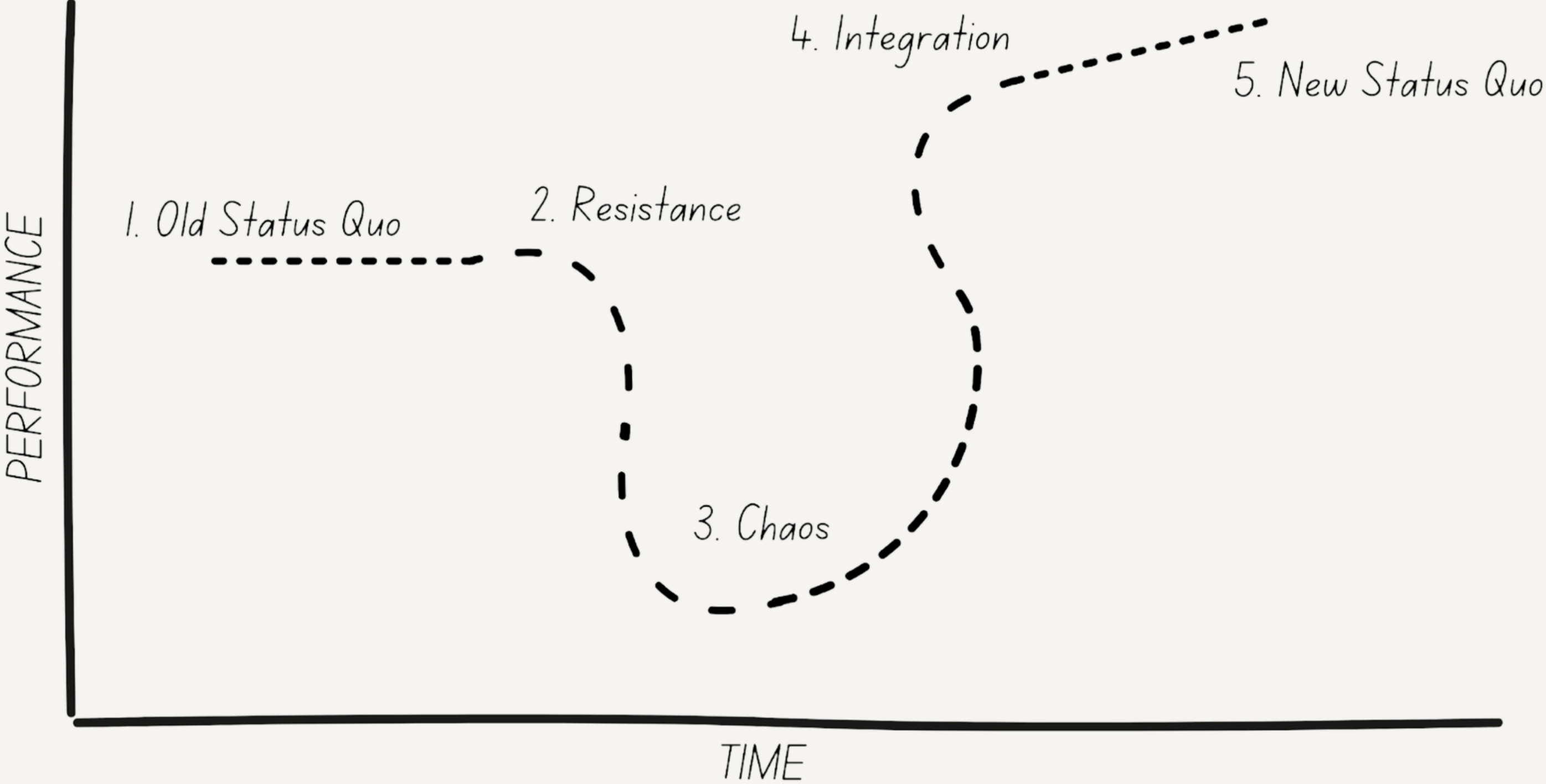
Your area of influence is what you can advise on

The area under your control is what you have authority on



A FEW TIPS

Change takes
time & effort



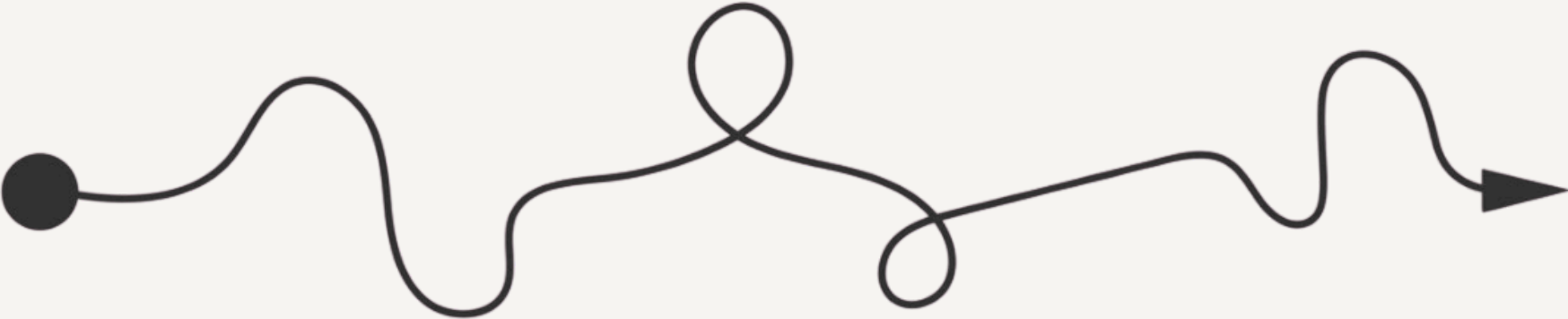
A FEW TIPS

It's messier in practice

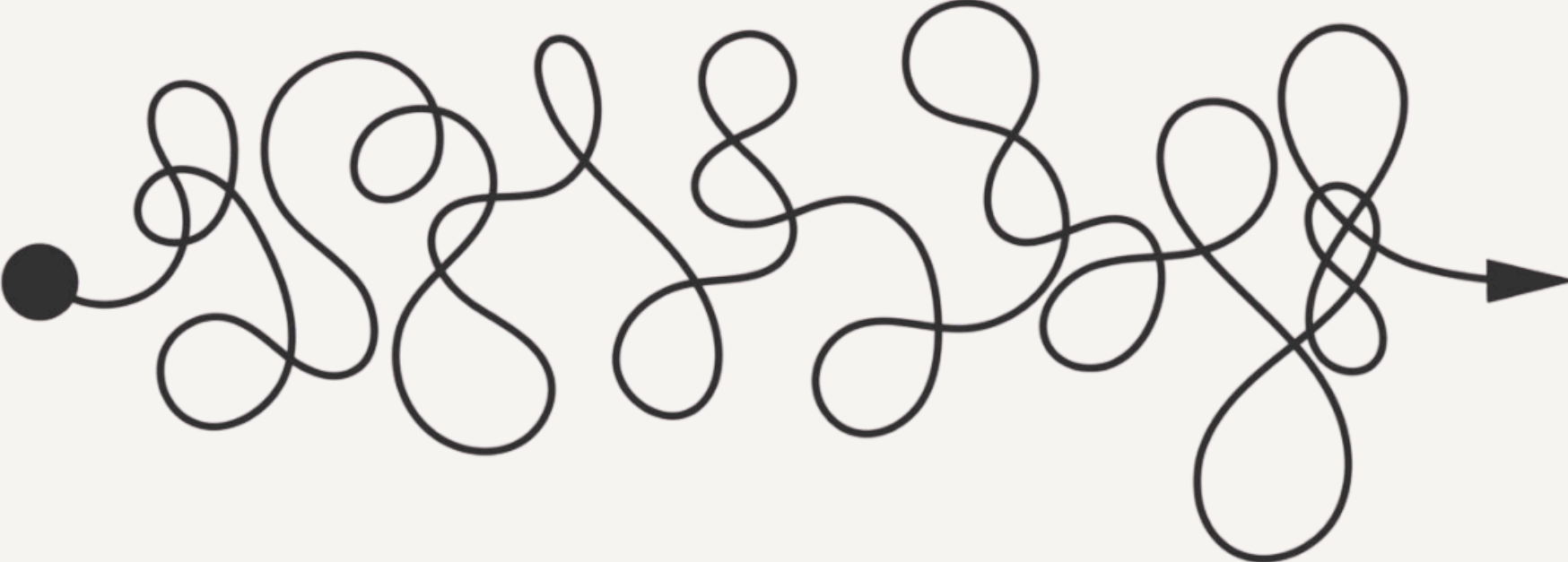
MY PLANS



MY WORST EXPECTATIONS



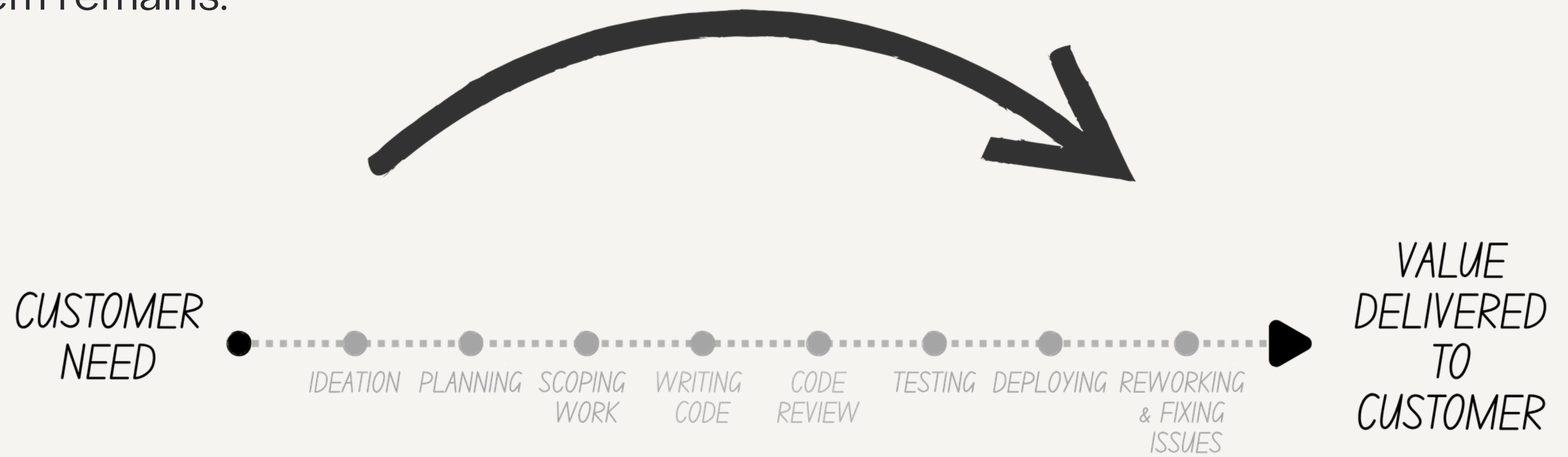
MY REALITY



A FEW TIPS

It works with AI!

Tools change. The system remains.



A FEW TIPS

“YOUR TEAM IS
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PERFORMING”



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The system was the
problem.

And the system was
the fix.

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