

Metrics-Informed Development

Laurent Ploix, Engineering Manager, September 2023



About me

Laurent Ploix

*Engineering Manager
Platform Insights*



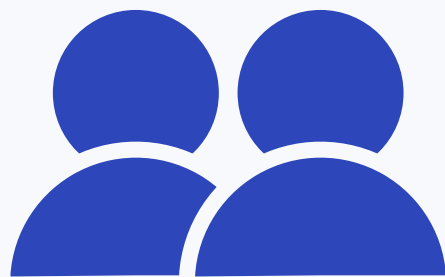
Platform Insights' mission

Provide data, metrics and insights to Spotify R&D to enable data-informed decisions that improve speed and success

A few years ago...

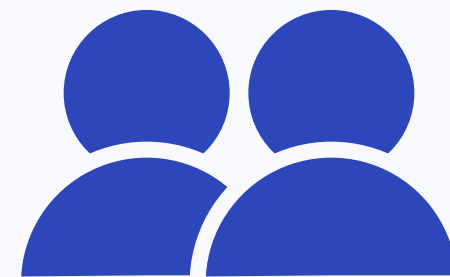


Product Manager in a Platform Team



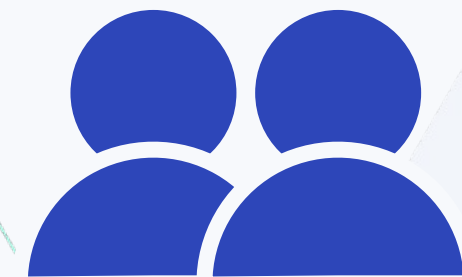
Team

Want *actionable* metrics



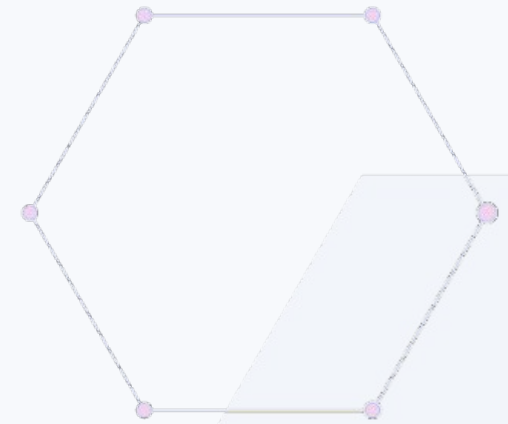
Users

Want *satisfaction* metrics

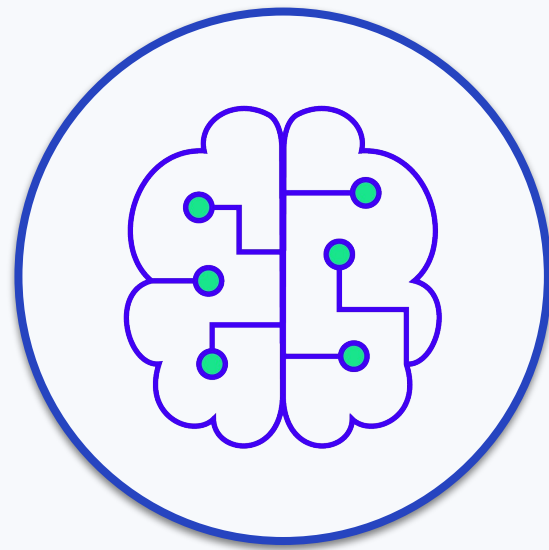


Management

Want *impact* metrics



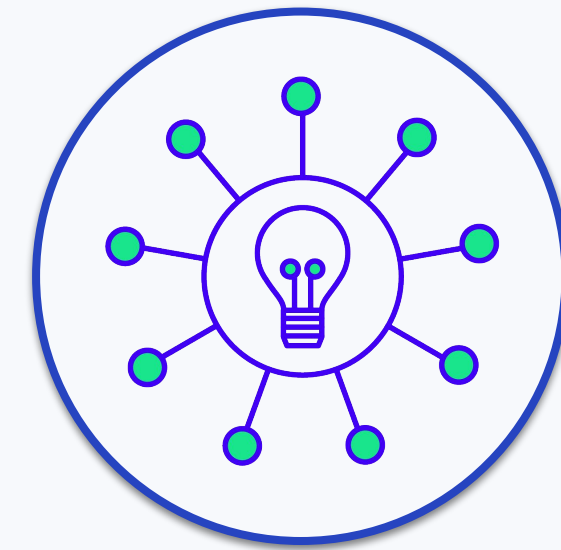
Agenda



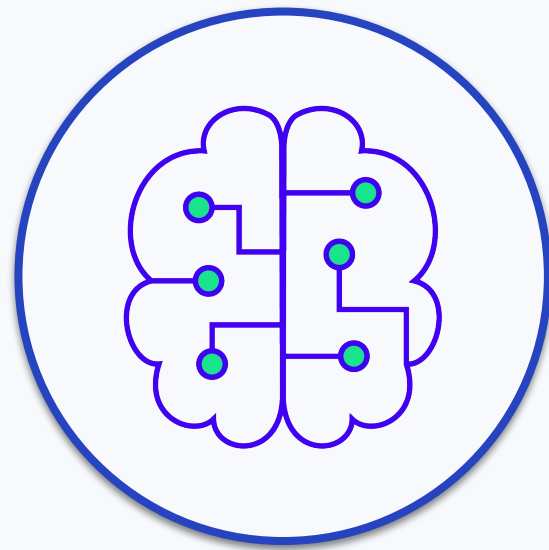
A metric mental model



A metrics journey



Common questions & concerns



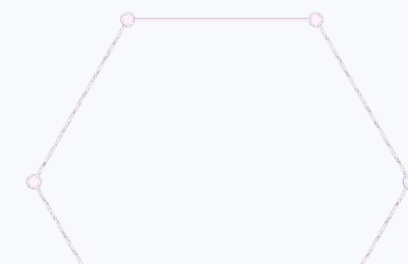
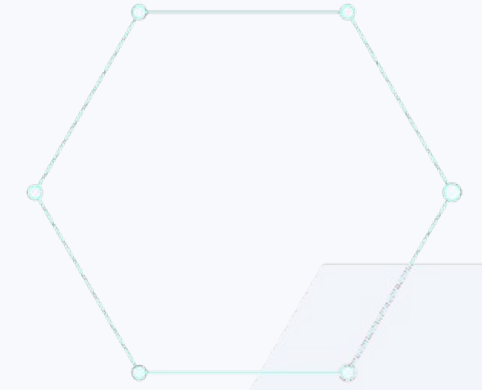
A metric mental model

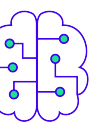


A metrics journey



Common questions & concerns





A mental model for metrics

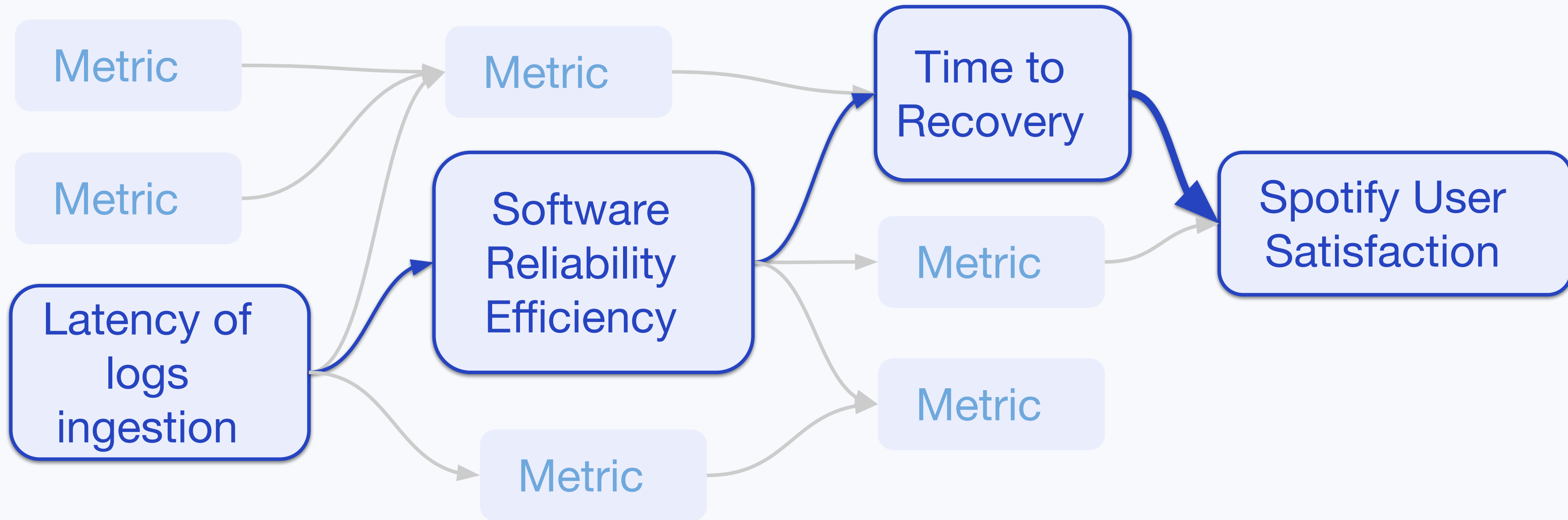
Leading

- Action-focused
- Noisy
- Actionable
- Tactical
- Gameable
- Vanity Metrics

Lagging

- Value / Impact-focused
- Low noise
- Move slowly
- Strategic
- Trickier to measure

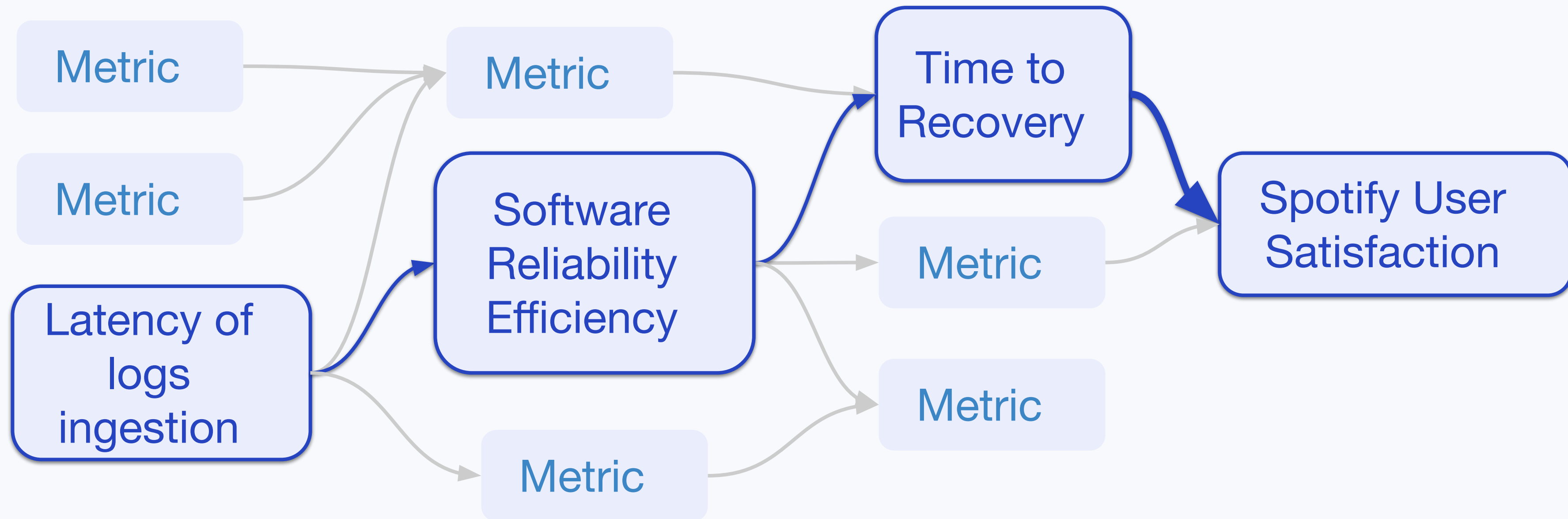
Metrics “influence” each other, leading to lagging



Leading / Actionable

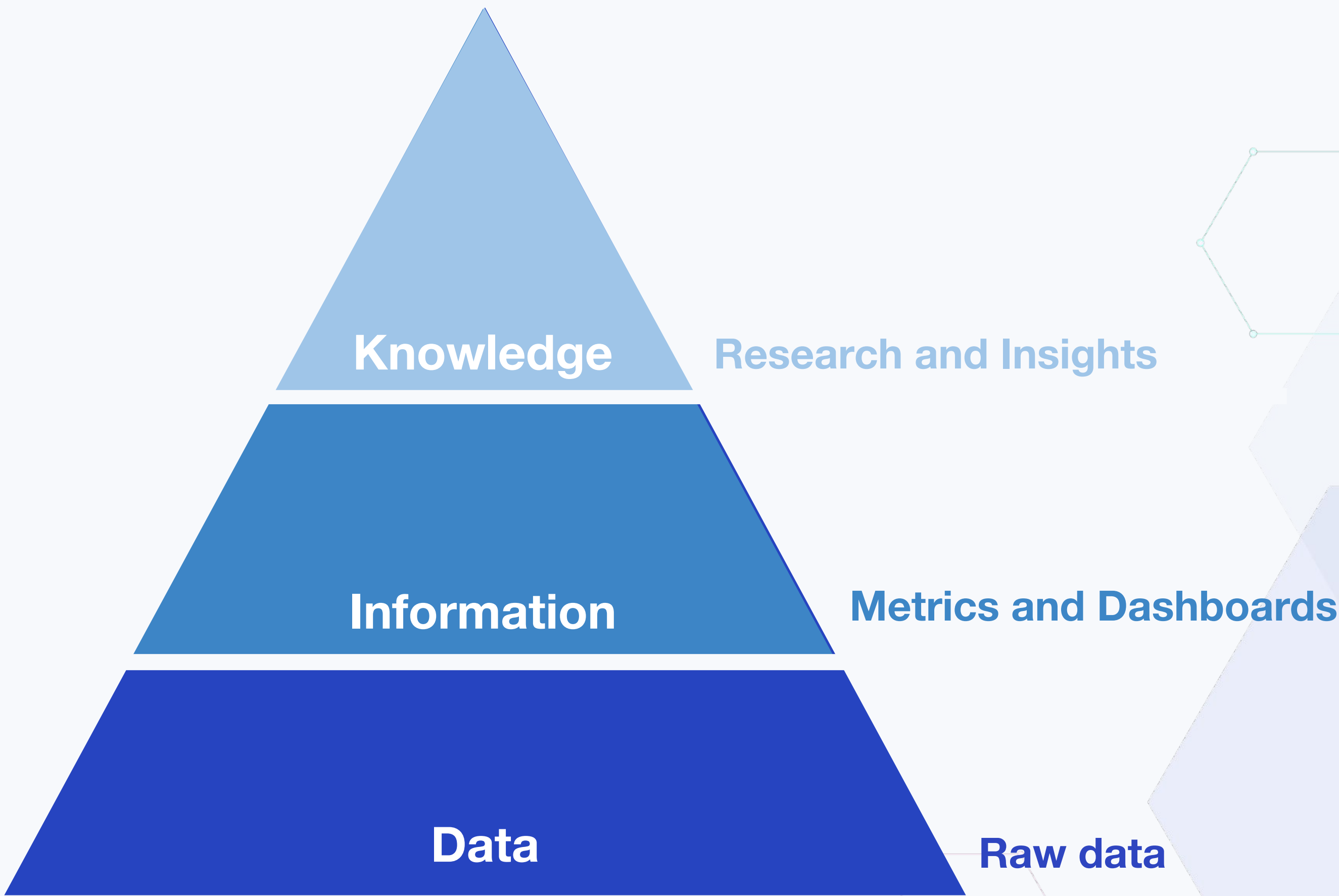
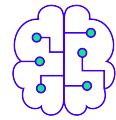
Lagging / Value Creation

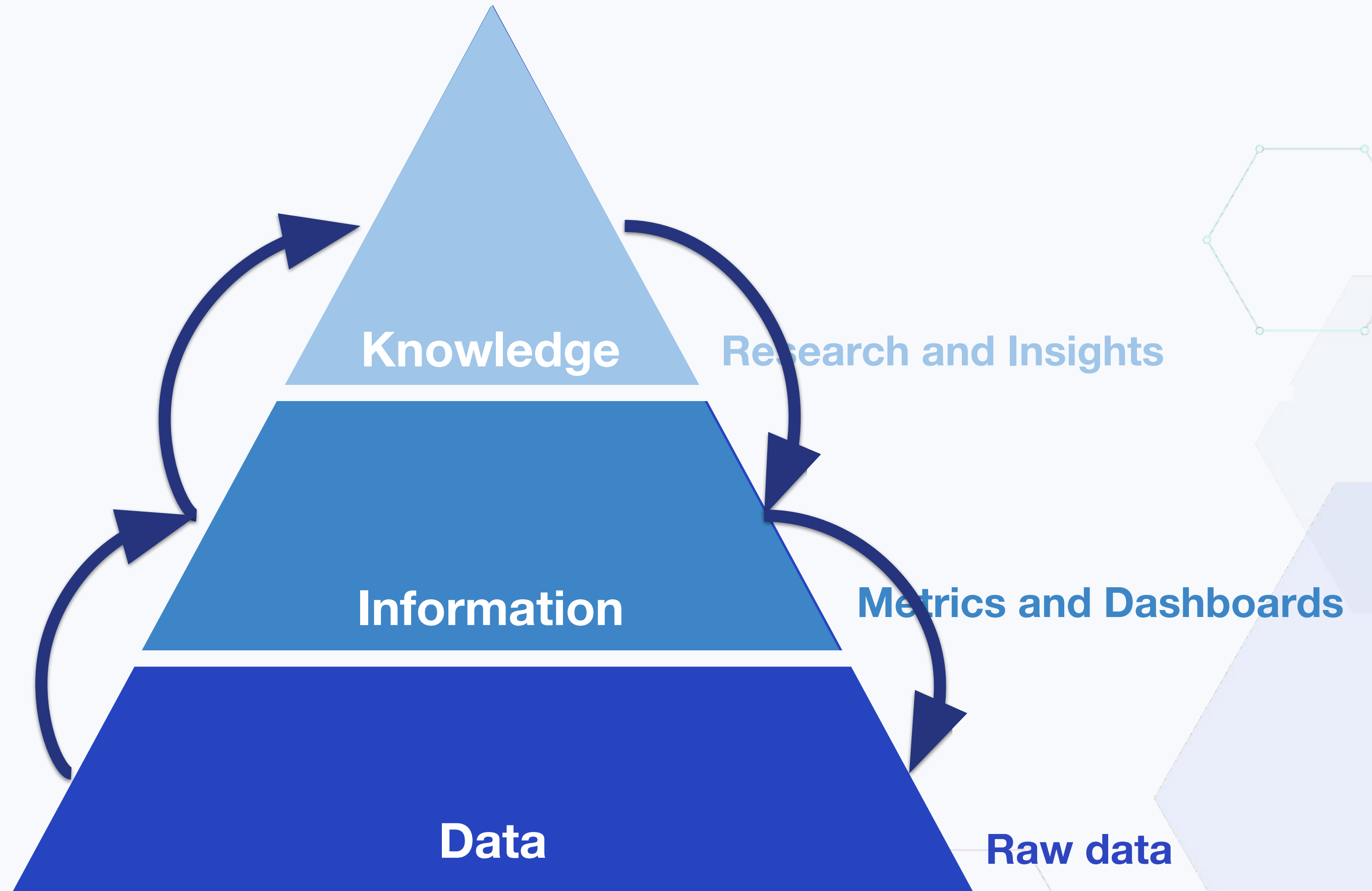
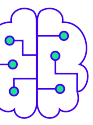
Metrics “influence” each other, leading to lagging

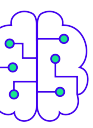


Leading / Actionable

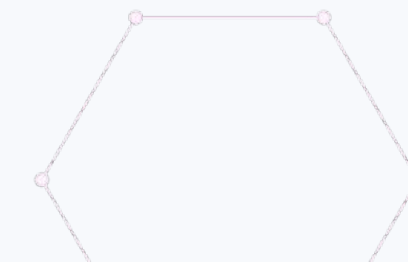
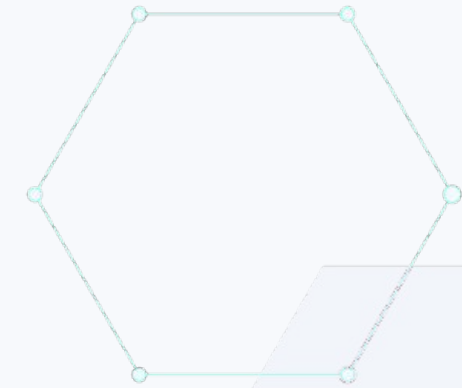
Lagging / Value Creation

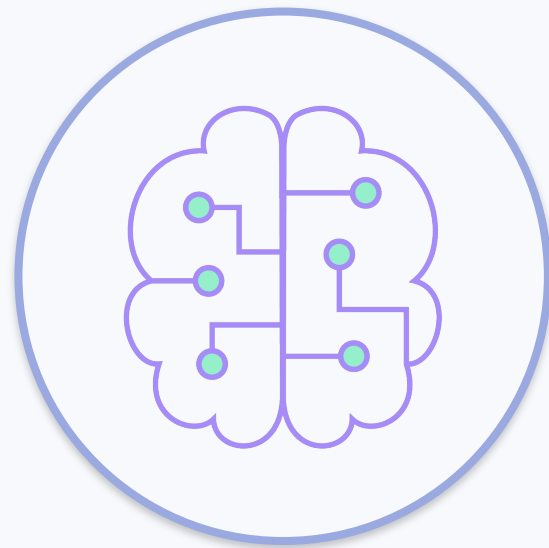






Metrics are products





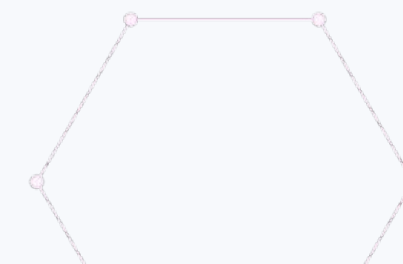
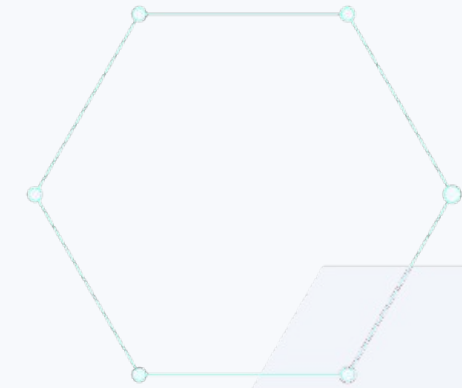
A metric mental model



A metrics journey



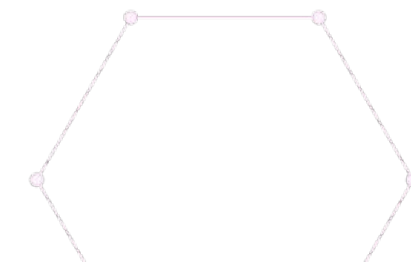
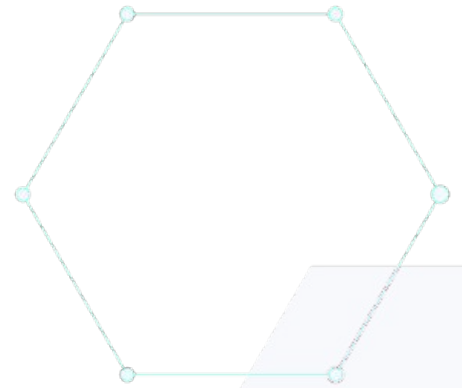
Common questions & concerns





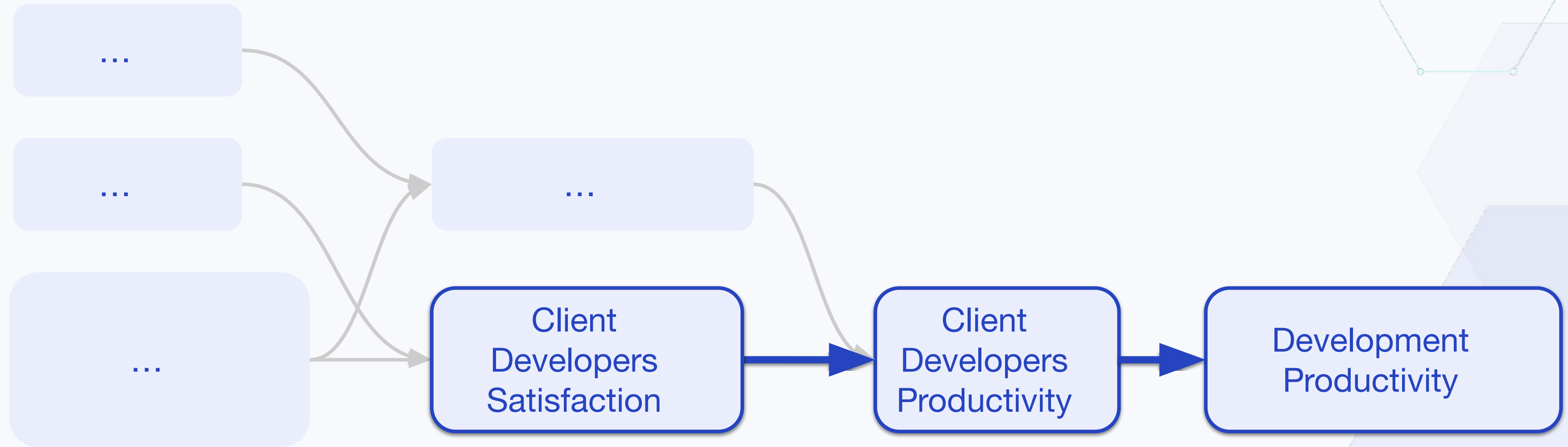
Problem: A typical BASIC situation

- 10: It's planning time
- 20: We don't have good metrics
- 30: Agree on a metric we don't measure
- 40: Development starts
- 50: Ignore the metric and data collection
- 60: GOTO 10





Metrics: A Success Story.



Leading / Actionable

Lagging / Value Creation

Spotify EngSat / Pulse

TOOL

Spotify R&D | Engineering

Owner platform-insights Lifecycle Production

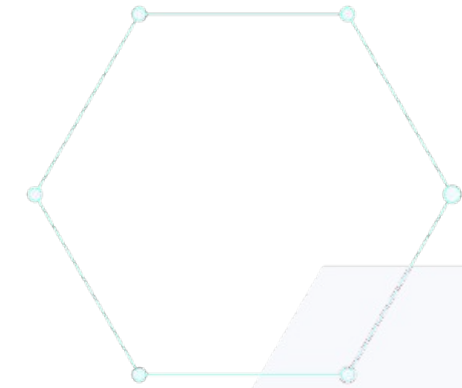
ABOUT FAQ SURVEY RESULTS FREE TEXT SEARCH RESEARCH REQUESTING CHANGES SUPPORT

Pulse free-text

Search: sprixie

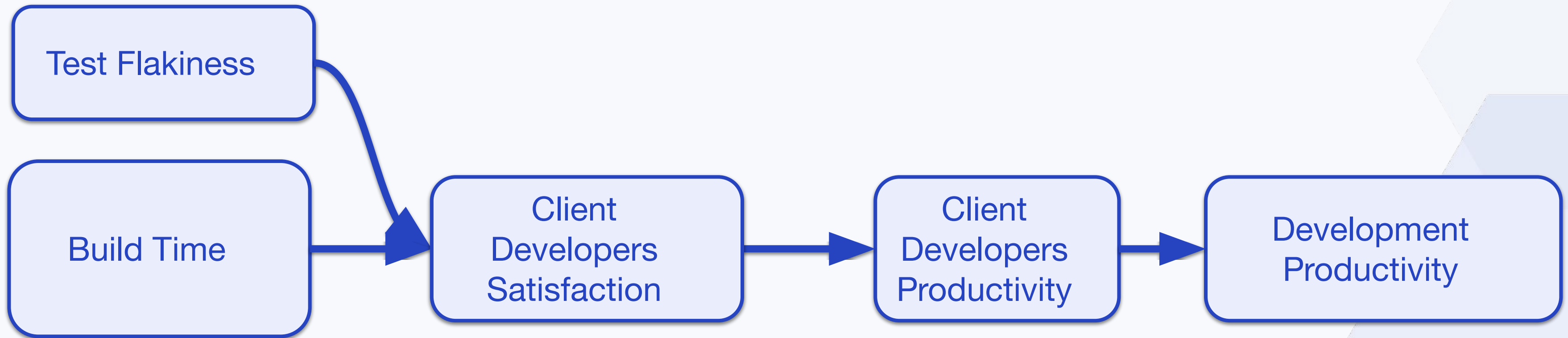
The Free-text search bar accepts multiple simple search strings as well as a query language to quickly narrow down your searches. [Click here to find out more about how to use the query language.](#)

ROUND	QUESTION_ID	ANSWER_HTML
2021q2	dev_tools_oe	Sprixie is awesome :-)
2021q2	dev_tools_oe	Sprixie is great!
2021q2	dev_tools_dissat_oe	Testing infrastructure is built for scio/scala oriented producers, and unclear how to use counters or dataset validation for pipelines like BQrunner or Sprixie.
2021q4	complex_deps_text	We met several Sprixie bugs, connecting to that team helped a lot. Our CI/CD product relies heavily on other products inside the company, so sometimes we respond to support questions related to other teams.
2023q3	techdebt_hinder_text	We have a sprixie storage-insights repo which contains 60+ workflows for database and gcs bucket insights. Workflow





Metrics: A Success Story.



Leading / Actionable

Lagging / Value Creation



Metrics: A Success Story

100%

75%

Android Developer's Self-reported Productivity:

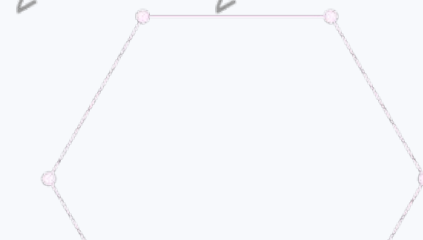
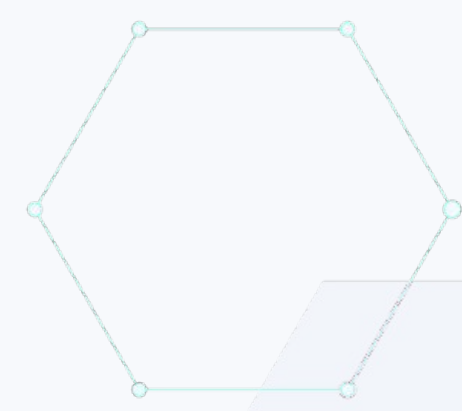
Overall, in the past 3 months how productive have you felt at work at Spotify?

50%

25%

0%

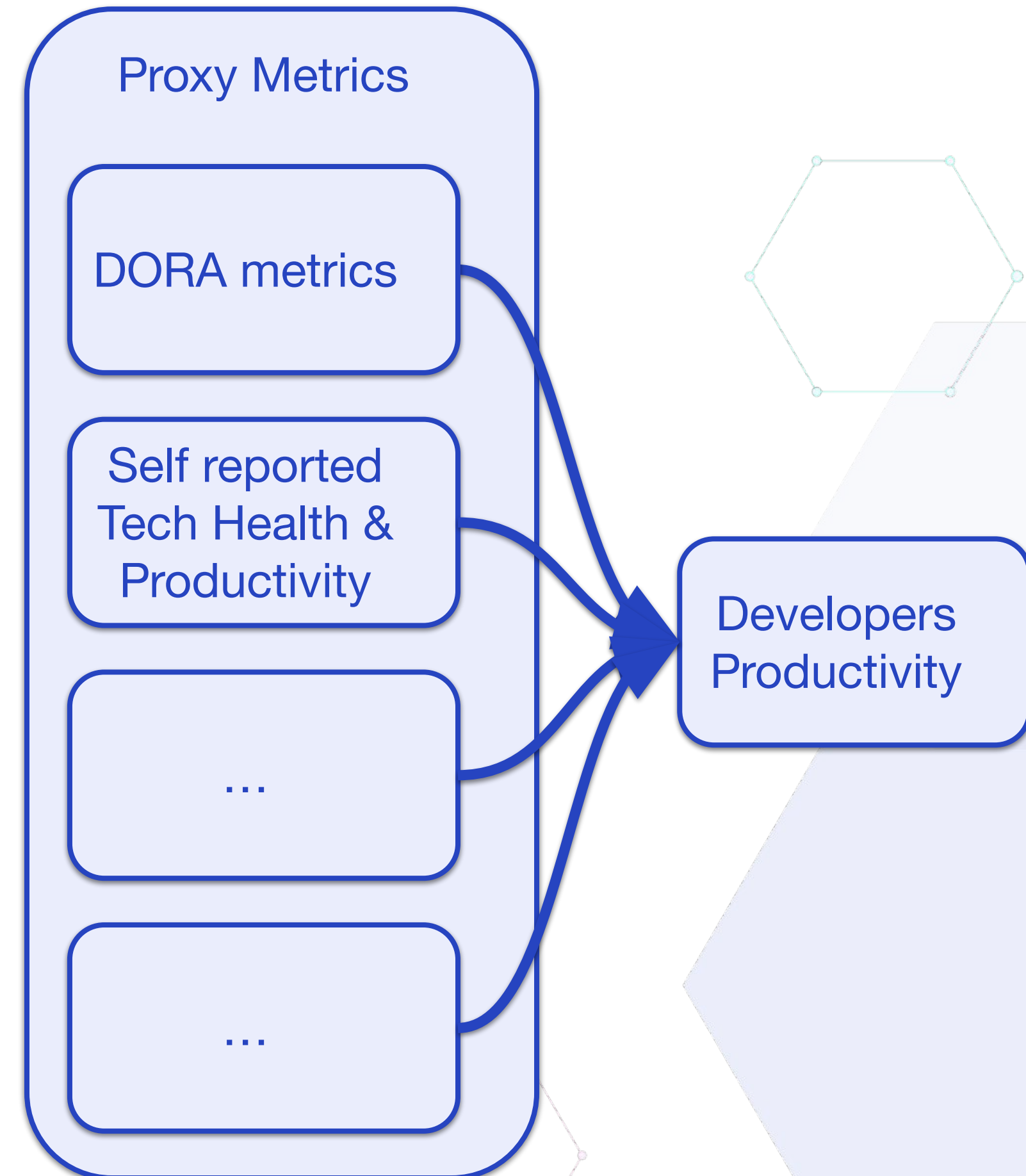
2020 Q3 2020 Q4 2021 Q1 2021 Q2 2021 Q3 2021 Q4 2022 Q1 2022 Q2 2022 Q3 2022 Q4 2023 Q1 2023 Q2 2023 Q3

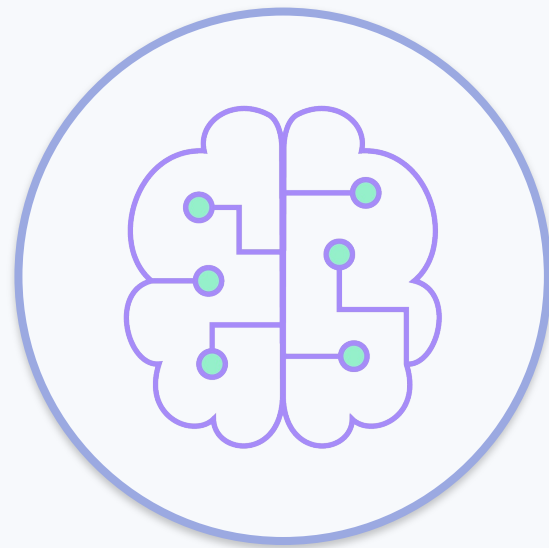




The Productivity Case

- Ask people!
- “Proxy metrics”
 - Imperfect
 - Necessary
- Contextualize them
- Trends > Plain value
- Trigger conversations

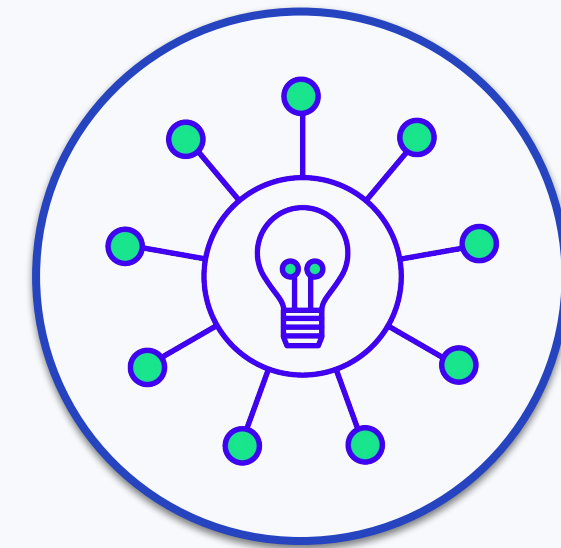




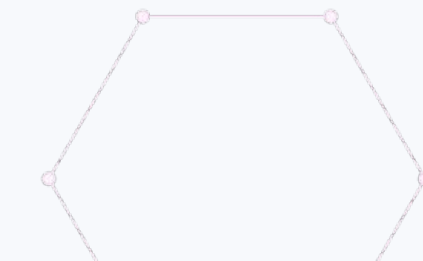
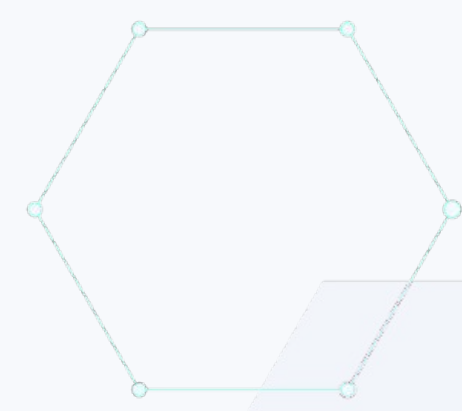
A metric mental model



A metrics journey



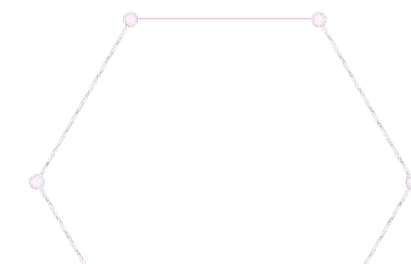
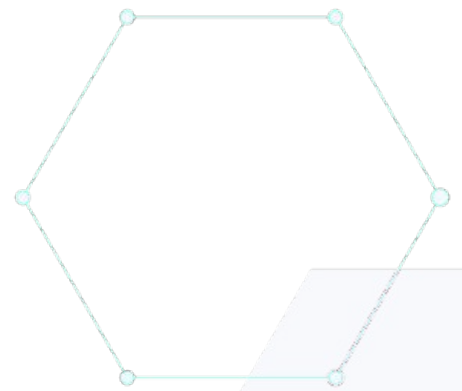
Common questions & concerns





But...

- What about data Quality?
- Can we really trust self reported metrics?
- This metric does not cover every case
- This metric is flawed in some way
- My Metric depends on external factors I don't control





What metric for my OKR?

1

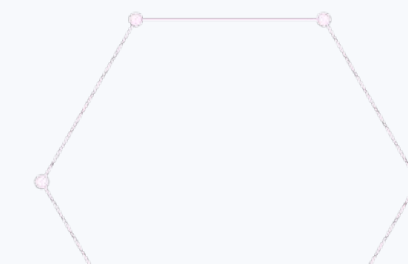
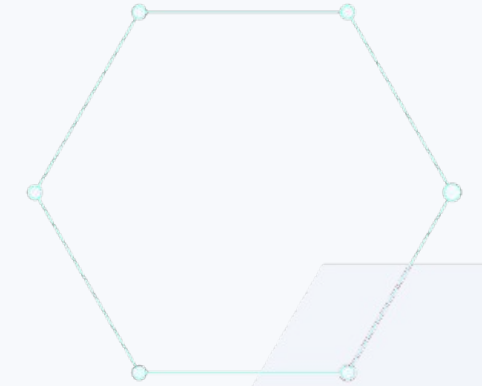
Sensitive to changes you will implement

2

Bet: Aligned with value creation

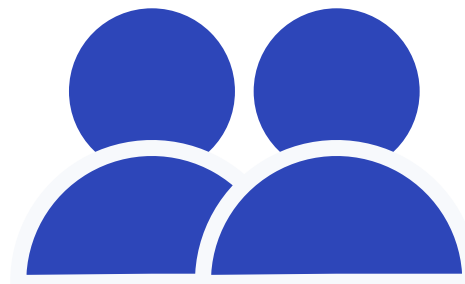
3

Available within time horizon





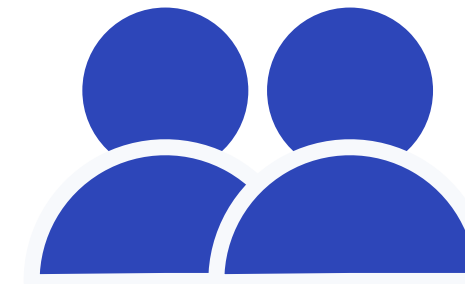
When to start... and who is accountable?



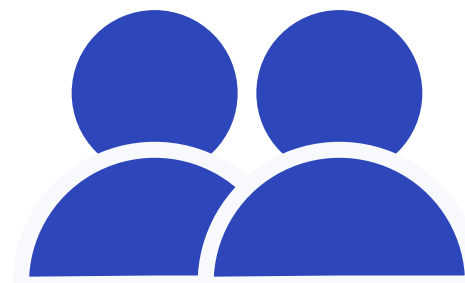
Management
Role model

*Define common set
of metrics and bets*

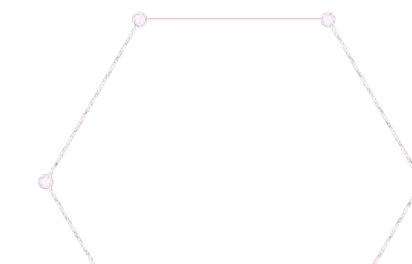
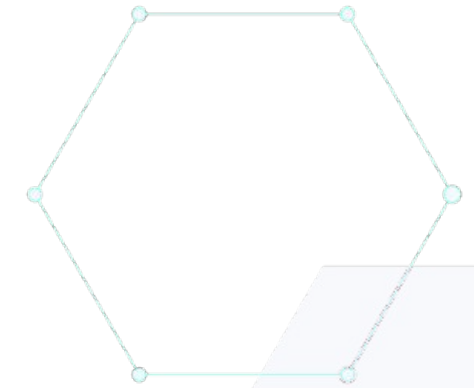
*Review metrics
regularly*



Product Managers
*Prioritise data collection and
promote metrics-informed
decisions*



Engineering
Focus on actionable metrics



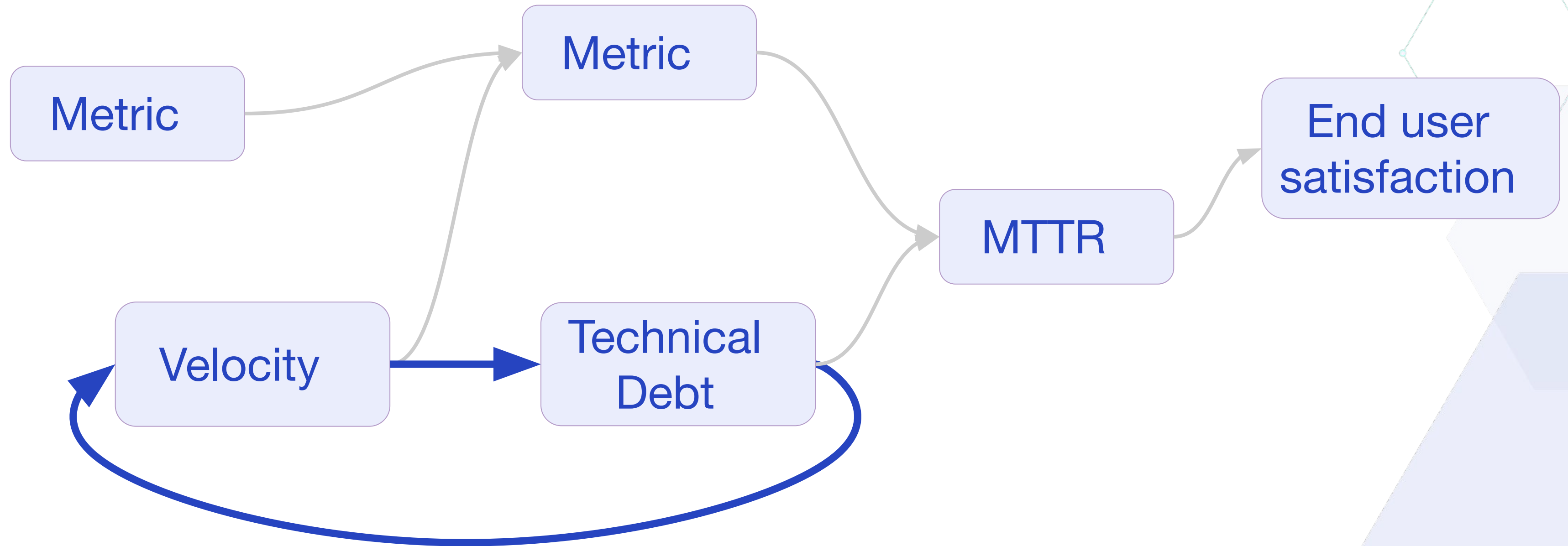


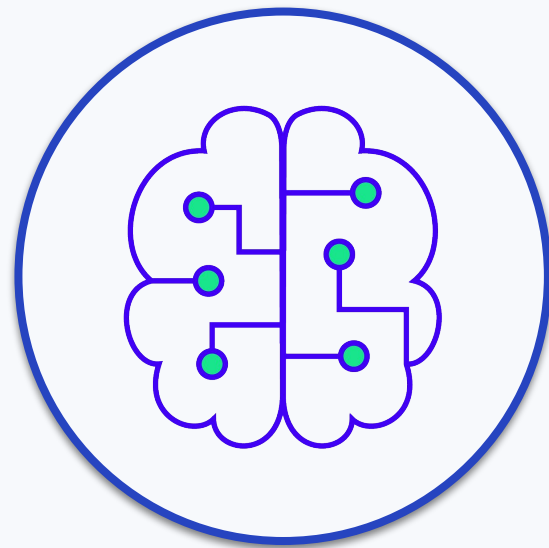
**When a measure becomes
a target, it ceases to be a
good measure**

**...for someone who benefits
from the metric looking
good...**



But... Is that really an oriented graph?

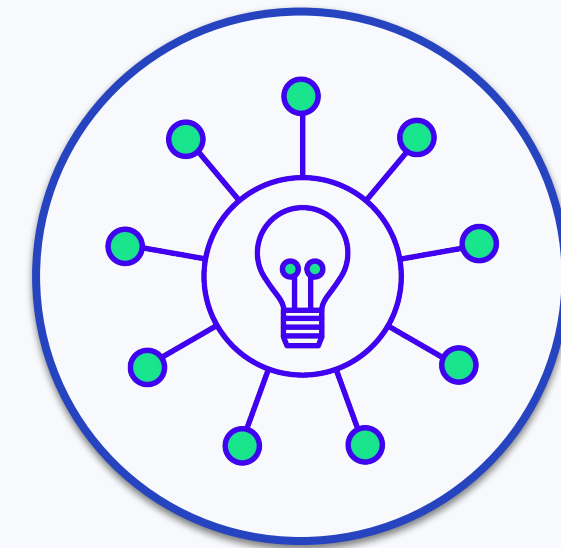




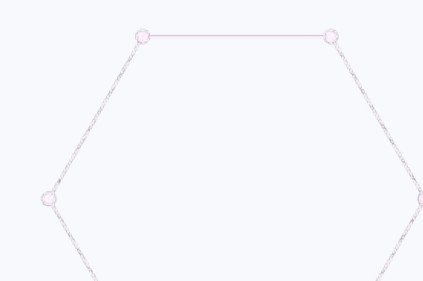
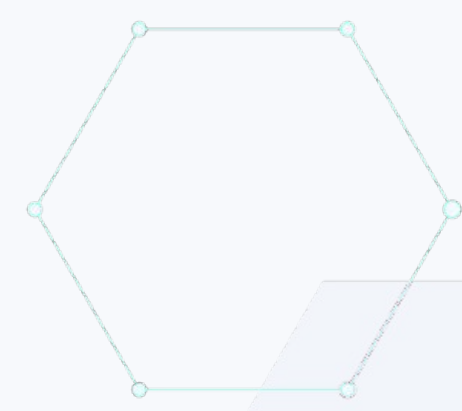
A metric mental model



A metrics journey

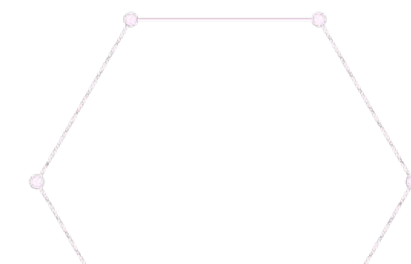
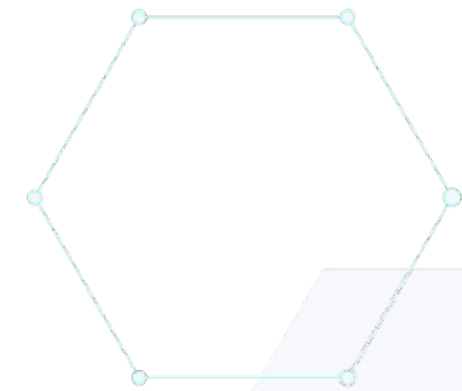


Common questions & concerns



Key takeaways

- Align product, engineering, business
- Metrics are products
- Start with surveys
- Build your data / information / knowledge stack



Start measuring your R&D productivity with the:

Pulse plugin for Backstage

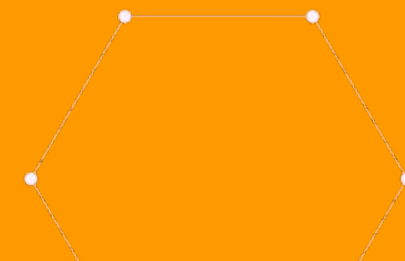
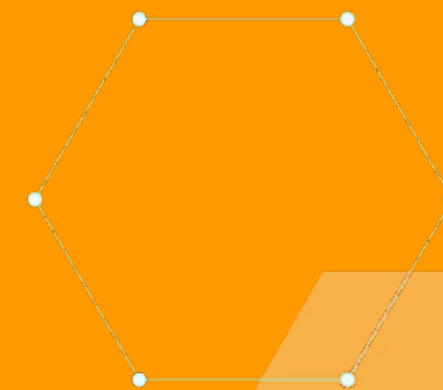
backstage.spotify.com/plugins/pulse



Thank you

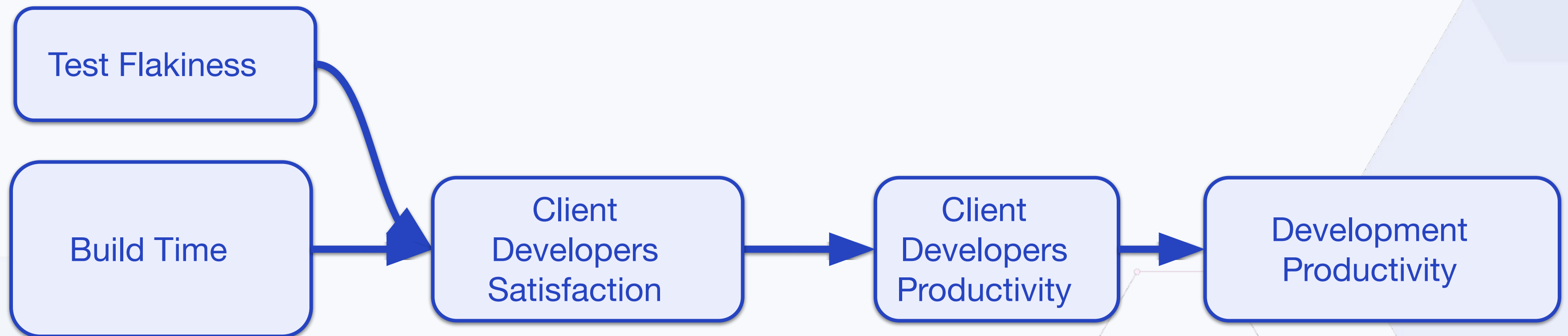


STOP HERE





Continuous Improvement Methodology





The Productivity Case: The DORA Case

- Reminder
 - Deployment Frequency
 - Deployment failure rate
 - Time to Recovery
 - Lead time
- Survey people, then implement
- Think “Local” DORA metrics

