如何找到合適的產品指標

Peter Su | 2020 November

PRODUCT
tank taipei

What is Metric?

*Product metrics are **quantifiable** data points that a business tracks and analyzes to gauge the **success** of its product.*

ProductPlan

*"Product metrics are data **measurements** that businesses use to evaluate the **success** of a product and determine how customers are engaging with it."*

Intercom

*"In the broadest terms, a metric is any collectable, **quantifiable** measure that enables one to track the **performance** of an aspect of your product or business over time."*

Vince Law

Goal | Metric + Target

Increase <u>conversion rate</u> <u>from 5% to 10%</u> by end of 2020 Q4.

Why Metrics?

- **Measure the success of product**
- Not just for **accountability** and **performance review**.
- But also for **communication**, **alignment**, accelerating/distributing **decision-making**.

Types of Metrics

- **Category**
  - Business Performance
  - Product Performance
  - Customer Experience
  - Operation Performance

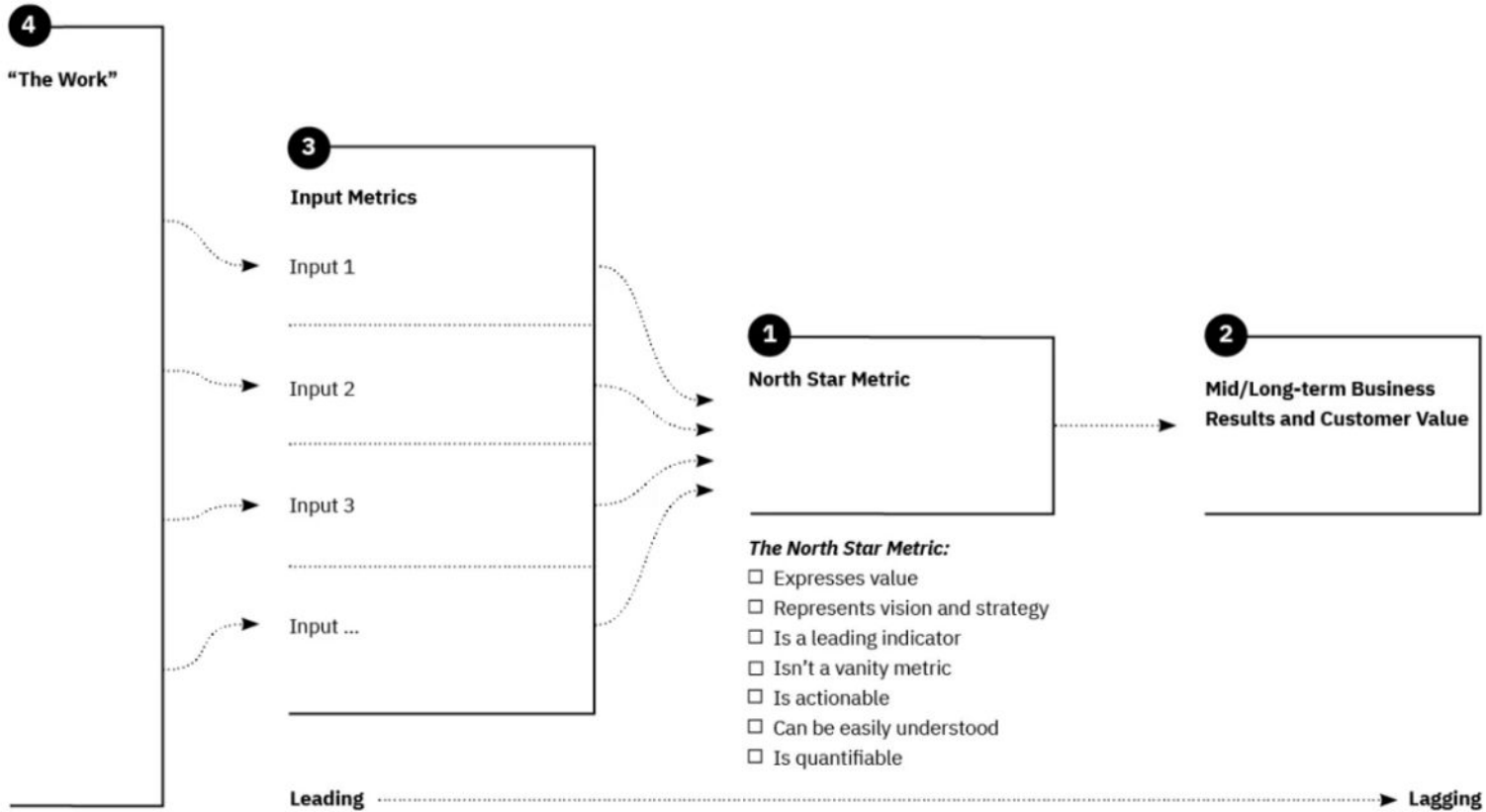- **Leading vs lagging**

Airbnb- Product Metrics

Three Aspects

- **Quantity** (business performance metric) & **North star metric**: Number of Nights Booked
- **Quality** (customer experience metric): Net Promoter Score (NPS)
- **Efficiency** (operation performance metric): Customer Support Tickets per Reservation

How to measure product success holistically?

Metrics Framework

4 "The Work"

3 Input Metrics

Input 1

Input 2

Input 3

Input ...

1 North Star Metric

The North Star Metric:
☐ Expresses value
☐ Represents vision and strategy
☐ Is a leading indicator
☐ Isn't a vanity metric
☐ Is actionable
☐ Can be easily understood
☐ Is quantifiable

2 Mid/Long-term Business Results and Customer Value

Leading .... Lagging

Amplitude

Mixpanel Measurement Framework

Below is a blank metrics template so you can apply the framework to your product. Print this page out
and fill in the blanks. Start with a focus metric, then add the level 1 and 2 metrics.

COMPANY NAME:

PRODUCT:

Focus metric

L1 metrics

REACH	ACTIVATION	ENGAGEMENT	RETENTION	BUSINESS-SPECIFIC

L2 metrics

Have questions? inquiries@mixpanel.com

mixpanel

Mixpanel

Trade-off is missing

"Sometimes tradeoffs between metrics happen and you don't realize it until it's too late. You can't just watch one of these tradeoff metrics; you need to watch both because as you improve one, the other might go down."

*Brain Balfour*

五洲製藥理念：先講求不傷身體，再講求效果。

Metrics Framework

Upper Level
(NSM is Company
Level Metric)

Ecosystem
Metric

Team Level

Goal Metric

Counter
Metric

Cross Teams
Level

Operational
Metric
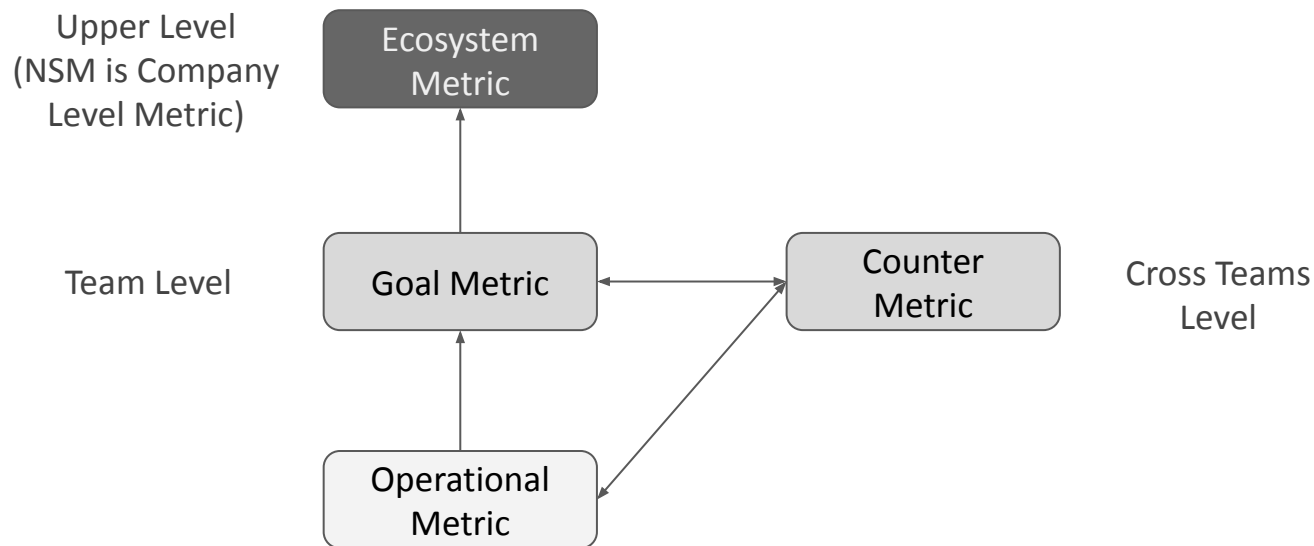
Metrics Framework

- **Goal Metric** (Topline Metric, Output Metric)
    - Measure the success of your product, area, and feature
- **Operational Metric** (Proxy Metric, Input Metric)
    - Measure how you drive the outcome
- **Counter Metric**
    - Measure the trade-off between metrics, as a guardrail
- **Ecosystem Metric**
    - Contribution on upper level metrics (e.g.: Company level north star metric)

Examples
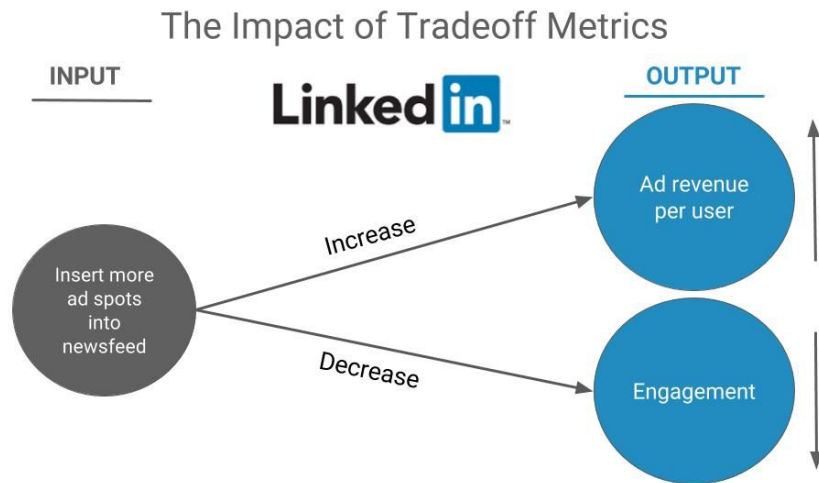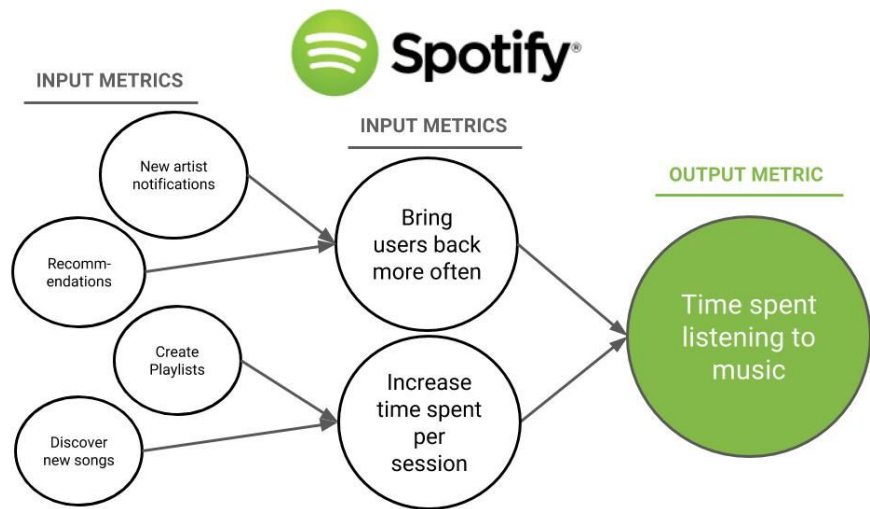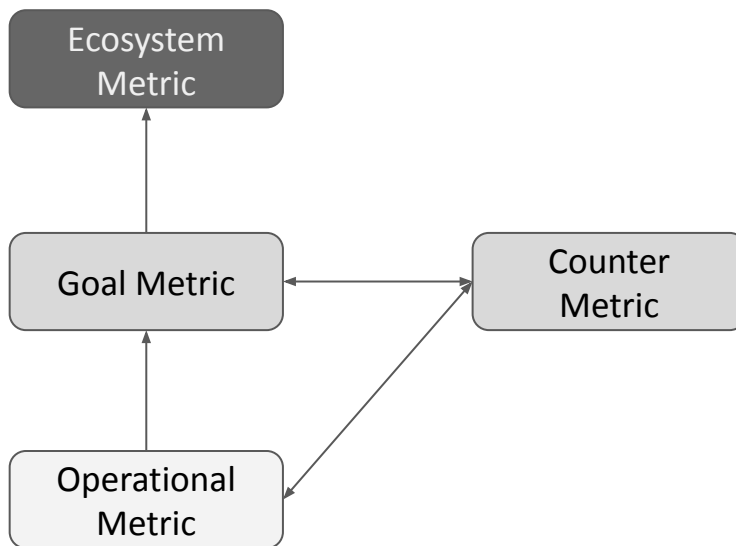
How to set right product metrics?

Metrics Selection

0).**Ecosystem Metric:** Identify the goals from upper level.

3).**Counter Metric:** Identify potential trade-offs between metrics.

Always start from product **vision and strategy.**

4).**External Dependency:** Identify external factors which the product does not control and which is required for your product to attain the desired.

1).**Goal Metric**: Define the measurement of user and business value.

2).**Operational Metric**: Find levers that can drive your Goal Metric.

```
        Ecosystem
         Metric
            ↑
            |
  Goal Metric ←→ Counter
            ↑        Metric
            |      ↗
  Operational ←
     Metric
```

5).**Review metrics (**easy to measure, easy to understand, hard to game, etc.**)**

Next: collect data and conduct anlaysis for **target setting.**
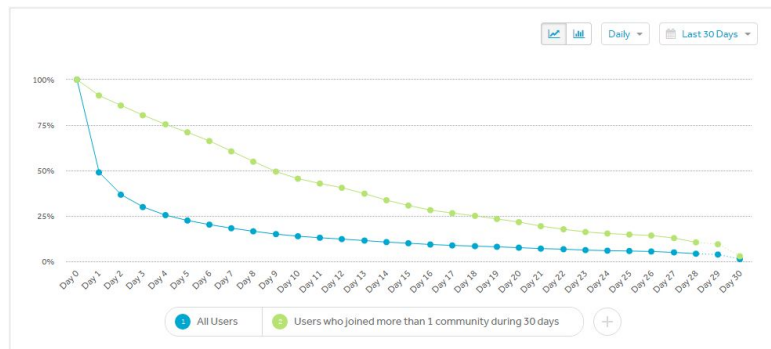
Metrics Selection

Common Pitfall: Correlation vs Causation
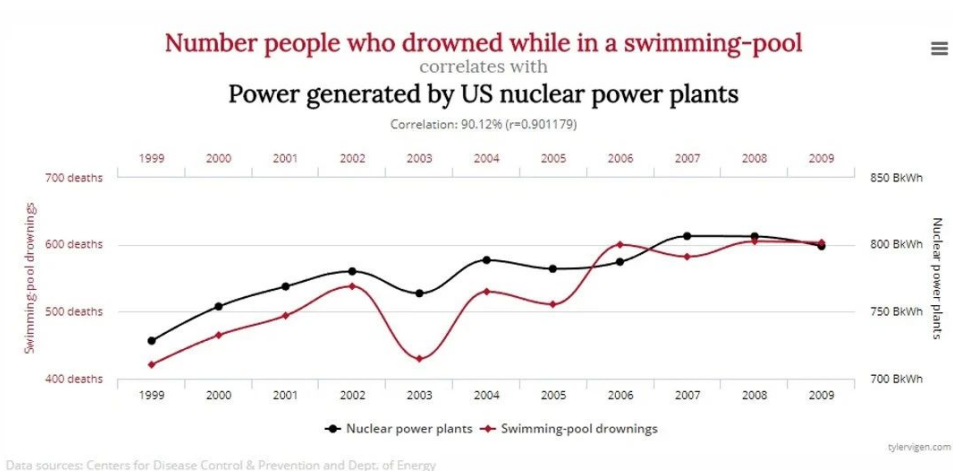
Metrics Selection

Find the Operational Metric to drive outcomes

- Step1: Find the key user activities from user journey
- Step2: Find the correlation of these key activities by Cohort or Regressions analysis.
- Step3: Run experimenets to validate the causaion between metrics

One cohort only has users who joined communities, and the other only has users who did not join communities.

To test whether there's causation, for the next 1,000 users who sign up, split them into two groups. Half will be forced to join communities when they first sign up and the other half won't be.

"Finding a correlation between two metrics is a good thing. Correlations can help you predict what will happen. But finding the cause of something means you can change it. Usually, causations aren't simple one-to-one relationships — there's lots of factors at play, but even a degree of causality is valuable.

"You prove causality by finding a correlation, then running experiments where you control the other variables and measure the difference. It's hard to do, but **causality is really an analytics superpower—it gives you the power to hack the future.**"

Ben Yoskovitz, co-author of Lean Analytics

Metrics Selection

Find the Counter Metric to monitor trade-offs

- Compete the same resource from users (cannibalization, e.g.: time spent)
- Metrics on two different sides (revenue vs cost, e.g.: customer support tickets)

*You may need to have a **counter-metric** to help balance short term and long-term **trade-offs**.*

As an example, if your metric is engagement, as measured by "increasing time spent per user", you may want to include the counter-metric that you will not decrease the number of engaged users. The goal is still the same one primary metric (time spent per user), but the counter-metric allows you to keep in mind that systems are complex, and keep you from over-optimizing for a subset of your audience at the expense of creating more broadly appealing experiences.

How do you set metrics? Juile Zhou

How to make a trade-off between goal metric and counter metric?

● Facebook News feed vs Facebook Stories

● Ads: Revenue vs Engagement

→ Some tips

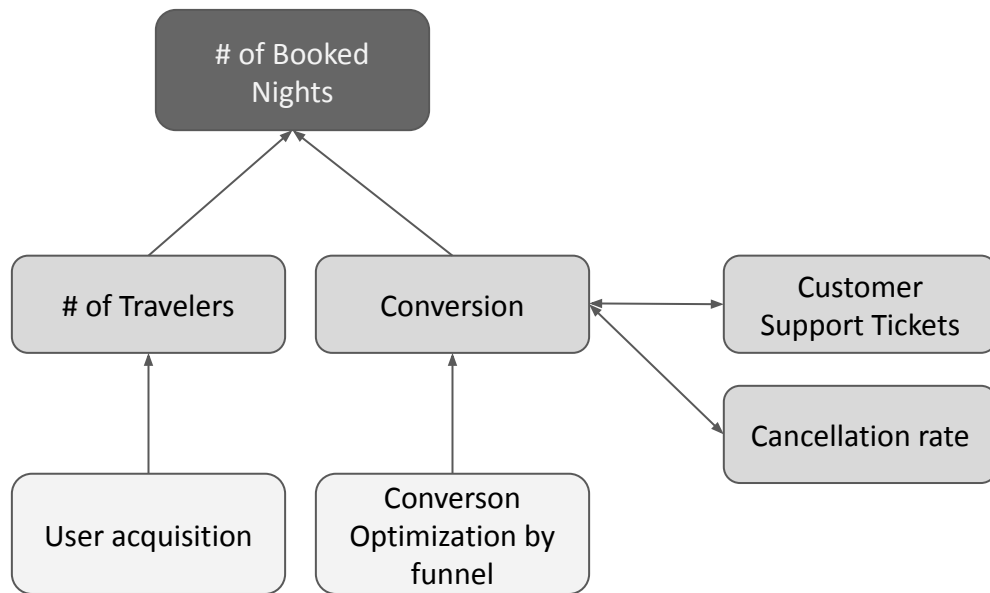 ○ Unifying metrics: apple to apple
  ○ Short-term vs Long-term

Example- Booking.com

Product Strategy & Metrics Framework

Strategy in different stages
1. Buy Google Search Ads (Supply side models: Booking.com vs Expedia)
2. Invest on conversion optimization
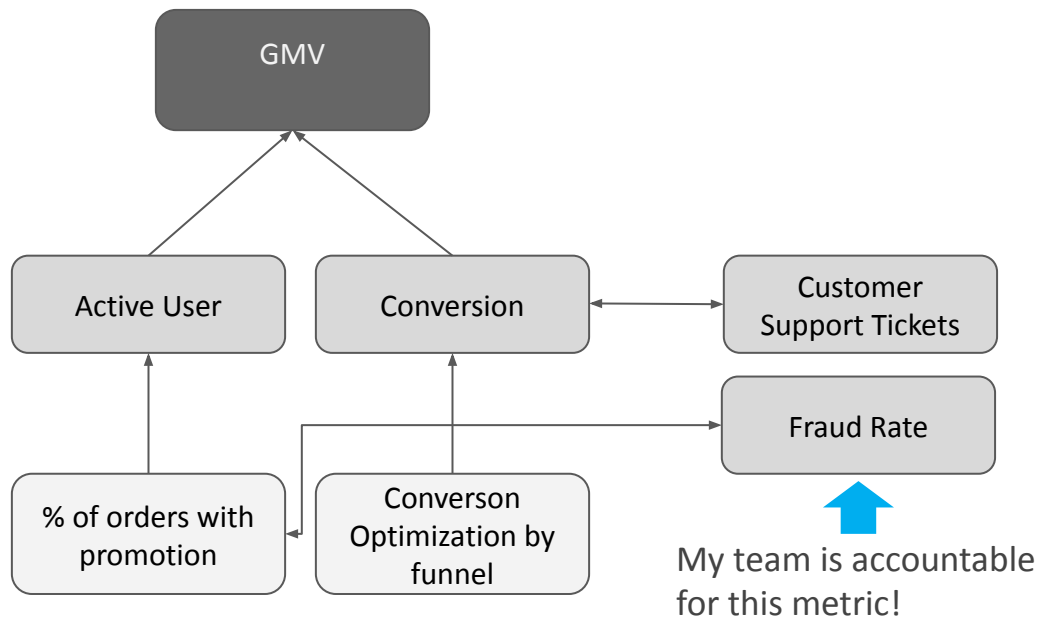3. New market segment (Apmartment rental, transportation, etc.)

Example- Grab

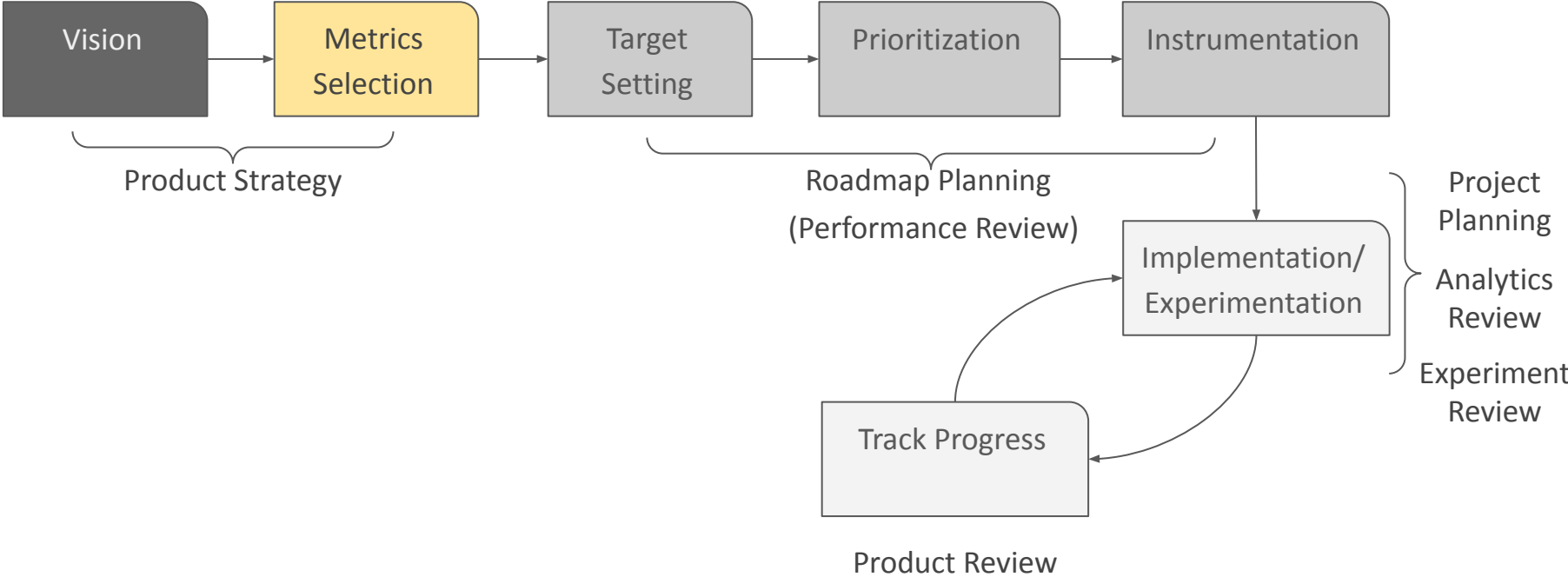**Product Strategy & Metrics Framework**

Strategy
1. Hyperlocal
2. Win the market

GMV

Active User | Conversion | Customer Support Tickets

Fraud Rate

% of orders with promotion | Converson Optimization by funnel

My team is accountable for this metric!

How to incorporate metrics selection into product dev and design process?

Product Dev and Design Process

PM and DA/DS Roles in this Process

Stage	Product Manager	Data Scientist/ Data Analyst
Vision/ Strategy/ Goals	Driving the team to agree on product vision and strategy– with everyone's input (Prerequisite: Market & User research)	N/A
Metrics Selection	Defining the expected outcomes for users and business.	Figures out the right Metric and gets everyone's buy-in
Target Setting	Discuss the target with Data Scientist (PM is accountable for that target)	Responsible for setting the goal value
Project Prioritization	Drive the prioritization with team.	Size project impact and evaluate risk
Instrumentation	Work with Data or Software Engineer on instrumentation.	Work with Data Engineer to build the right tools
Experimentation	Formulate Hypothesis from users problems and work with team for implementation.	Review experiement design & Analysis prep.
Track Progress	Track progress frequently and take actions accordingly (e.g.: change hypothesis, pivot, adjust metrics).	Responsible for monitoring the metric, understanding anomalies, and performing "gap analyses"

When do We Review Metrics?

- New product/ area
- Numbers are not moving
- People lost trust in metric

Metrics, like code, are evolving artifacts that need to be tested, re-evaluated, and tweaked/replaced when they no longer work.

Summary

- **Metrics framework** can help you measure product success holistically
- **Metrics selection** should come after product strategy
- **Metric is evolving** over time

Thank You :)