

# Forget KPIs and Start with KPQs

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# The Utopia of Business & Operational Metrics

Everyone appreciates this and wants this

- Keep scores and show wins
- Spotlight weakness and ask for help
- Rally the team around the common priorities
- Foster openness and encourage continuous improvement

# However ... the Zombieland of KPIs

If quantitative operations were easy, all orgs would be supremely data-driven

- Many desired graphs and tables, but an embarrassingly few have actual numbers
- For each graph or table... so what?
- People get the “so what”, but there are no knobs to turn to change the numbers
- KPIs do not fit pre-conceived “stories” or priorities
- It takes too much effort to refresh the numbers... slow decay into “expedience bias”
- The numbers take too much effort to explain, and one-liners include too little nuance
- Inevitable personnel / org changes, math and procedures irrecoverably lost
- Math done by neither the data owners nor business owners
- Need to glue together 20 data platforms to get a simple graph
- Need Jira / SNOW tickets to 10 different teams to connect different pieces

**Common seed of frustrations: Start with numbers (KPIs)**

**A better approach: Start with questions (KPQs)**

# Agenda

- Have your metrics help you stand out!
- Know how to refine KPQs and back into numbers that actually matter
- Get tips on how to scale and operationalize a business metrics program

## 1) Common pitfalls of KPIs / metrics

## 2) (Re-)Orient your metrics around KPQs

Clarify context

Brainstorm and trim

Back into the data

Get to “so what” and operationalize

## 3) (Re-)Operationalize metrics

Linking data at source

Automation for scale

Presentation – live and templated

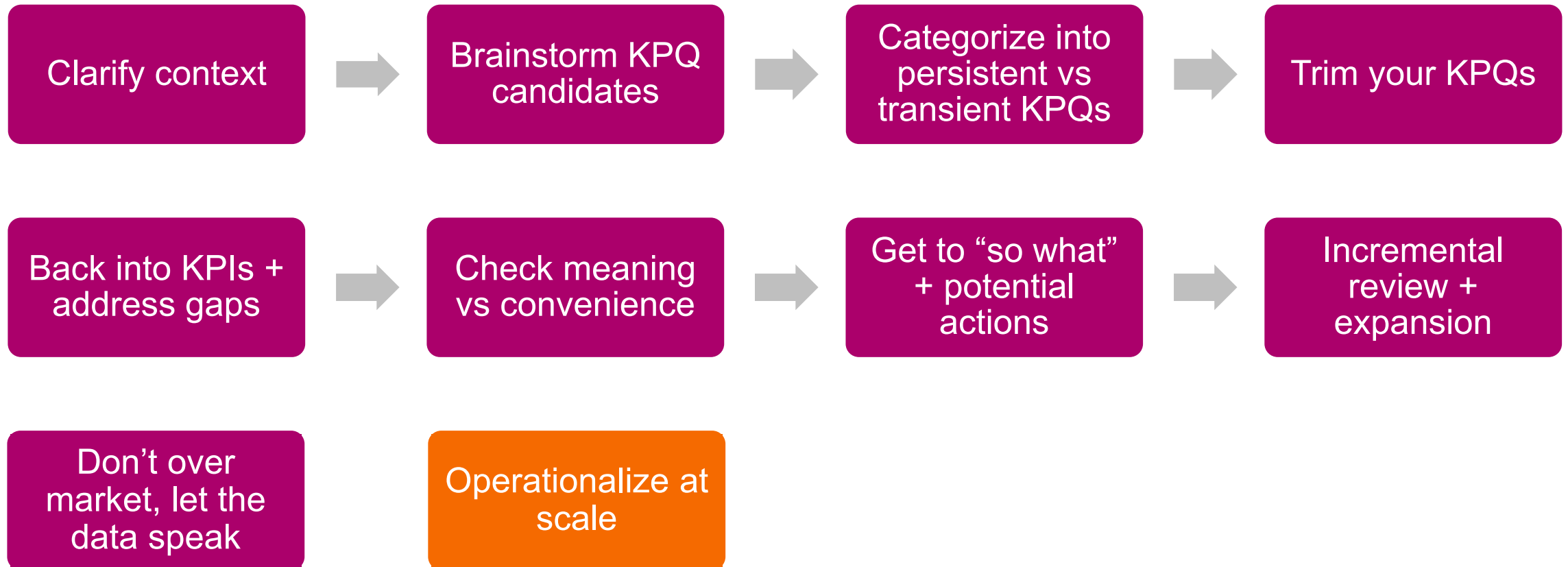
# **(Re-)Orient your metrics around Key Performance Questions (KPQs)**

# Examples of KPQs

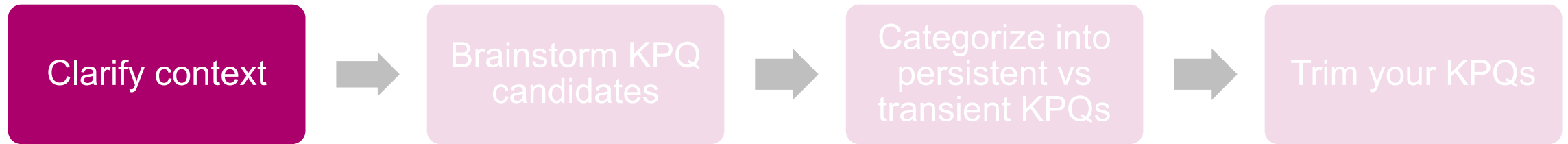
- How healthy is my product or service?
- How available is my product or service when customers need it?
- What are my top pains in delivering my product or service?
- What are customers' top pains in using my product or service?
- What are the sources of growth / profitability for my product or service?
- How is my product or service doing relative to competitors? Who are my competitors?
- How predictably is my team executing?
- Is my team hiring and retaining top talent?
- Is my team investing in high ROI items at different time horizons?



# Overview of the Process

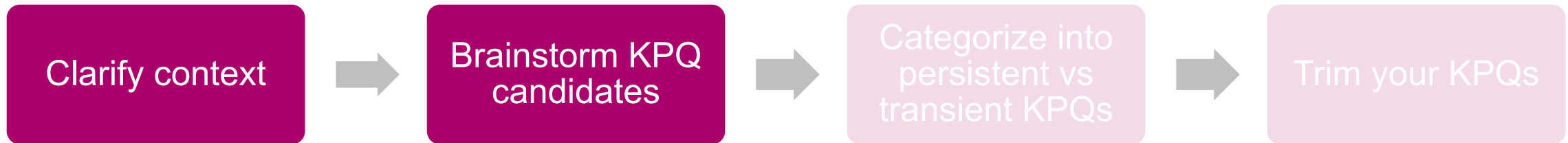


# Clarify Context



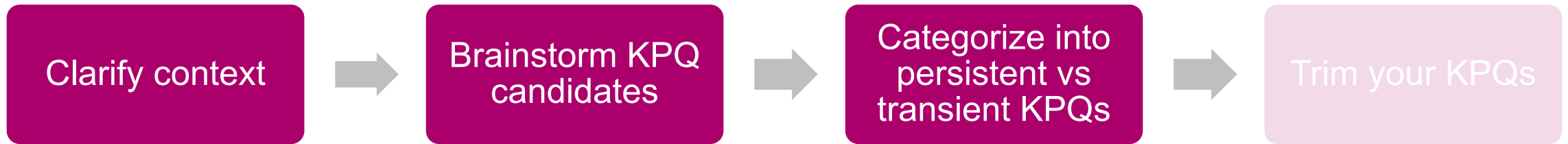
- KPQs for what audience? Business-wide vs functional leadership vs operational team?
- Who commissioned / requested / sponsored? Who has urgent need?
- KPQs for what purpose? Greater understanding vs keep score vs future opportunity?
- What are the top business priorities short, medium, and long term?
  
- Emphasize increasing business and organizational awareness, for you and your stakeholders
- Keep in mind – good quantitative operations can accelerate business goals, not replace them

# Brainstorm KPQ Candidates



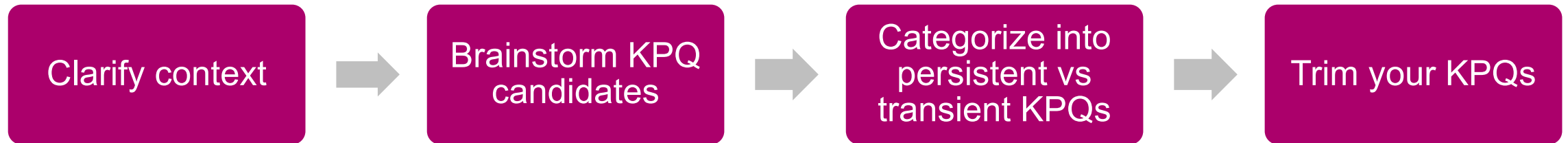
- Repeat value of disciplined business operations informed (not replaced) by empirical info
- Allow all stakeholders to surface their priorities and concerns
- Avoid anchor bias and loud voice bias, e.g., each stakeholder suggests 3-5 KPQs without seeing others'
- Purposes are (1) uncover blind spots and (2) increase buy-in by letting all voices participate and “be heard”
- Properly done, this will generate 10s of candidate KPQs

# Categorize Into Persistent vs. Transient KPQs



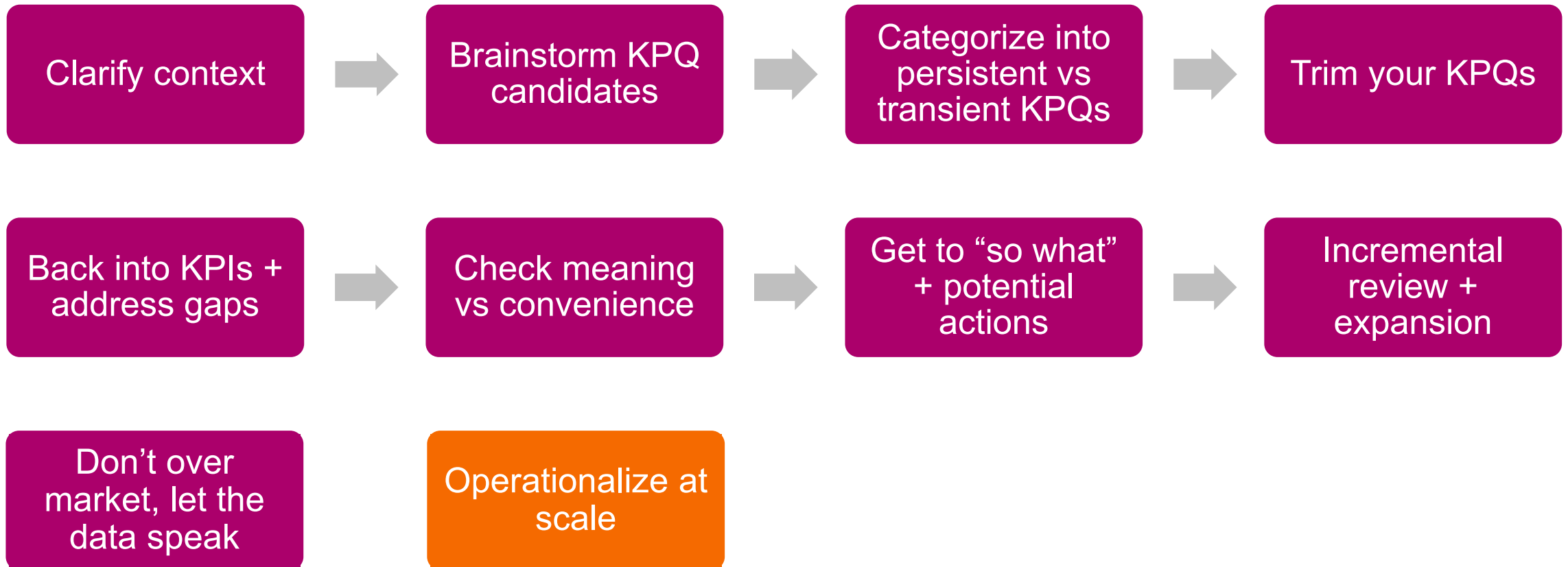
- One category of KPQs covers persistent caring/feeding concerns and long term goals (think programs)
- Second category of KPQs covers transient firefighting and short term goals (think initiatives)
- These allow longevity via tracking persistent KPQs, and periodic refreshed interest via rotating transient KPQs
- Ideally, avoids “death by re-org” by separating KPQs that depend on policy vs those that do not

# Trim Your KPQs

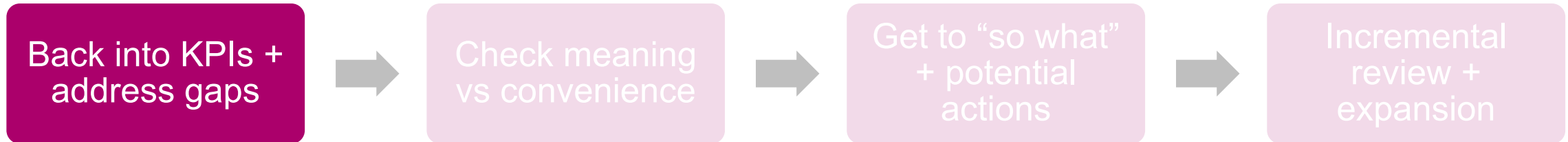


- Brainstorming KPQs should have resulted in 10s of candidates
- If you are starting out, trim down to 2-3 in each of the persistent and transient categories
- Focus limited human attention on a few things done well, vs many things done poorly
- Another opportunity to clarify and re-align on top business priorities
- Over time, smooth out scalable operations, expand organically on solid foundation

# Overview of the Process

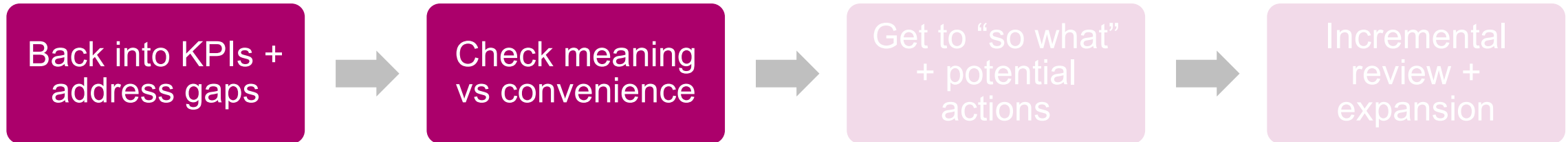


# Back Into KPIs + Address Gaps



- For each KPQ, identify 3-5 KPIs that are relevant to each
- Potentially can again ask each stakeholder separately to suggest candidate KPIs, followed by pruning in group
- For cross-functional cross-team KPQs, consider “reserving” a KPI for each key stakeholder function/team
- If a KPI is meaningful but not available/measurable, intentionally decide if, who, and how to gap fill
- Think of each KPI as an imperfect perspective on the KPQ, combination of KPIs aims to give better perspective

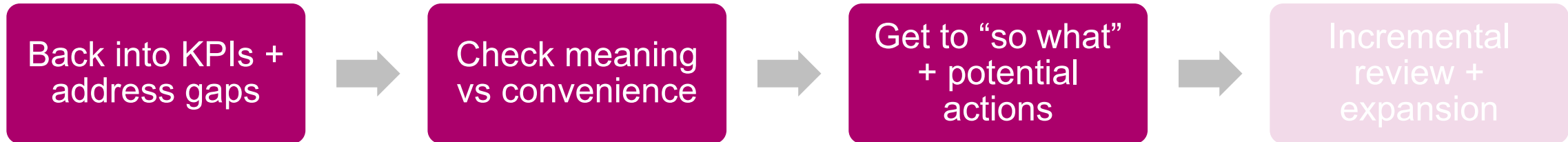
# Checking Meaning vs. Convenience



- Ask yourself / stakeholders and request straight answers: Is each KPI actually meaningful?
- If a KPI goes up, is there something to celebrate? If it goes down, is there something to remediate?
- Are we committing expedience bias by using numbers that are easy to get vs numbers that are important?
- Repeat these questions periodically to avoid “death by vanity metrics”

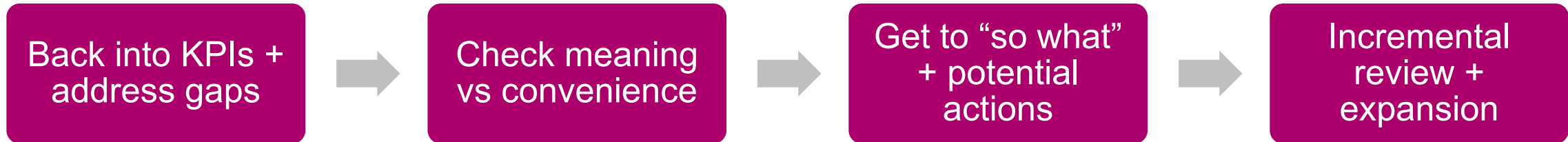


# Get to “So What” + Potential Actions



- Acknowledge that not all the potential actions will be known upfront
- For each KPI, who are the natural stakeholder/owners to identify “knobs to turn” if the indicator “goes down”?
- Consider initially omitting targets to aim for or thresholds to raise alarm: initial buy-in > remediation
- If a KPI or even a KPQ is left “un-owned”, ask all stakeholders whether it deserves to be pruned / replaced
- Overall goal: Frame success as “see issues coming” and ideally also “guide towards actions”
- Keep in mind – good quantitative operations can identify unowned issues, owners still required to solve them

# Incremental Review + Expansion

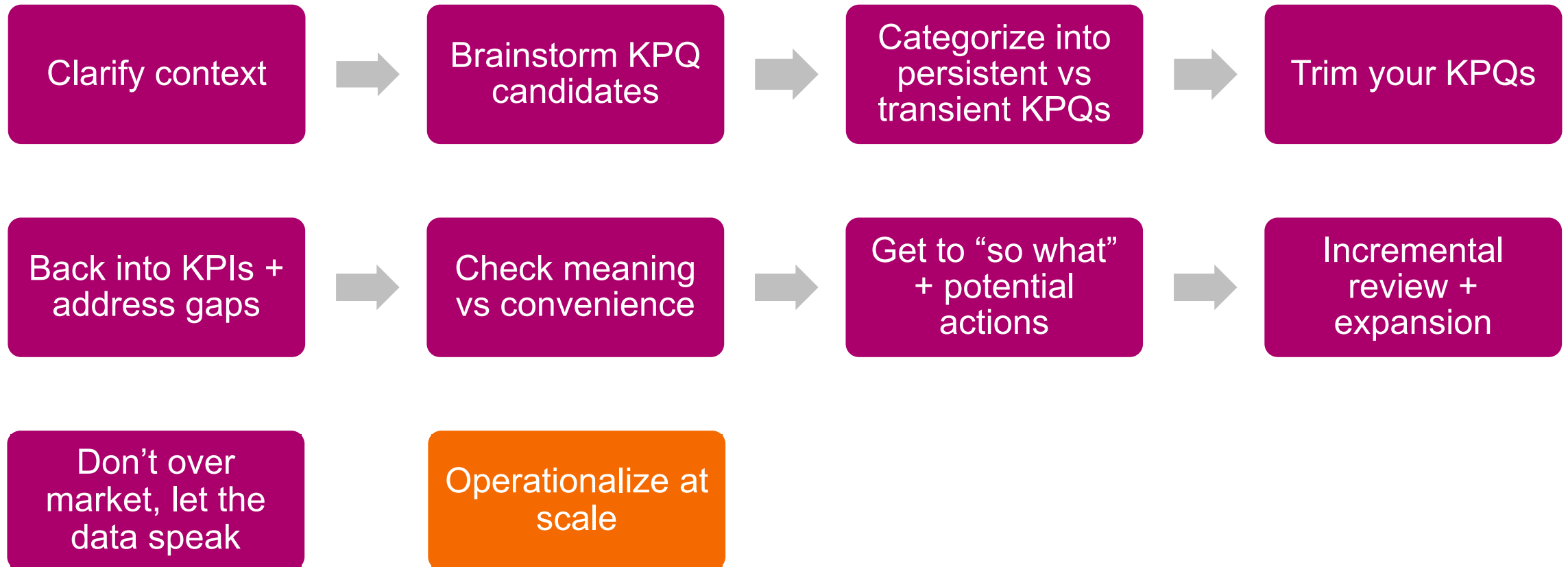


- Fill in initial numbers for KPIs thus far identified, review with incremental audience, incorporate feedback
- Set forum for regular review, recommend monthly / quarterly, balance rotating vs persistent focus
- Start small with stakeholders who really care, win partners, show wins, then organically expand
- Expect initial high overhead in setup math / review, transition as quickly as feasible into scalable operations
  
- Aim to have stakeholders view these KPQs / KPIs as their own wins, and talk about why they matter

# Don't Over Market, Let the Data Speak

- Avoid having KPQs / KPIs become a podium for the people organizing / calculating it
  - Avoid excessive commentary, steer towards any one interpretation, or trying to “justify” any given decision
  - Avoid “enforcing participation”
  - Do invite feedback, show openness to competing interpretations
  - Do offer “matter of fact” commentary, especially guidance on reading noise, seasonality, confounding factors
  - Do include additional stakeholders as appropriate and as they request
- 
- Aim to have KPQs / KPIs serve as an anchor of common facts, on which to discuss / debate further action
  - Aim to demonstrate an open, unbiased worldview in the way you run the KPQ / KPI program

# Overview of the Process



# (Re-)Operationalize Metrics

# (Re-)Operationalize Metrics

Query, visualize, repeat

## 1. Implementation

- What does it mean for your data structures to approach analytics from KPQs instead of KPIs?
- Moving analytics closer to the data's sources

## 2. Automation

- How our SPL queries have turned a manual process into a streamlined platform
- Allowing users to dig into data further, saving you time

## 3. Presentation

- Reap the rewards of your automation to dig deeper yourself
- Keeping content fresh and interest high

# Data at the Source

Every layer is the data layer

## KPI first

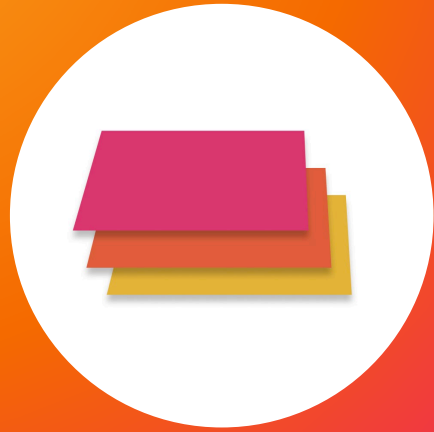


## KPQ first



Tailor your methods to questions at stake, instead of being rigidly tied to a fixed set of metrics.

Don't narrow the possibilities of your analysis by being attached to a set of KPIs



## KPI First

# Don't Divide Your Data in Service of Structure

Divided your teams fall

- Divided process and system engineering
- Necessitates requirement collection, system design
- Imposes rigid ETL process precluding further investigation
- Designed for baseline vs. deviation
- Metrics often not defined by business user with highest level of knowledge
- Rigid definitions prevent quick troubleshooting





## KPQ First

# Single Layer Streamline

Every layer is the data layer

- Quickly change definitions and create derivative metrics
- Build your data analytics stores over time
- Investigate further with a change to the search, not a call to partner teams
- Don't need to wait for ingest and transformation of data
- Maintain high recency and low workloads by combining materialized views with live searches

# Data at the Source

Every layer is the data layer

- Use data “at source”, avoid (re-)imposing an artificial schema
- Build for human efficiency and scalability
- Mix of live and “historically materialized” data
- Connect to live data and allow search where possible, but where impossible provide aggregated data
- Let presentation layer become its own documentation

# Clear a Path to Automate at Each Stage

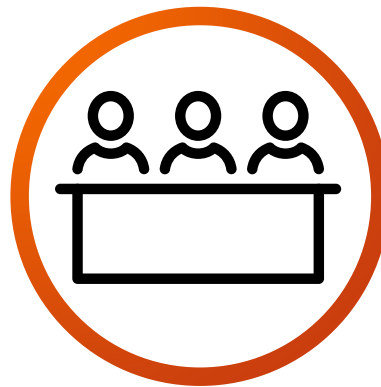
Open-up time for a deeper dive and better engagement

## Computation



Combine materialized views with live searches

## Presentation



Move computation to the visualization layer without sacrificing load times

## Access Control



Peace of mind without having to think about it

# Save Historical Data for Baseline

The screenshot shows the Splunk interface with an 'Edit Schedule' dialog box open. The dialog box contains the following settings:

- Report: [Redacted]
- Schedule Report:  [Learn More](#)
- Schedule: Run every week
- On: Monday at 6:00
- Time Range: Previous month
- Schedule Window: Auto
- Workload Pool: Policy-Based Pool (Select a workload pool to allocate resources.)
- Trigger Actions: + Add Actions

Buttons: Cancel, Save

Background dashboard details: Previous month, 3,749,709 events (7/1/20 12:00:00.000 AM to 8/1/20 12:00:00.000 AM), 103 results, 20 per page.

# | Append in your Visualizations

**Live Search populates latest results**

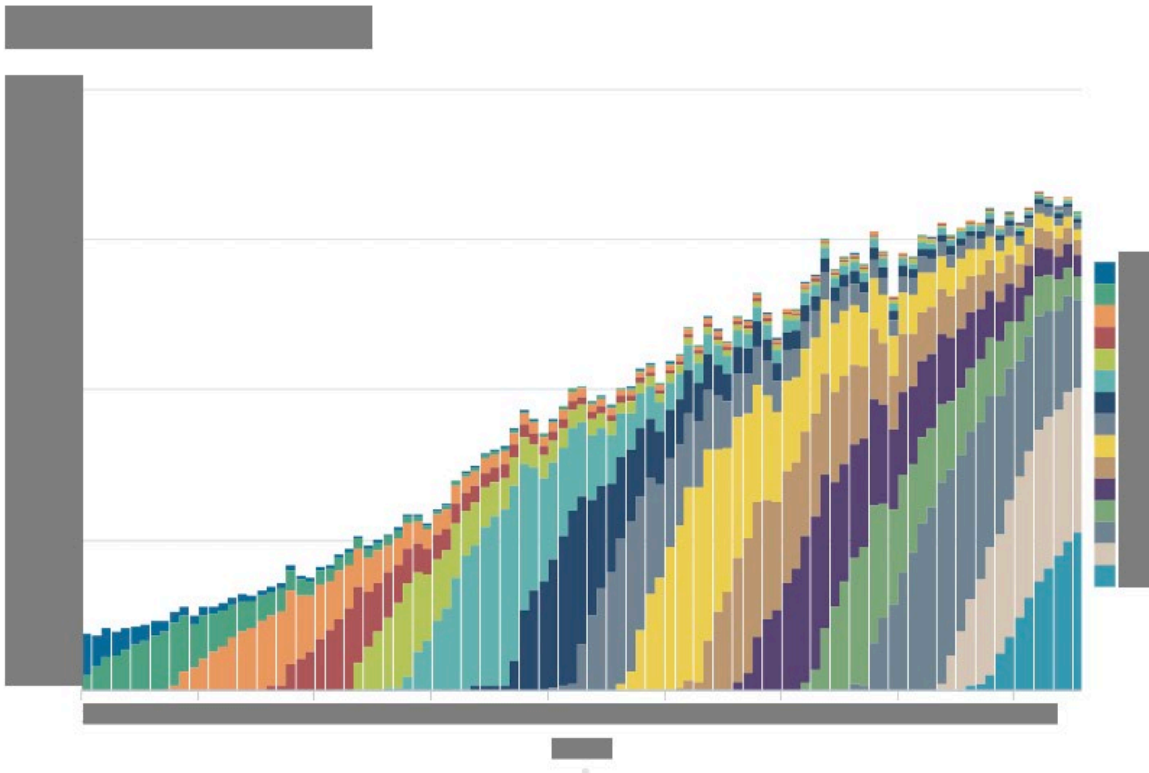
```
index="name_of_your_index" source=*  
  
| rex field=field_to_rex  
"/spl/(?<w>[thing]*)/(?<r>[^/stuff]*)"  
  
| eval filtering_field = case(field LIKE  
otherfield, 1, otherfield LIKE  
yetanotherfield)  
  
| timechart limit=1000 span=1w count by field
```

**Historical results from scheduled search**

```
|append [|inputlookup historicaldata.csv]  
  
|stats sum(*) as * by dimension  
  
|sort dimension
```

# Visualization

Let your dashboards do the work



```
index="name_of_your_index" source=*
```

```
| rex field=field_to_rex  
"/spl/(?<w>[thing]*)/(?<r>[^/stuff]*)"
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```
| eval filtering_field = case(field LIKE  
otherfield, 1, otherfield LIKE yetanotherfield)
```

```
| timechart limit=1000 span=1w count by field
```

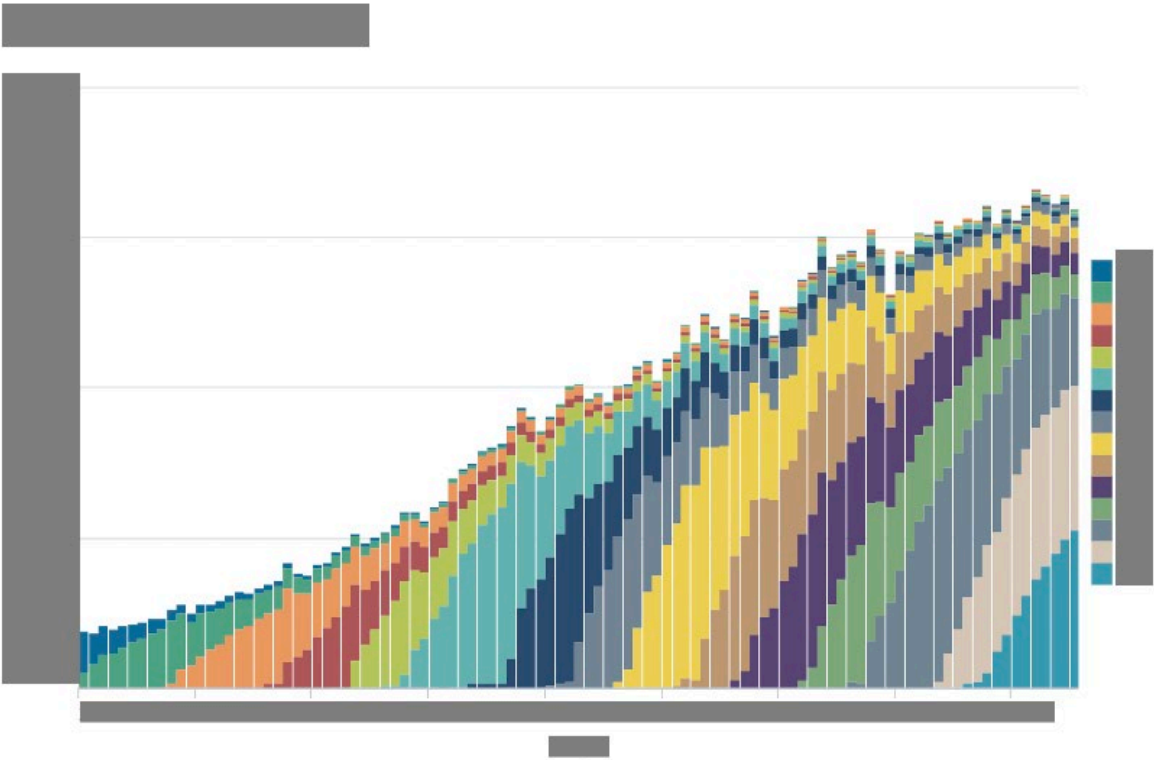
```
| append [|inputlookup historicaldata.csv]
```

```
| stats sum(*) as * by dimension
```

```
| sort dimension
```

# Visualization

Let your dashboards do the work:



### Header 1

- Commentary Commentary Commentary Commentary Commentary Commentary Commentary Commentary Commentary
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### Header 2

- Commentary Commentary Commentary Commentary Commentary Commentary Commentary Commentary Commentary
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### Header 3

- Commentary Commentary Commentary Commentary Commentary Commentary Commentary Commentary Commentary
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# Process Improvements

Trending over time while keeping data relevant and strategic

- Mix of regular content and rotating focus areas
- Forums to invite leadership, operational, technical feedback
- History of definitions and vetting within presentation
- Commentary and readout within presentation
- Continuous feedback and vetting



# Templatize the Readout

## Preamble (25%)

- Remind users of prescriptive goals, restrictions and statement of purpose

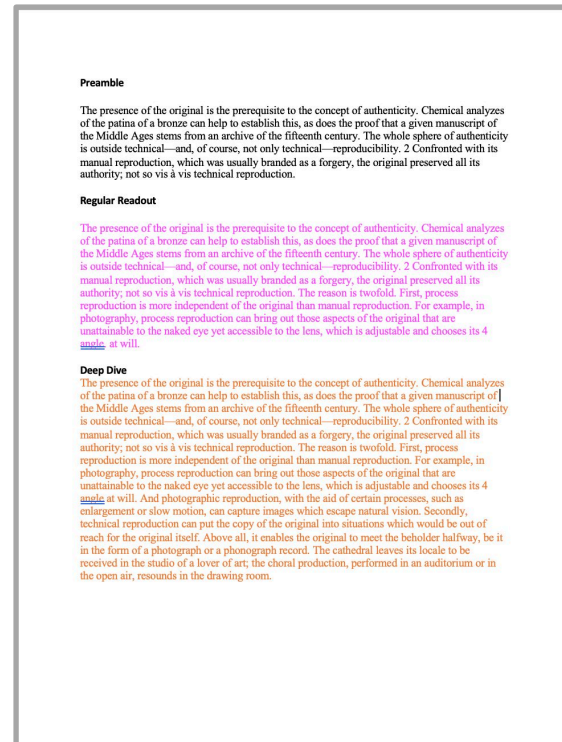
## Regular Content (25%)

- Let your regular metrics refresh themselves, if you notice outliers, let them be part of the story for your deeper dive

## Deep Dive + Q&A (50%)

- Provide targeted insights based on leadership requests and timely analysis

## Readout



## Metrics Within Dashboard Menus

```
<collection label="Baseline Metrics">
  <a href="product_metrics_View">View 1</a>
  <a href="product_metrics_View">View 2</a>
  <a href="product_metrics_View">View 3</a>
  <a href="product_metrics_View">View 4</a>
  <a href="product_metrics_View">View 5</a>
  <a href="product_metrics_View">View 6</a>
  <a href="product_metrics_View">View 7</a>
<collection label="Deep Dives">
  <a href="deep_dive_1">deep_dive_1</a>
  <a href="deep_dive_2">deep_dive_2</a>
  <a href="deep_dive_2">deep_dive_3</a>
  <a href="deep_dive_2">deep_dive_4</a>
  <a href="deep_dive_2">deep_dive_5</a>
</collection>
```

# Templatize the Readout

Let readout form mirror UI function

## Preamble (25%)

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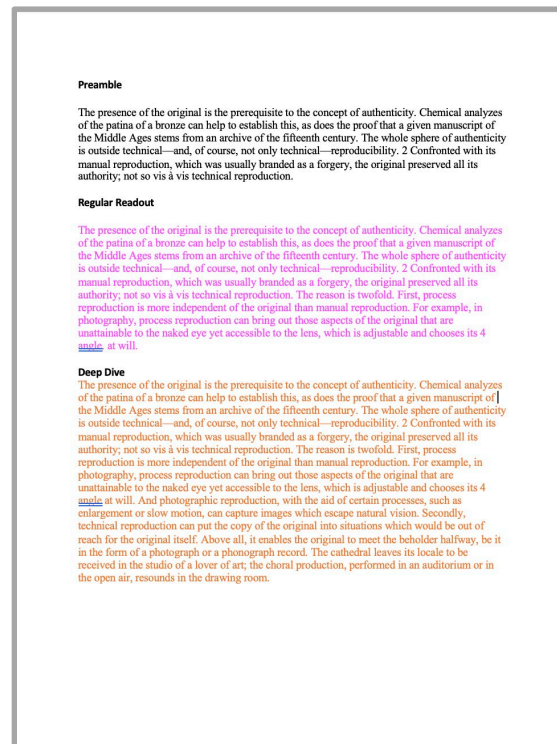
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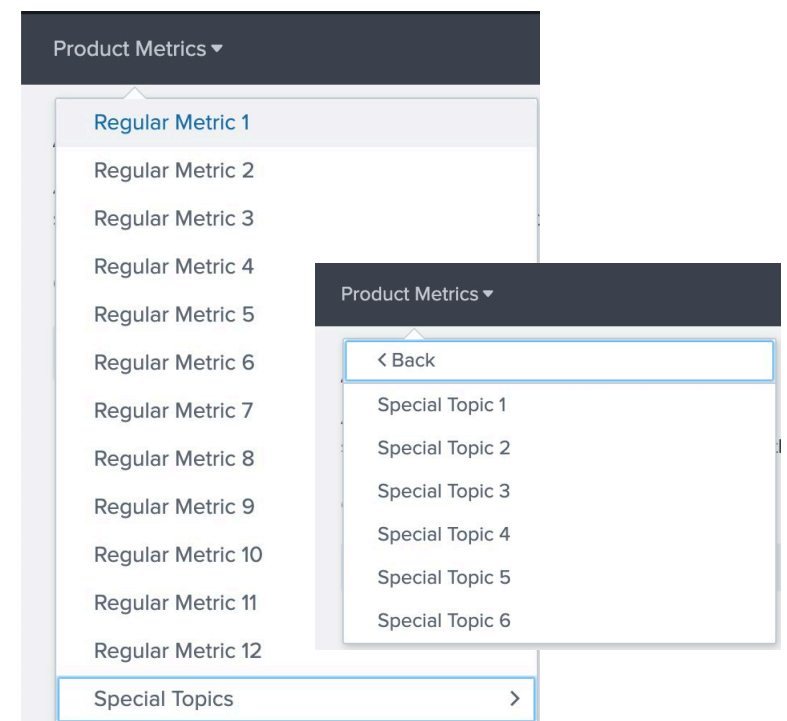
## Deep Dive + Q&A (50%)

- Provide targeted insights based on leadership requests and timely analysis

## Readout



## Metrics Within Dashboard Menus



**Common seed of frustrations: Start with numbers (KPIs)**

**A better approach: Start with questions (KPQs)**



# Thank You

Please provide feedback via the

**SESSION SURVEY**

