

ATSCALE

How to Make Advanced Analytics & Insights More Actionable

Today's Speakers



Ratan Tadiparthi

VP, Head of Data & Analytics
Fifth Third Bank

Ratan is passionate about driving data strategy and leading execution to manage risk and deliver business value. He does this by leveraging 20+ years of data, technology, and business background, to help solve complex problems through broad coalitions.

Ratan is versed in end-to-end data and analytics, with focus on data strategy, management, engineering, and analytics. Ratan strongly believes execution and culture eat strategy for breakfast; it has never been truer, as we increasingly use data as an asset, scale data-driven risk management, value-creation, and digital transformation.



Phanii Pydimarri

Global Data, AI & Analytics
Executive
Stanley Black & Decker

Phanii is a Global Data Analytics Leader with over 17 years of experience in end-to-end Data Management with key focus areas in Artificial Intelligence, Data Strategy, Data Analytics, Data Science, and transforming organizations into data, analytics, and insights-driven. Phanii started his career as a BI Consultant, traveling across the US and working for various clients in different industries.

He is a strong believer in economies of scale, is outcome-driven, and is passionate about solving key business challenges by using Data as a key corporate asset.



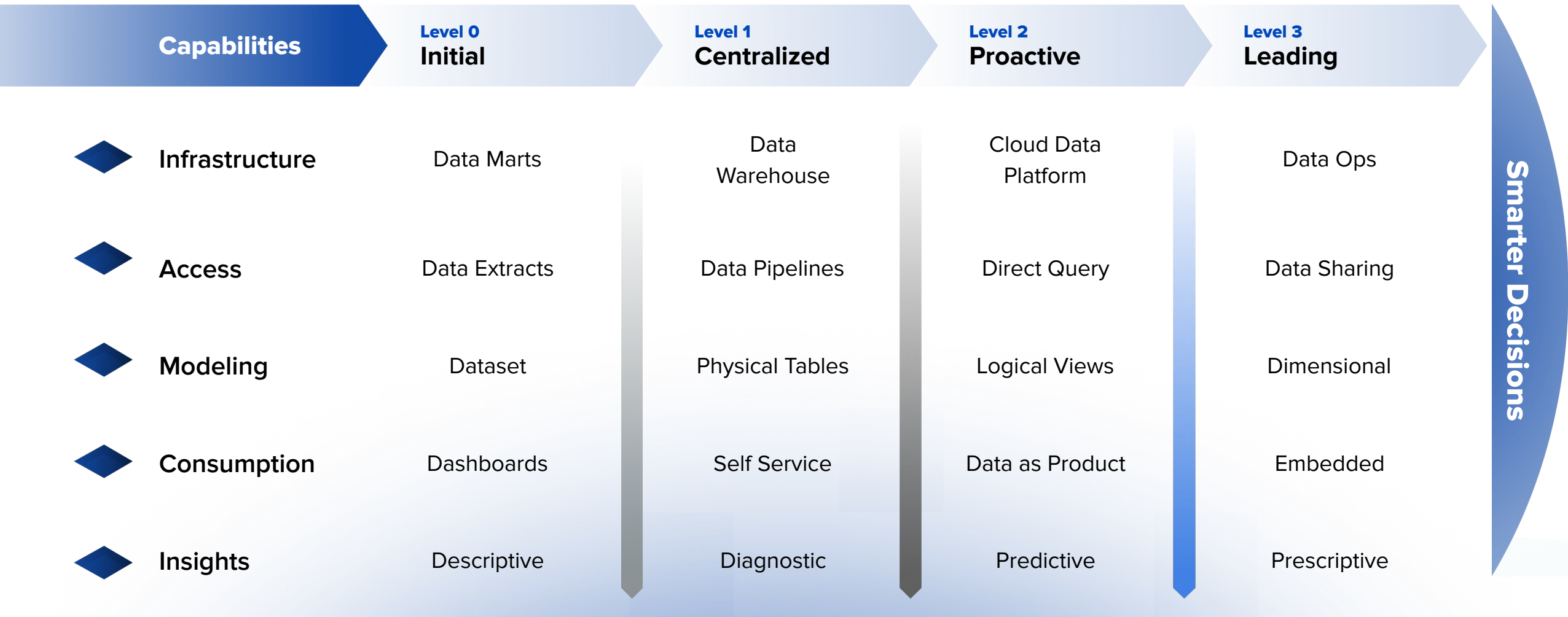
Sarah Nabelsi

Data Lead, Revenue Strategy
Snap Inc.

Sarah is a lifelong learner and data geek. Over the years, she has garnered a following as a personality on LinkedIn through her efforts to give back to the community— hosting meetups, blogging, presenting at conferences, and leading organizations like WiBD and GLAD.

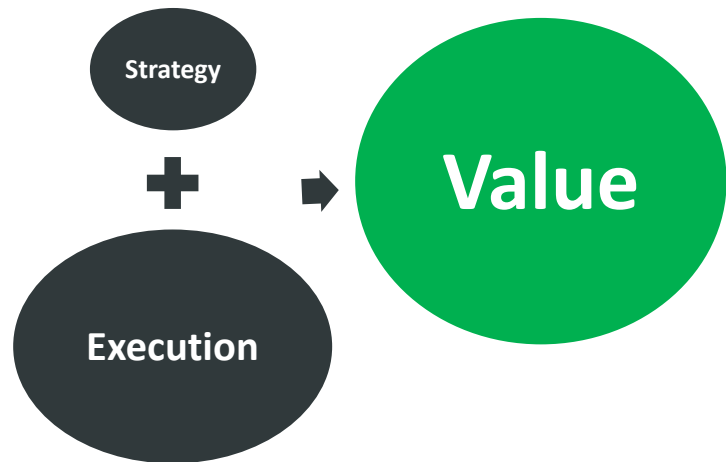
This, coupled with her ability to effectively simplify problems, lead teams, and implement exceptional data-driven solutions has allowed her to deliver value to the city of LA through her recent role as Product Manager for two HFLA projects around data literacy and synthesizing SEIE survey data.

Data & Analytics Maturity Model



Data-Driven

Culture → Success



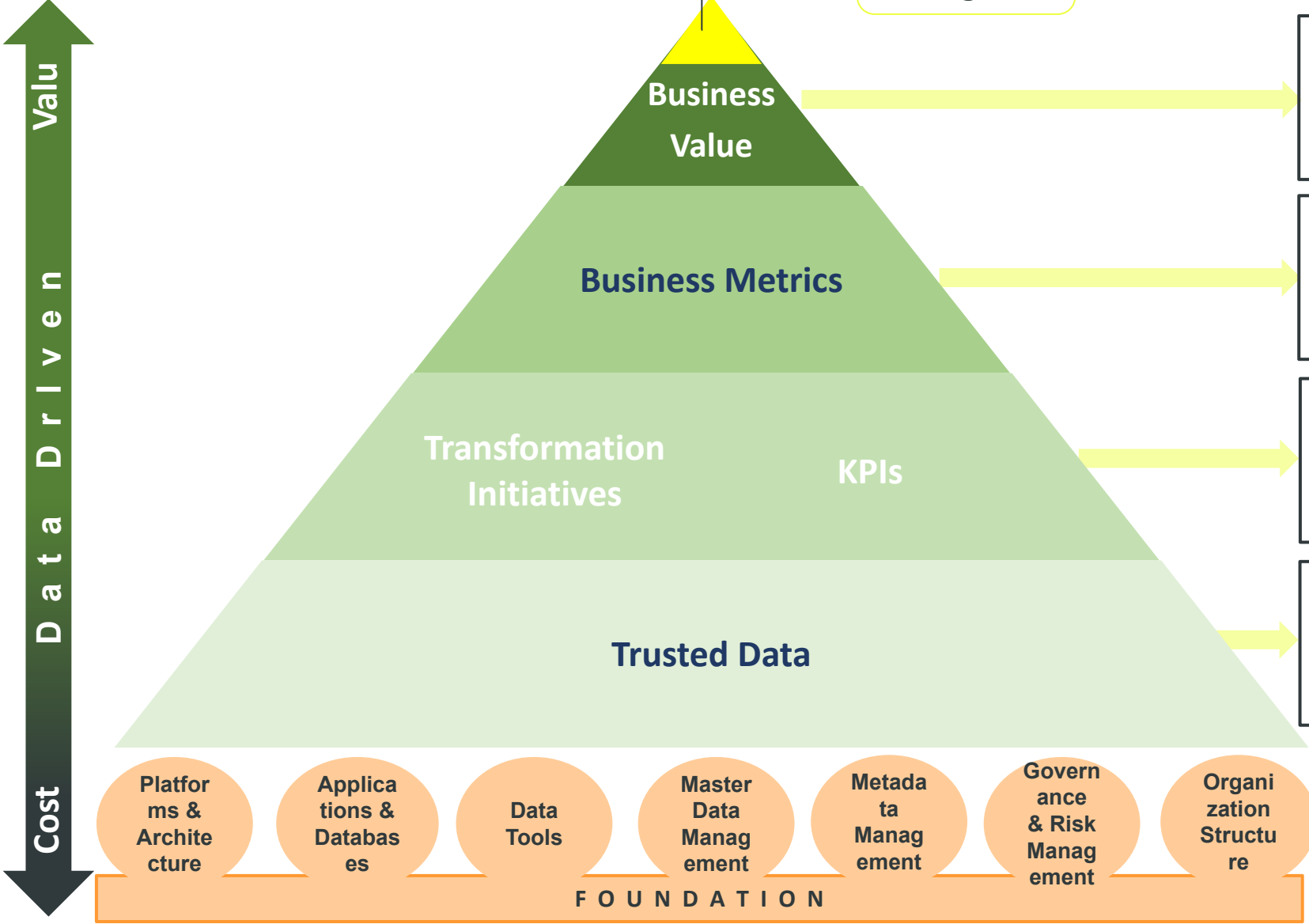
Principal Challenge to Becoming Data-Driven

| | 2018 | 2019 | 2020 | 2021 | 2022 |
|-------------------------------------|-------|-------|-------|-------|--------------|
| Cultural Factors People Process | 80.9% | 92.5% | 90.9% | 92.2% | 91.9% |
| Technology Limitations | 19.1% | 7.5% | 9.1% | 7.8% | 8.1% |

Source: NewVantage Partners' Data and AI leadership Executive Survey 2022

Data Driven Value


Know your WHY




Actionable Insights

- **Priorities**
 - Strategic Growth
 - Digital Transformation
 - Operational Excellence

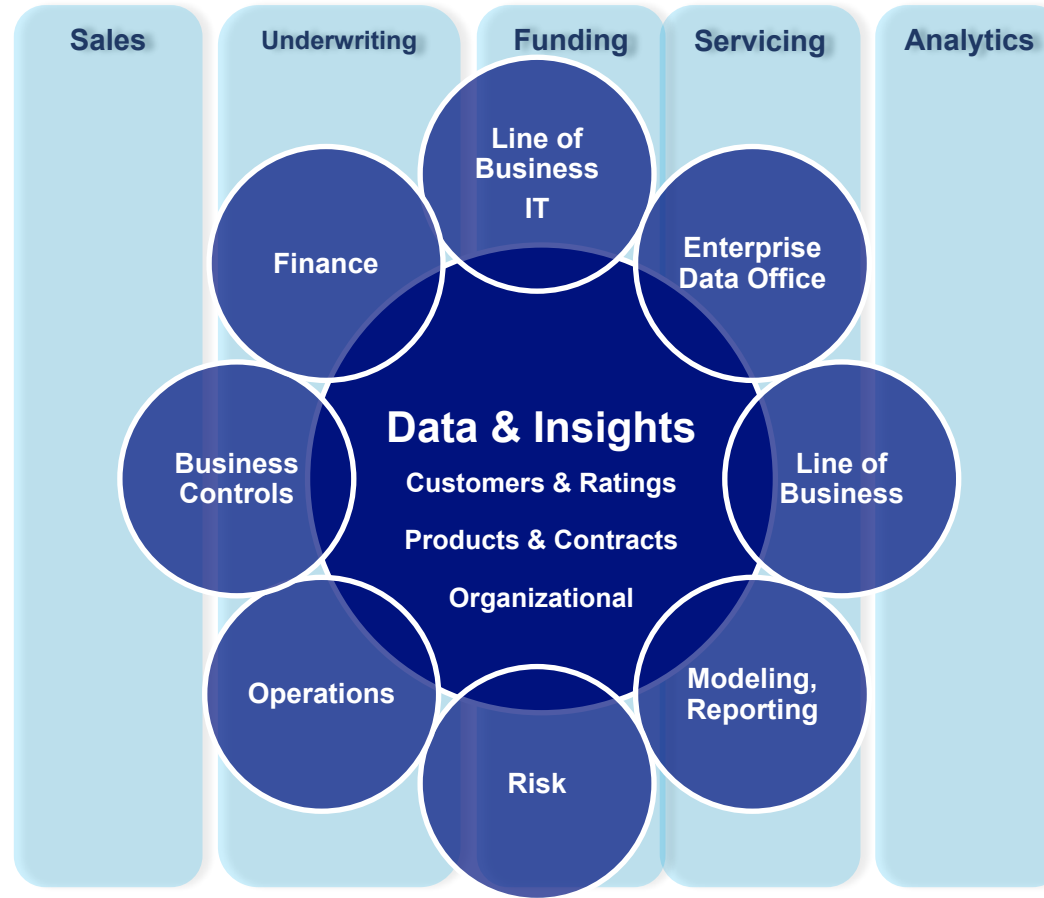
- **Operational Targets**
 - Feedback on Strategy
 - Provide Insights
 - Drive data-driven culture

- **Tactical Focus**
 - Improve Efficiency
 - Increase Effectiveness
 - Embed Data Mindset

- **Business Domain-Driven**
 - Sustained data quality
 - Simplify data management
 - Increase data literacy

Data & Insights – Making “it” Happen

How to? TOGETHER, We Can!



~~Data is everyone's job!~~
Everyone's job IS Data!!

Friction-less Insights

- For You (Centralized)
- With You (Hybrid)
- By You (Self-Serve)

Data Literacy

- Data University
- Analytics Guild
- Office Hours

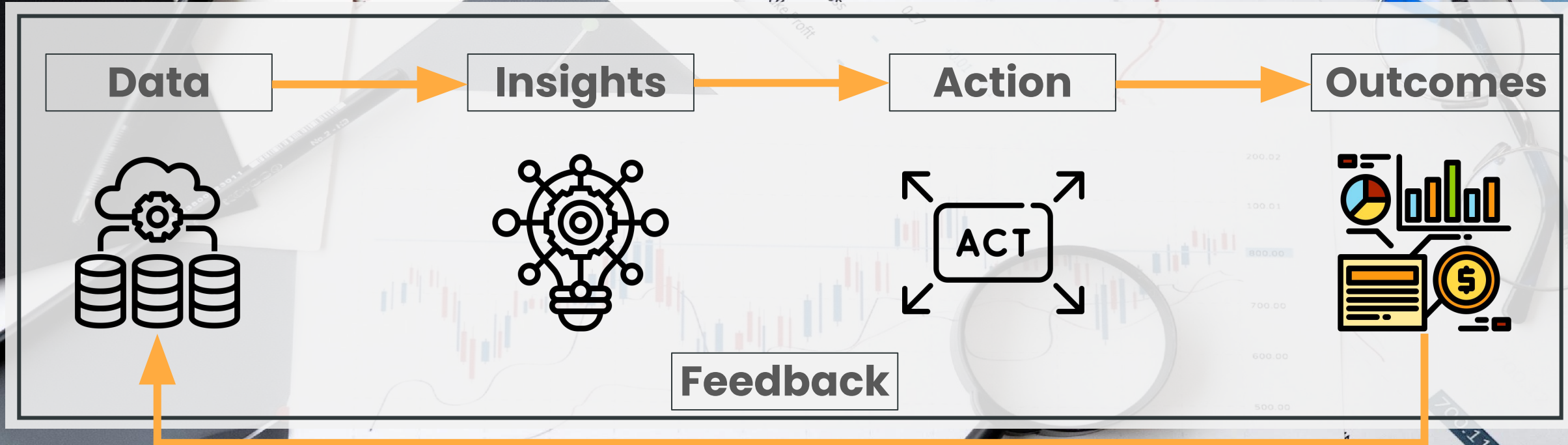
Trusted Data

- Domain Data Councils
- DMAIC-based data hygiene
- Change Management

Question(s) for Ratan

Q: Ratan, I love your focus on people and process to drive a data-driven culture. It's not just about technology. What's the one thing you've done in building a data-driven culture that has had the biggest impact?

ANALYTICS VALUE CHAIN



ANALYTICS IS EVERYWHERE



Sales Analytics

- Avg. LTV of Customer
- NPS
- YoY Revenue by Mkt.
- Revenue from New Customers
- Revenue from Existing Customers
- Competitive Intelligence
- Customer Acquisition Ratio



Marketing Analytics

- Customer 360 Analytics
- Brand Analytics
- Campaign Analytics
- Spend Optimization
- Social Media Ad Success Rate
- Hyper Personalization



Customer Service Analytics

- Call Center Analytics
- Customer Sentiment Analytics
- Agent Sentiment Analytics
- First call Resolution Rate
- Churn Rate
- CSAT Score
- VOC Analytics
- Social Media



Product Analytics

- Product Activations
- OTA
- Feature Usage
- Classification/Segmentation
- Smart Messaging
- Telemetry



Financial Analytics

- Sales and Revenue Forecast
- Return Rate Forecast
- EBITDA
- Sales Driver Analytics
- Line-Item Forecasting
- Risk Analytics



Manufacturing & Supply Chain Analytics

- Predictive Maintenance
- Predictive Return Rate
- Warranty Analytics
- Condition Monitoring and Alerts
- Quality Monitoring



People Analytics

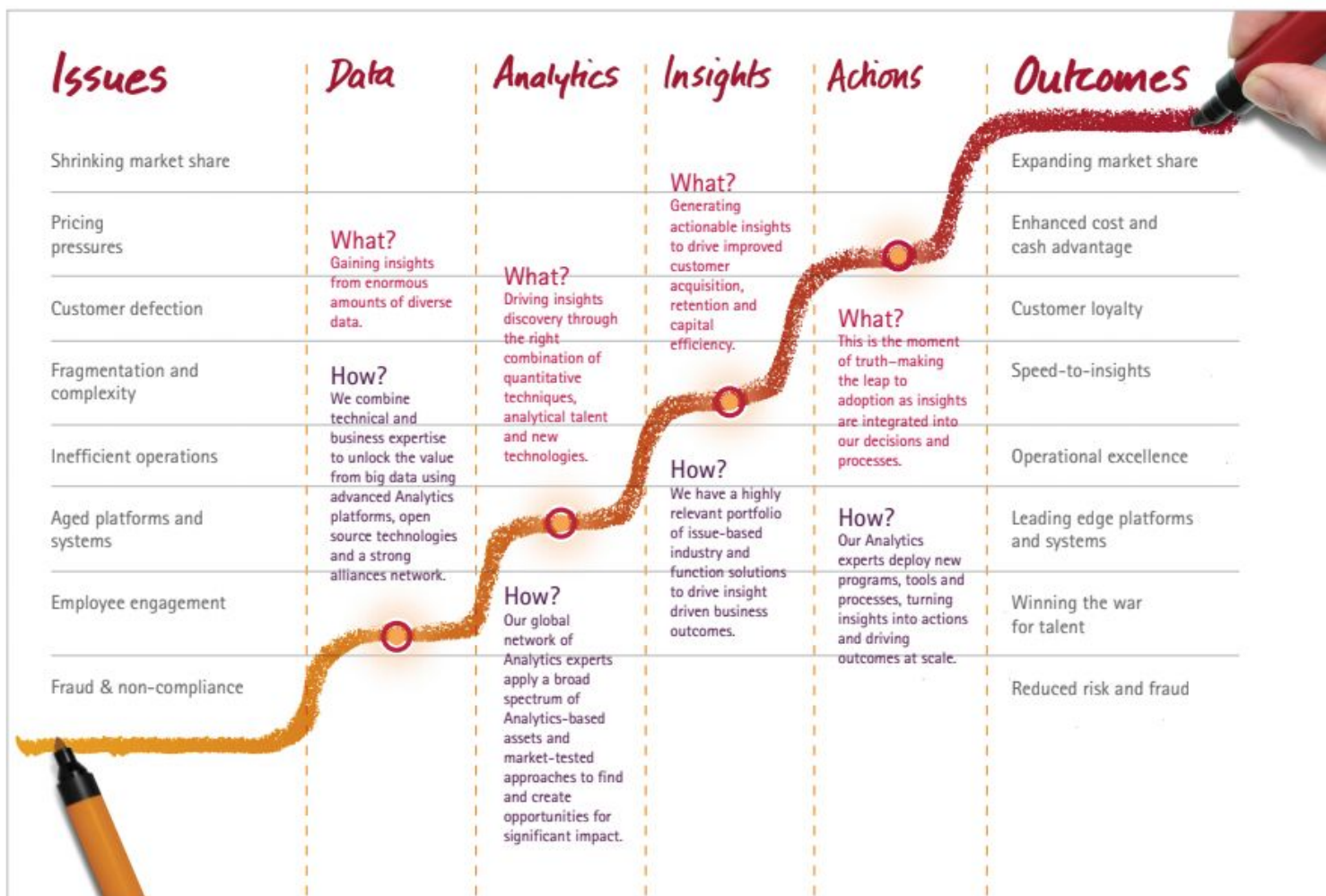
- Revenue per Employee
- Turnover Rate
- Cost per Hire
- Time to Hire
- Cost per HRBP
- Predictive Employee Turn Over
- Employee Happiness Index
- Employee Productivity Index



Digital Analytics

- Conversion Rate
- Shopping Cart Abandonment Rate
- Click-Through Rate
- Revenue per Click
- NPS
- Bounce Rate
- Pageviews per

IT ALL STARTS WITH A QUESTION



WHAT DO YOU MEAN BY A QUESTION?



IMAGINE IF...

**Top Notch
Customer
Experience**

**Actionable
Insights**

**"We have a 360 degree
View on our Customers"**
Proactive Customer Engagement

**"We can understand and
Target customers based
on their individual Persona"**
Hyper-Personalization

**"We know when a Product is
going to have an issue"**
Product Experience, Predictive Maintenance

**"Proactive Customer
Service"**
Customer Support

**"Understand Voice of
Customer from all sources"**
Reviews, Social Media, Blogs

**"Understand end to end
Customer Journeys"**
Customer Journey Maps

**"We understand our Brand
value in real time"**
Strategy & Vision

**"We are able to accurately
forecast our product Demand"**
Inventory Planning, Forecasting

**"These cover a wide range of
analytics opportunities"**
Insights to Actions to Outcomes

INPUT METRICS VS OUTPUT METRICS

Source: Sketchplanations, AMZN 2009
Letter to Shareholders

January 17, 2022
www.factoftheday1.com

Published: December 2021, April 2010

Focus on the inputs, measure the outputs

"Senior leaders that are new to Amazon are often surprised by how little time we spend discussing actual financial results or debating projected financial **outputs**... We believe that focusing our energy on the controllable inputs to our business is the most effective way to maximize financial **outputs** over time."

-Jeff Bezos

Most leaders and businesses focus on **output metrics** and aim to improve them. At Amazon, leaders focus on improving input metrics instead.

Input metrics (e.g., selection, price, app store rating, page loading time) are factors that can be controlled and changed.

Output metrics (e.g., profit, customer retention, app downloads) are the outcomes that a business wants to achieve.

For example, if you're trying to lose weight, inputs are diet (calories per day) and exercise (workouts per week) which result in an **output** of weight loss (weight).

**INPUT
METRICS**

Focus on these



DIET
(CALORIES
PER DAY)



EXERCISE
(WORKOUTS
PER WEEK)

**OUTPUT
METRICS**

To influence these



WEIGHT LOSS
(WEIGHT)

DIET + EXERCISE → → → WEIGHT LOSS
(CALORIES PER DAY) (WORKOUTS PER WEEK) (WEIGHT)



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THREE STEPS TO SUCCESS

1

RIGHT QUESTIONS □ RIGHT OPPORTUNITIES

Highly important to ask the right questions to identify right opportunities. These will enable analytics to drive the expected outcomes.



2

DESCRIPTIVE – PREDICTIVE – PRESCRIPTIVE

There is and will be room for all, descriptive, predictive and prescriptive analytics. Identifying the right solution is key to success. Do not fall for the hype.



3

MEASURABLE QUANTIFICATION

Invest in models that help you quantify the value delivered from analytics. This helps with attributing analytics' part in driving key organizational outcomes.

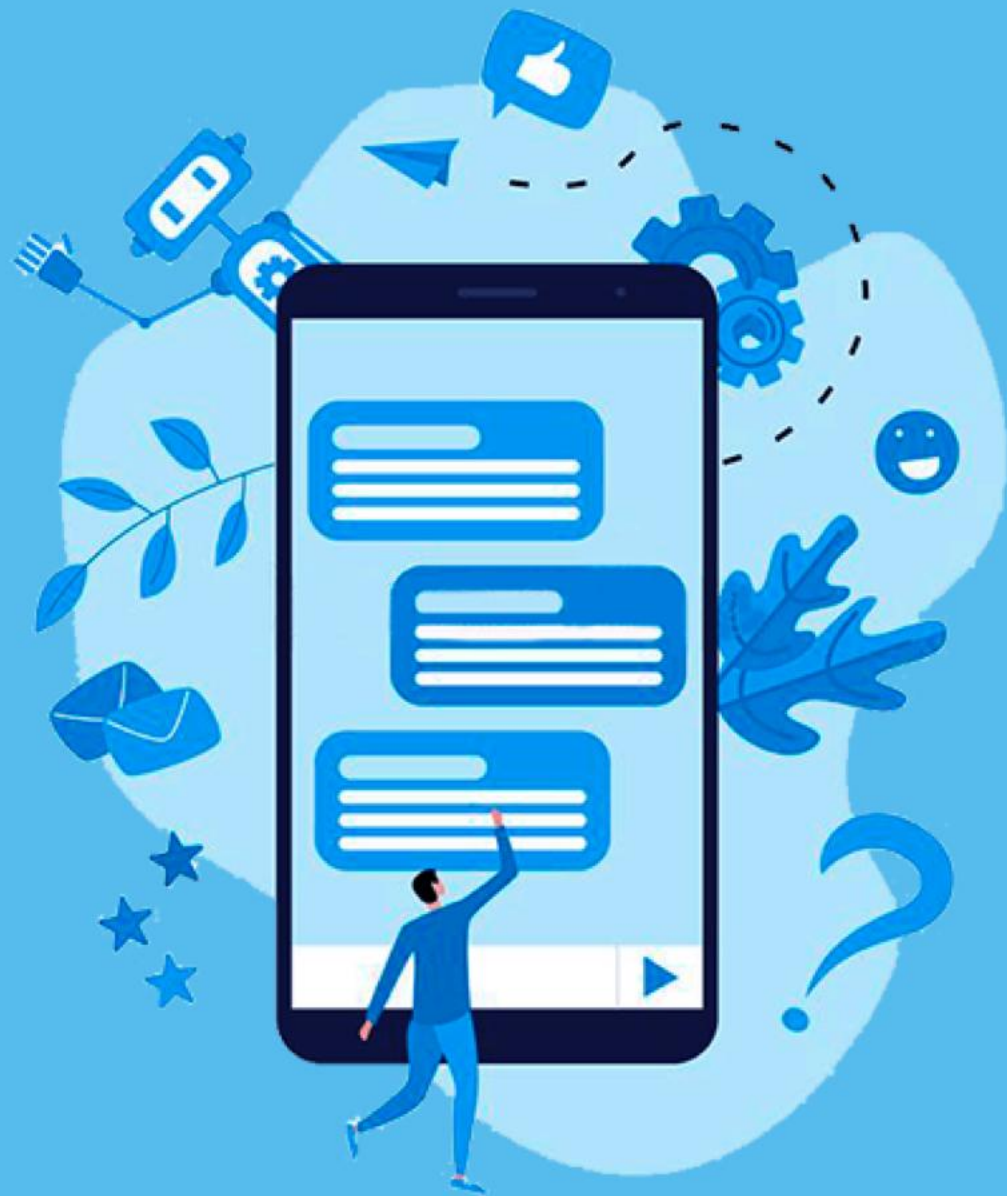
Question(s) for Phanii

Q: I love your presentation's focus on outcomes. In your experience, what's the best way to measure whether an analytics investment was worth the effort?

SARAH NABELSI, MAY 2022

NLP ANALYSIS IN ACTION

Delivering Actionable Insights for the City of LA
Social/Economic Inclusiveness & Equity Survey Analysis

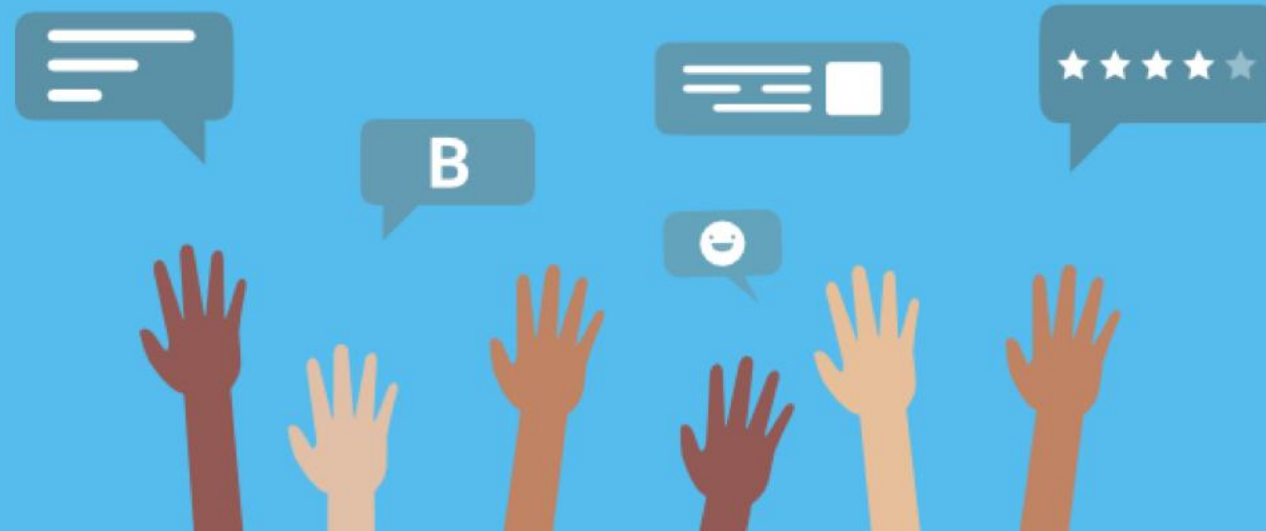




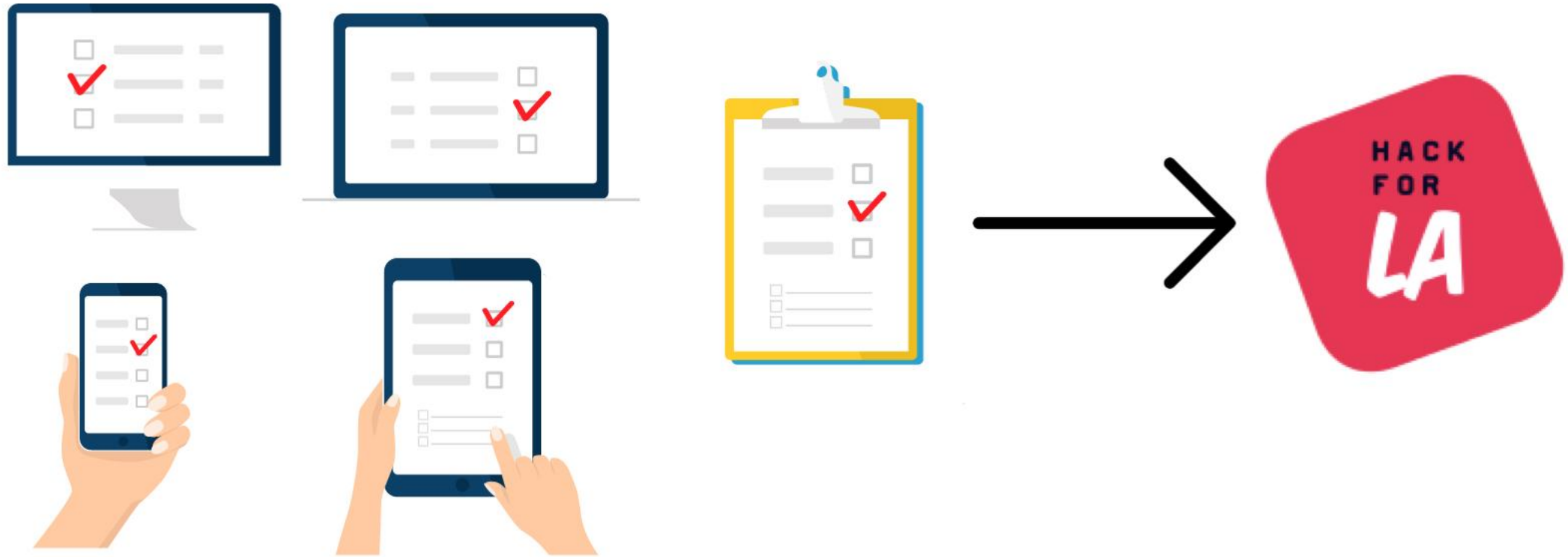
RACIAL EQUITY

**ON JUNE 19, 2020,
MAYOR GARCETTI
ISSUED EXECUTIVE
DIRECTIVE #27 TO
ADDRESS RACIAL
EQUALITY IN CITY
GOVERNMENT**

THE DEPARTMENT OF NEIGHBORHOOD EMPOWERMENT PUT OUT A SURVEY



QUANTITATIVE AND QUALITATIVE SURVEY(S)



INSIGHTS & ACTIONS?





**WHEN YOU'RE A HAMMER,
EVERYTHING LOOKS LIKE A NAIL**

**WE RUSH TO BUILD SOLUTIONS WITHOUT A DEEP
UNDERSTANDING OF 3 THINGS:**

1. DOMAIN

2. DATA

3. DELIVERABLE



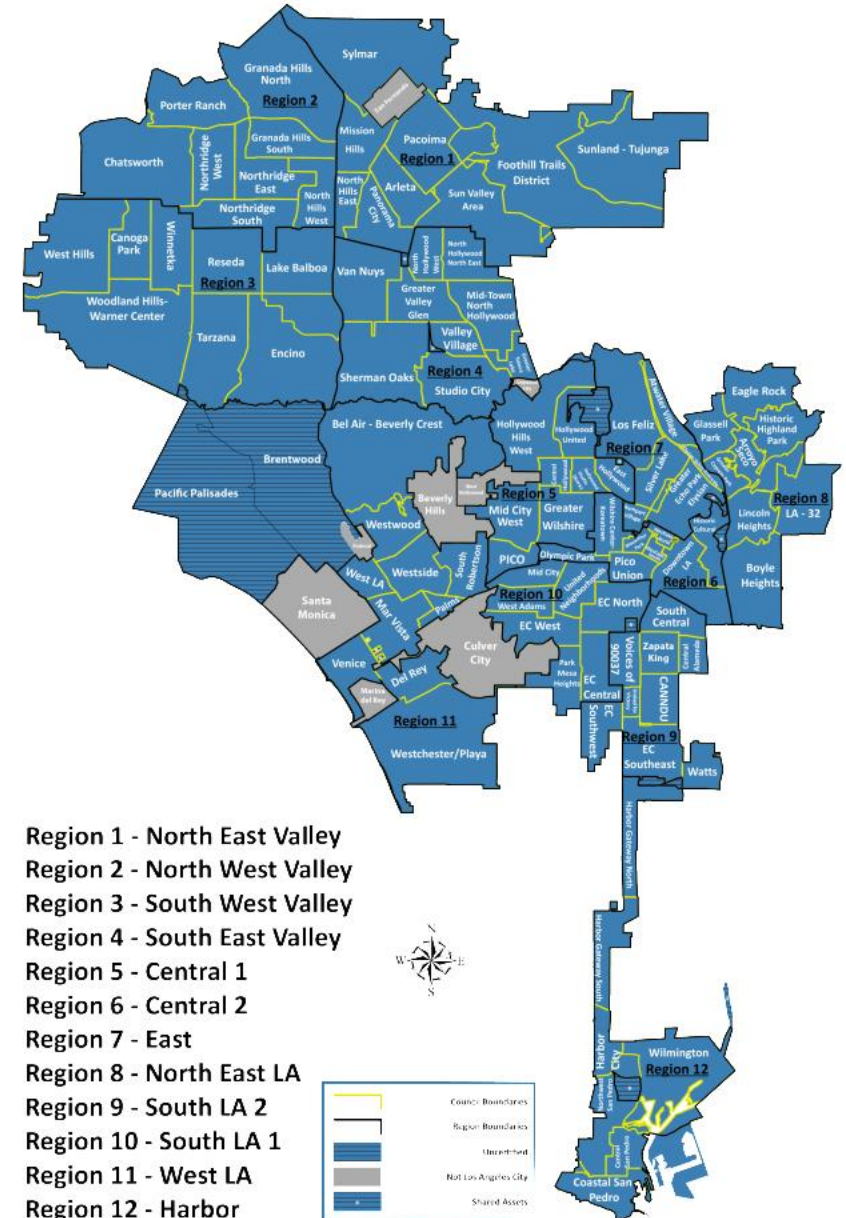
DOMAIN

DOMAIN

- 99 Neighborhood Councils
- Department of Neighborhood Empowerment
- Mayor’s Office
- Hack for LA



“TOGETHER, WE’RE LA”



- Region 1 - North East Valley
- Region 2 - North West Valley
- Region 3 - South West Valley
- Region 4 - South East Valley
- Region 5 - Central 1
- Region 6 - Central 2
- Region 7 - East
- Region 8 - North East LA
- Region 9 - South LA 2
- Region 10 - South LA 1
- Region 11 - West LA
- Region 12 - Harbor

DATA

DATA

- **13 Fixed-Choice Questions**

- *Ex. “For how many years have you been a member of your NC Board?”*

- **6 Open-Ended Questions**

- *Ex. “How might civic engagement be built into the development of City programs”*

to address LA's racial, economic, social or cultural inequities?

Please check all that apply in each of the categories below - and please answer without regard as to the cost or source of funding for these possible initiatives.

HOUSING

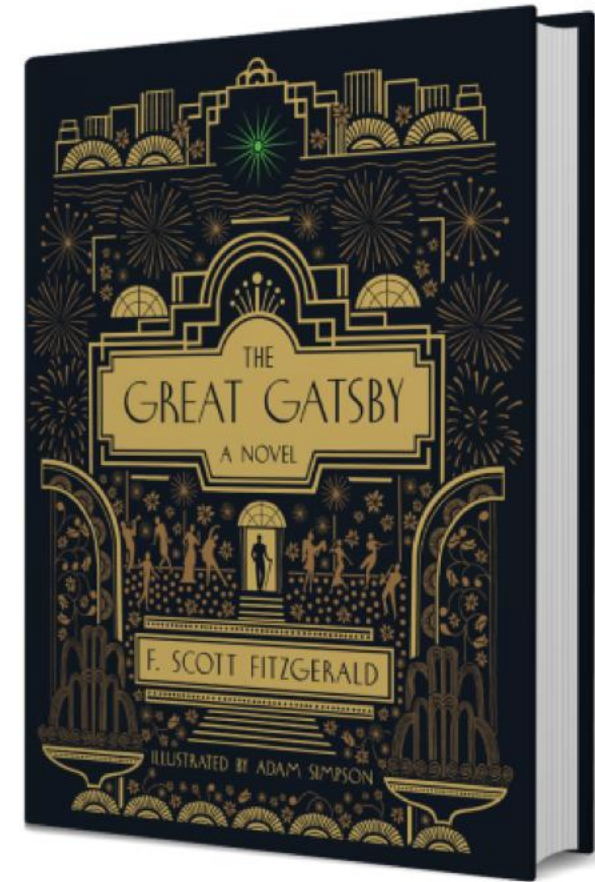
- Address rent control and evictions
- Home ownership
- Address the unhoused
- Identify/support those in danger of becoming unhoused
- Preserve & increase supply of affordable housing
- Other: _____

JOBS / BUSINESS / ECONOMIC DEVELOPMENT

- Assistance with lending and financial institutions

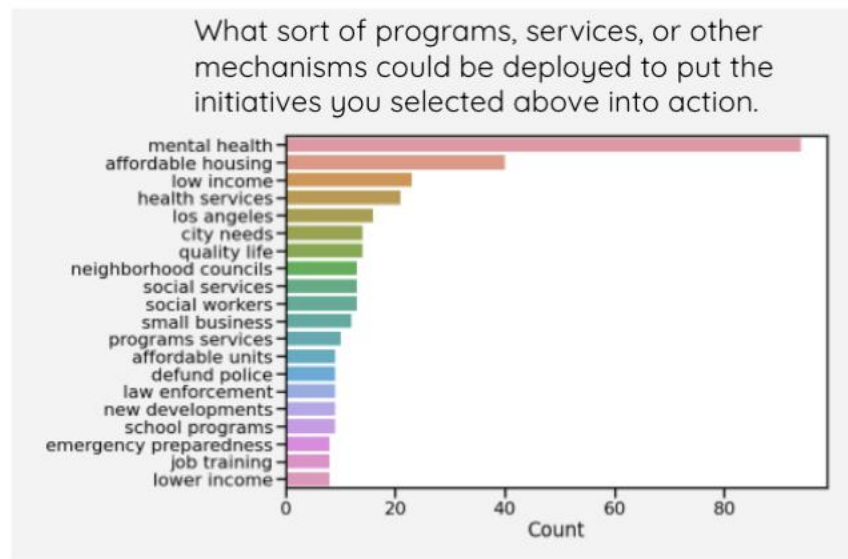
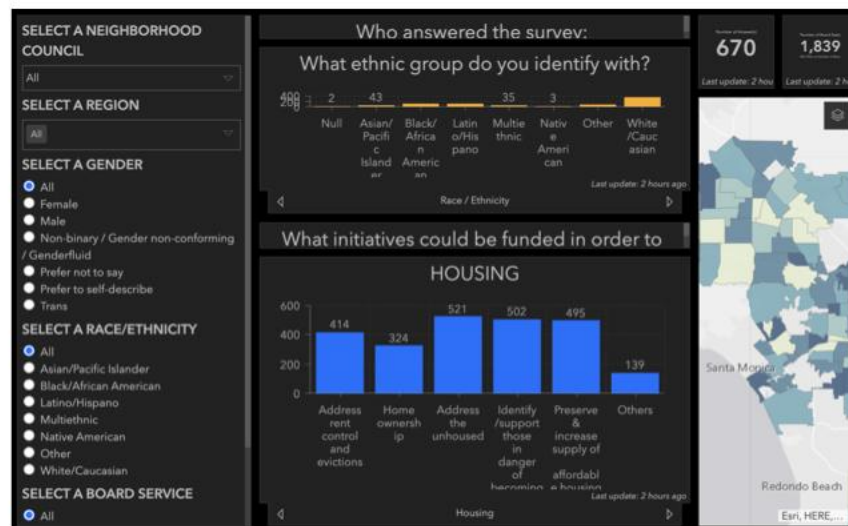
3K+ OPEN ENDED SURVEY RESPONSES

- Of the **665** Neighborhood Council Board Members who responded to the survey, **575** wrote at least one open-ended response.
- All together, respondents submitted **+3K open-ended survey responses**.
- The combined word count of the responses to the open-ended questions is **~100K** (Twice as long as the Great Gatsby).



UNDERSTANDING LIMITATIONS OF A DATA APPROACH

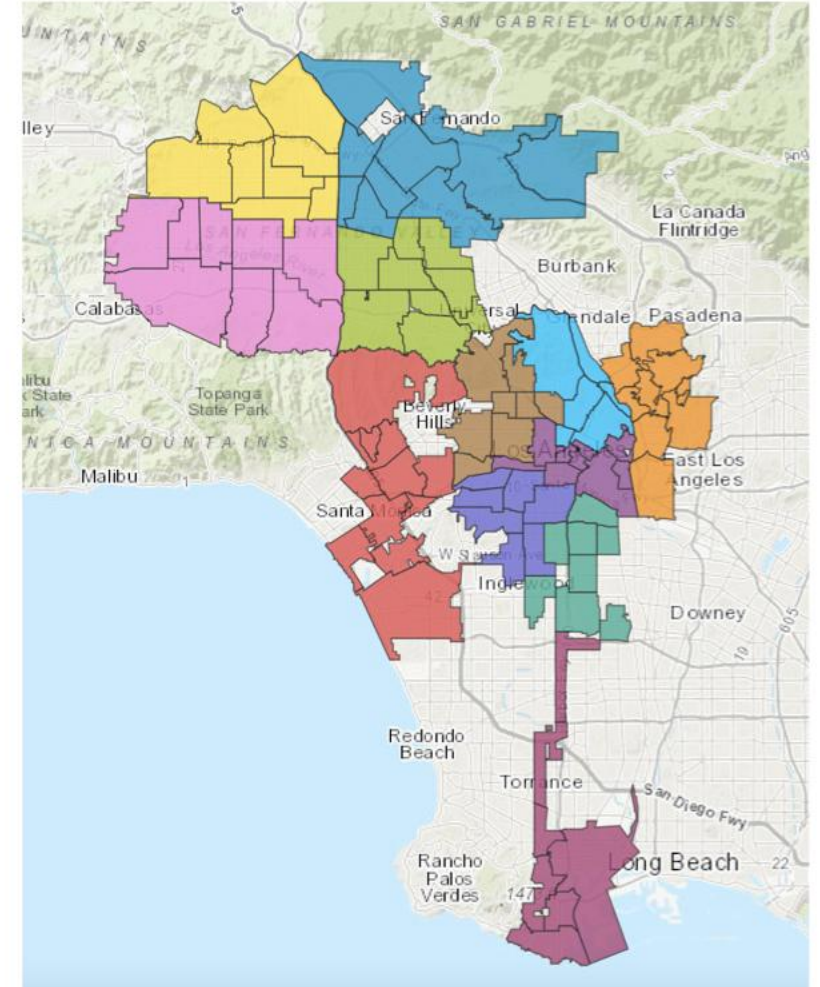
- Quantitative Data
 - Dashboard
- Qualitative Data
 - Count Vectorizer
 - Word Clouds
 - NLP Techniques



DELIVERABLE

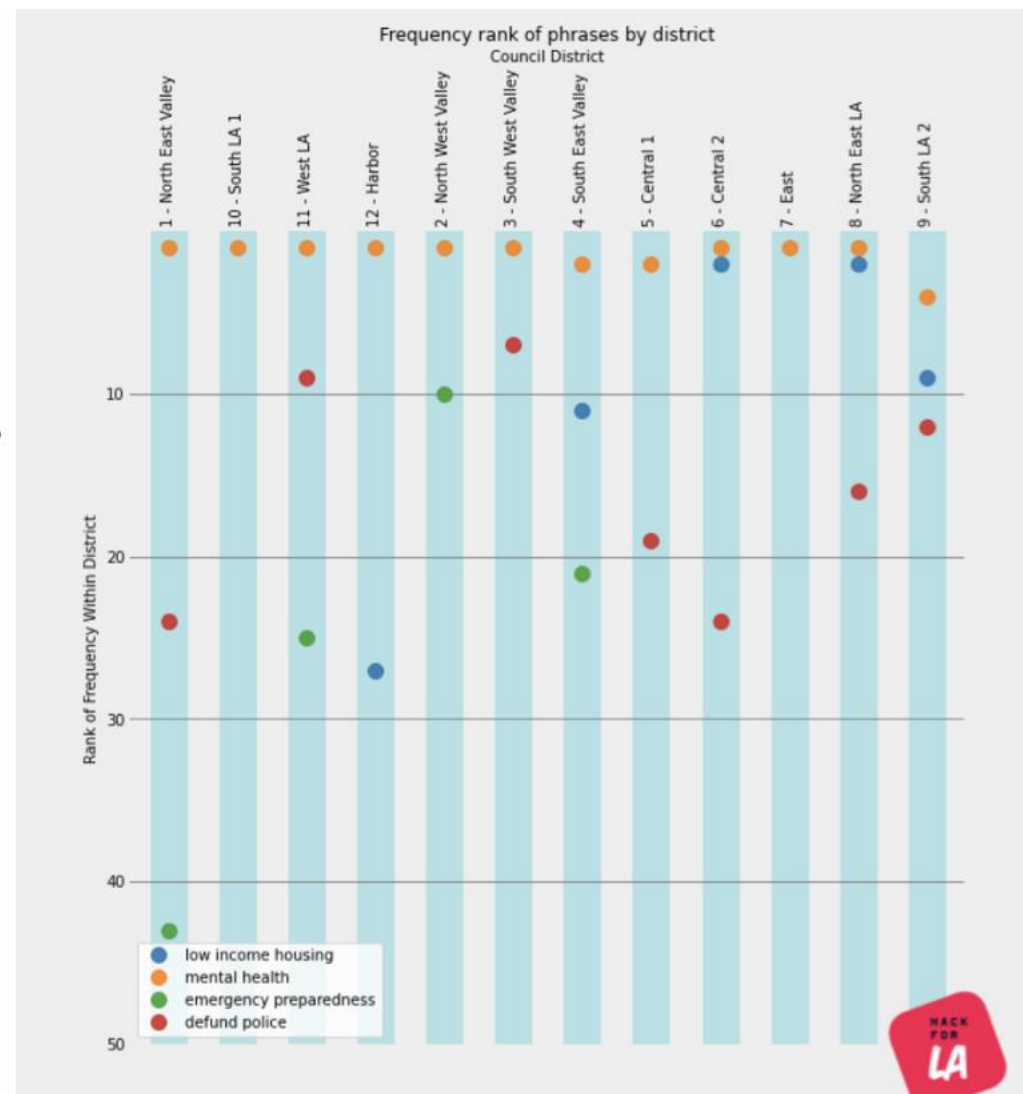
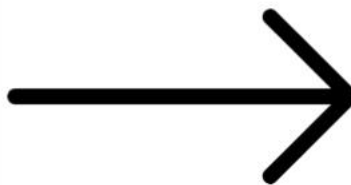
QUESTIONS WE NEEDED ANSWERS TO:

- What were the intended outcomes?
- Who is the **audience** for the final deliverable? (NC Board Members, General Public, Leadership at EmpowerLA, the Mayor, etc)
- What does our audience **care about**?
- Do we have all the data?
 - Got region mapping



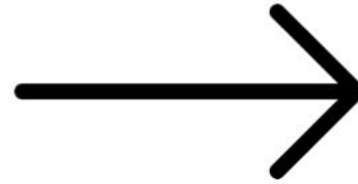
FEEDBACK CYCLE

DATA



- After building this view, we got to ask questions like:
 - Is this sufficient?
 - What's the end deliverable look like?

FEEDBACK CYCLE



Use bi-grams / tri-grams related to these themes to quantify number of unique responses



Came up with 10 themes



FINDINGS

- **We were able to quantify the number of NC Board members cared about these 10 themes by:**
 - **Gender**
 - **Region**
- **Produced a widget that would return comments related to different themes or topics**
- **Produced a visual representation in the form of a map of LA city and the themes that mattered most to each region**

PROPOSAL TO SCALE?

HOW DO WE SCALE 3K TO 100K? OR 1M?

A MIX-MODEL APPROACH WITH A “STRATIFIED RANDOM SAMPLE” OF READ-THROUGHS FOR THE COMMENTS TO FLESH OUT THE THEMES.



REFERENCES

- Together we are LA
- Bi-grams and Trigrams reference

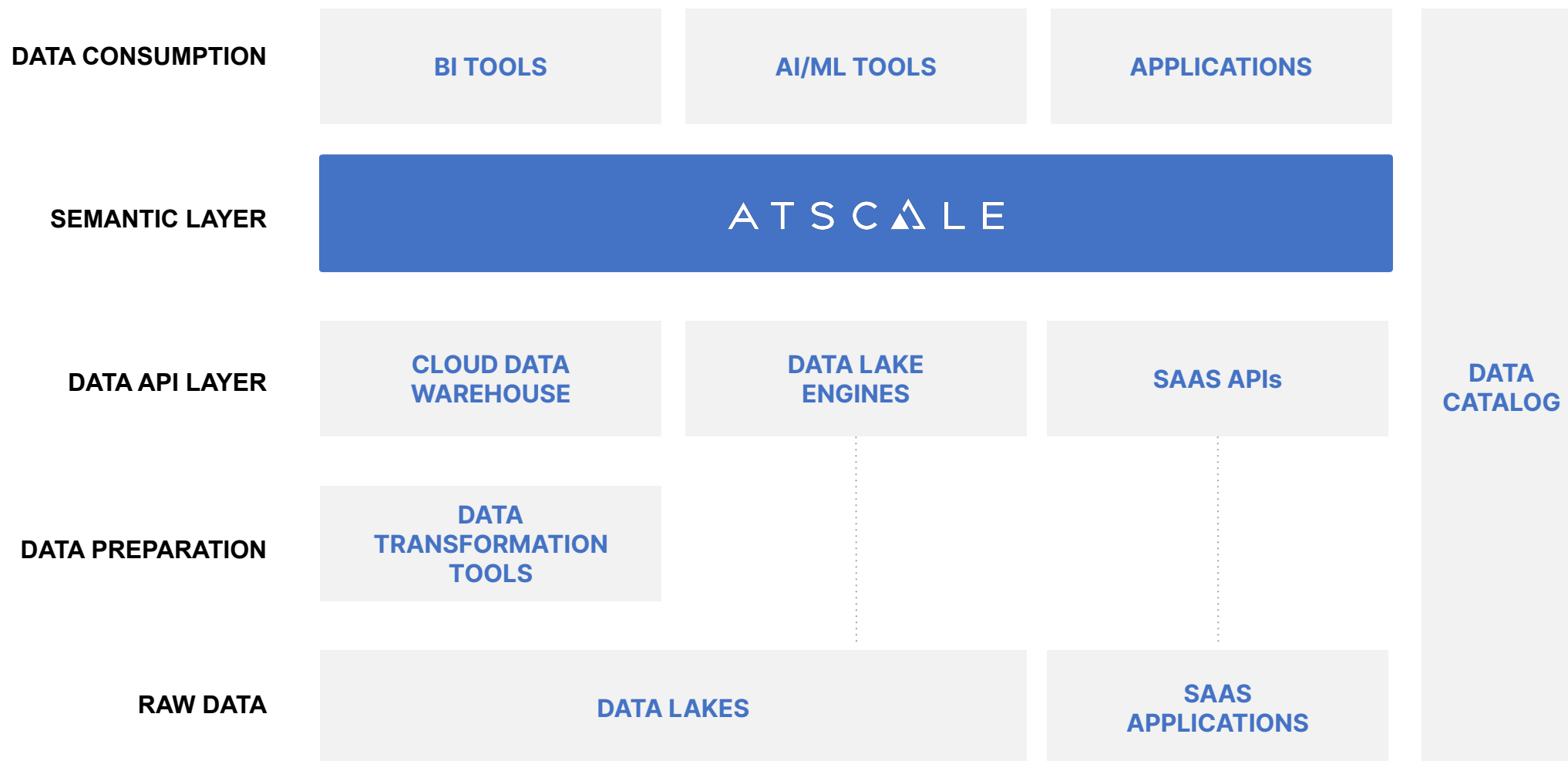
- A lot of times I've seen very cool applications built out and the tool isn't used by the end user. This could be for several reasons:
 - Not the right time
 - Not the right solution

Question(s) for Sarah

Q: Sarah, I love your 3 D's: Domain, Data and Deliverable. In your experience, which 'D' do people tend to get wrong the most?

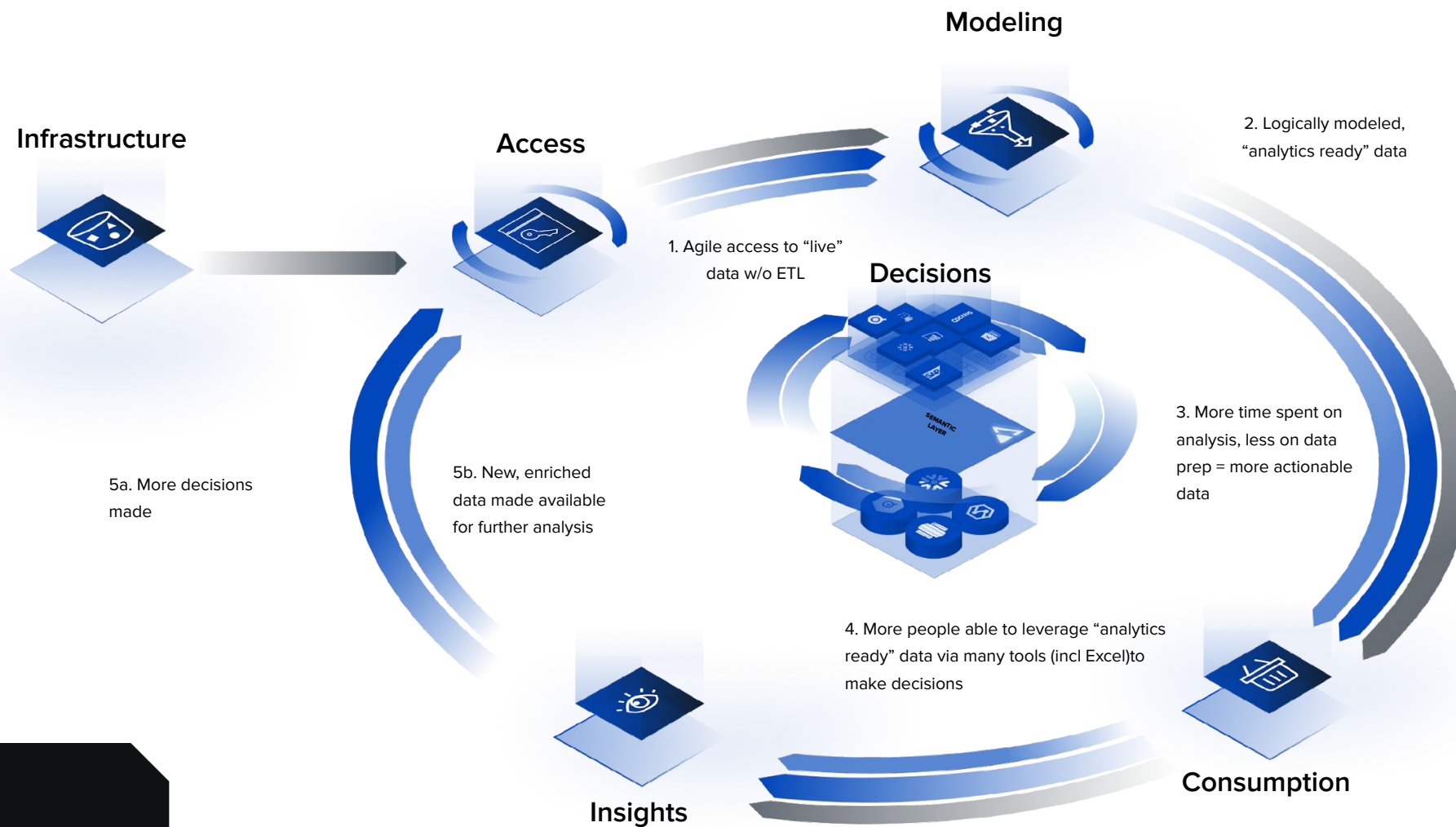


Where does a Semantic Layer fit in the data stack?





Flywheel Effect of a Semantic Layer



Legend

- Traditional
- w/ Semantic Layer



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