



# Building a Data Analytics Function

Tim Jenkins

# My experience in Data Analytics

**BAIN & COMPANY** 

Dallas, TX  
2012 - 2014

qualtrics<sup>XM</sup>

Growth  
2015

 **Lucid**

Strategy and Analytics  
2016 - 2022

**BYU**



BS, Mech Eng  
2009



MS, Aero/Astro  
2012

**STANFORD** GRADUATE  
**BUSINESS** SCHOOL OF

MBA  
2016

 Work Experience  
 Education

# This presentation covers several common questions about building a data analytics function

- When is the **right time to hire** dedicated analytics resources? What should companies look for?
- How should companies handle data/analytics needs **before having a dedicated person**?
- What **tools/technology** do companies need, and when?
- What should the **org structure** look like for analytics?
- How should **analysts** be **spending their time**?
- What are some **common mistakes** to avoid?

**FOR DISCUSSION**

# **What are you most interested in learning about building a data analytics function?**

**When the right time to hire is**

**How to handle before having a dedicated person**

**What tools/ technology companies need**

**What the org structure should look like**

**How analysts should be spending their time**

**Common mistakes to avoid**

**Something else?**

**COME OFF MUTE OR COMMENT IN THE CHAT**

# The primary purpose of analytics is to accelerate and improve decision-making

Primary purpose of analytics

**Enable the business to make better decisions**

Secondary purposes

**Necessary for robust reporting**

**Satisfy customer demand for data**

**Potential to productize data**

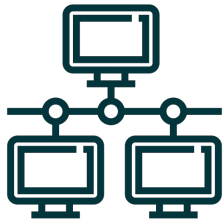
- People across the company make decisions every day
- When data is reliable, easy to access and use ⇒ better decisions
- When data isn't trusted, is difficult to access and use ⇒ poor decisions or acting on instinct



# When your company reaches 20-50 people, consider a dedicated analytics hire

## Signs that you're ready for dedicated analytics resources

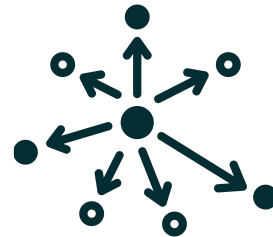
Analysis increasingly requires data from multiple systems



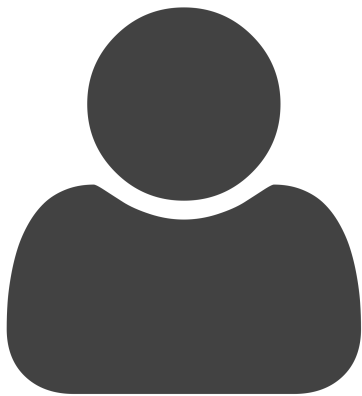
Reporting needs are known, stable, and ready to automate



Functions want to hire their own analysts



# Your first hire should be someone who can provide value on day one but also scale and build a team



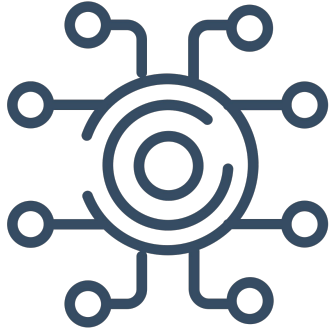
## What to look for in an analytics lead

- **Business acumen**  
Capable of thought partnership with stakeholders and leaders across the company to solve business problems (likely finance/consulting background and/or MBA)
- **Technical inclination**  
Modern analytics is a technical domain, with increasing similarities to software engineering
- **Scalability**  
Eager to roll up sleeves but also capable of building and managing a team down the road

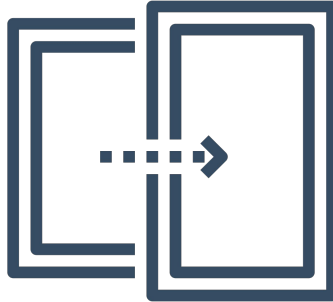


# What should a new hire's first steps be?

**Stand up  
core tech**



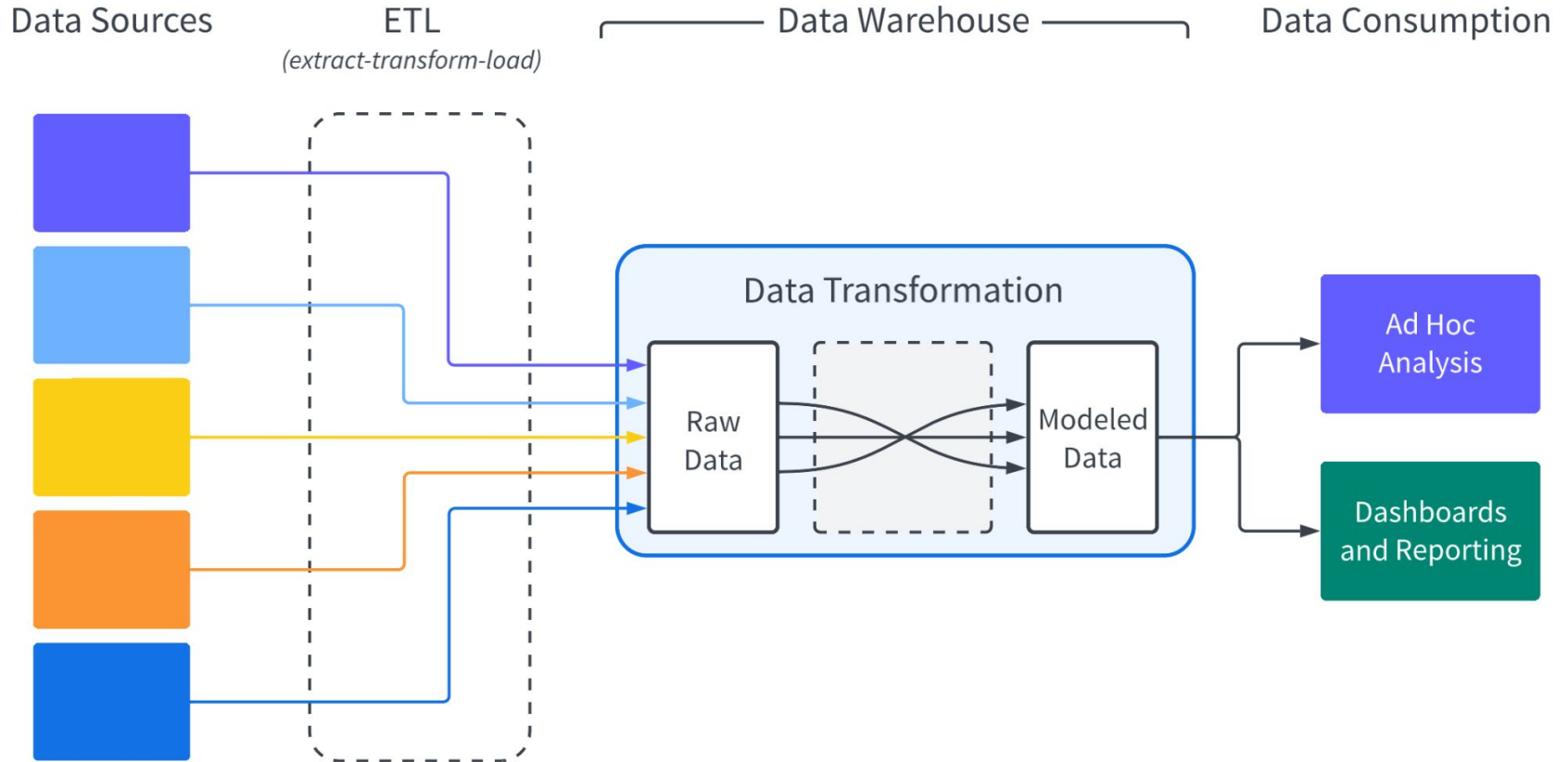
**Transition  
reporting**



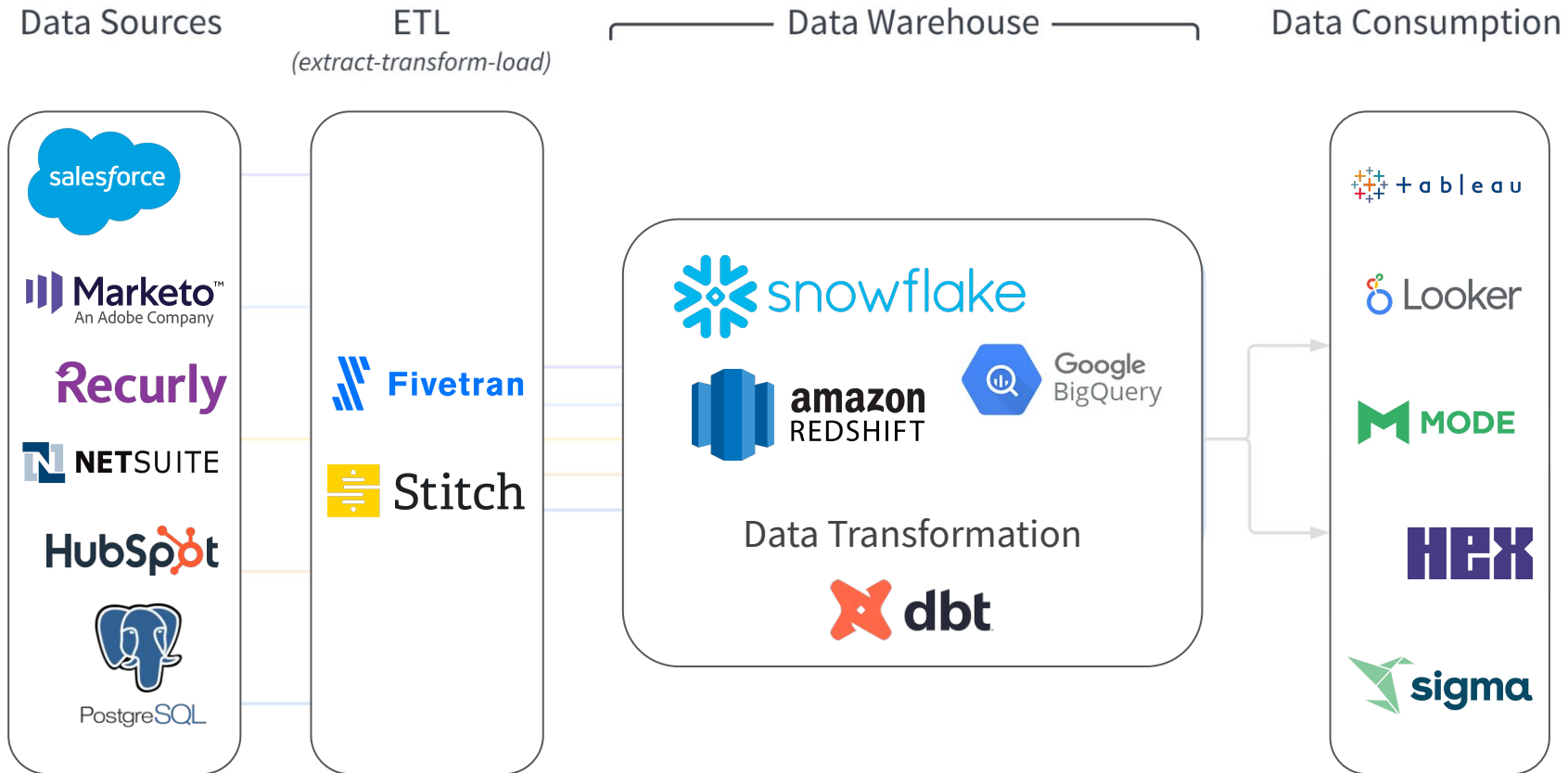
**Learn while  
responding to  
ad-hoc questions**














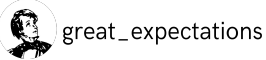

# The modern data stack consists of a few core components



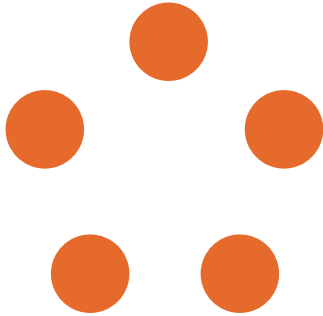
# Various vendors exist for various parts of the stack



# Depending on business needs, you may need to add components to your data stack over time

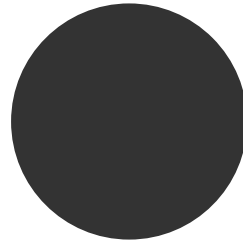
You may need	Event tracking and analytics	Orchestration and scheduling	Data science / machine learning	Reverse ETL / Operational analytics	Data Quality / Observability
	<i>Track user behavior on your website and in your product</i>	<i>Schedule and manage complex data processing tasks</i>	<i>Build and deploy predictive models</i>	<i>Move data from your warehouse back into operational systems</i>	<i>Help monitor, alert, and troubleshoot data issues and anomalies</i>
	  	  	 	 	  

# Analytics teams can be structured in a variety of ways depending on priorities and business needs



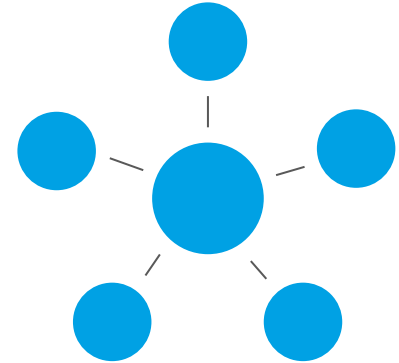
## Decentralized

Teams have their own analysts that provide dedicated support



## Centralized

Analysts work together on a single team to support other teams within the company



## Hybrid

Analytics is centralized, but most analysts are embedded within other teams

# Decentralized analytics teams optimize for agility



*Decentralized*

## Pros

- ✓ **Speed** - Dedicated resources provide quicker turnaround
- ✓ **Insight** - Because analysts are closer to the problem, they can come up with better solutions and more readily identify opportunities
- ✓ **Specialization** - Analysts develop expertise in their area over time
- ✓ **Impact** - People are more likely to listen to recommendations when analysts are part of their team

## Cons

- ✗ **Inefficiency** - Each group comes up with its own solutions, creating redundancy in work, tools, processes
- ✗ **Inconsistency** - Metrics won't match across the org, which can cause people to lose trust in the data
- ✗ **Recruiting** - Career progression is limited, work gets stale, and analysts can feel isolated and buried in silos
- ✗ **Tactical focus** - Analysts can get bogged down in reporting; nobody focuses on bigger strategic issues
- ✗ **Resilience** - Risk if analysts leave because of their unique domain knowledge

# Centralized teams optimize for consistency



Centralized

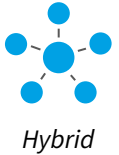
## Pros

- ✓ **Consistency** – Metrics are calculated the same way throughout the org
- ✓ **Credibility** – Analysis is less biased because people aren't "grading their own work"
- ✓ **Efficiency** – Able to make company-wide investments to standardize tools/processes
- ✓ **Autonomy** – Team can prioritize high-value projects from across the company
- ✓ **Culture** – Easier to develop a holistic analytics strategy; signals that the company values analytics
- ✓ **Career Path** – Project variety, learning from other analysts, and opportunity to manage within team

## Cons

- ✗ **Reactivity** – Team can easily devolve into "order takers" for the rest of the company instead of thinking proactively
- ✗ **Responsiveness** – Can be slower and less responsive to needs of the business
- ✗ **Detachment** – Analytics team can grow out of touch with the business; other teams may view analytics as someone else's problem
- ✗ **Rivalry** – People dislike relying on resources they don't control, and teams may feel like they're competing with each other for support

# Hybrid teams aim for the best of both worlds



## Pros

### Centralization...

- ✓ Allows for standardization of metrics, tools, and processes
- ✓ Enables work on strategic, company-wide initiatives
- ✓ Facilitates learning and sharing of best practices between analysts

### Embedded Analysts...

- ✓ Develop expertise and insight by being closer to the business
- ✓ Gain broad experience by rotating through different functions

## Cons

- ✗ **Control** – Analysts report through analytics team but sit with the teams they support, which can be challenging to manage
- ✗ **Integration** – Analysts may have trouble integrating into other teams and may be treated like second-class citizens



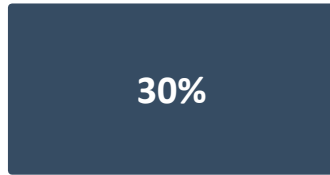
# Analysts split their time between data management, reporting, ad hoc questions, and strategic projects

## Analyst time breakdown

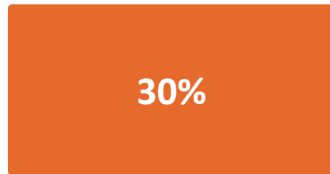
(rough guidelines)



Answering **ad hoc questions**, diagnosing issues, and pulling data



Answering important **strategic questions**, providing recommendations, and implementing solutions



Building **dashboards** and **automating processes**



Managing the data warehouse and **transforming raw data** to be usable by the analytics team and others

# In standing up analytics, remember to create trust, provide supporting resources, and build use case by use case

**Build trust in the data**



If people don't trust the data, they aren't going to follow your team's recommendations and will rely on their own instinct

**Ensure access to technical resources**



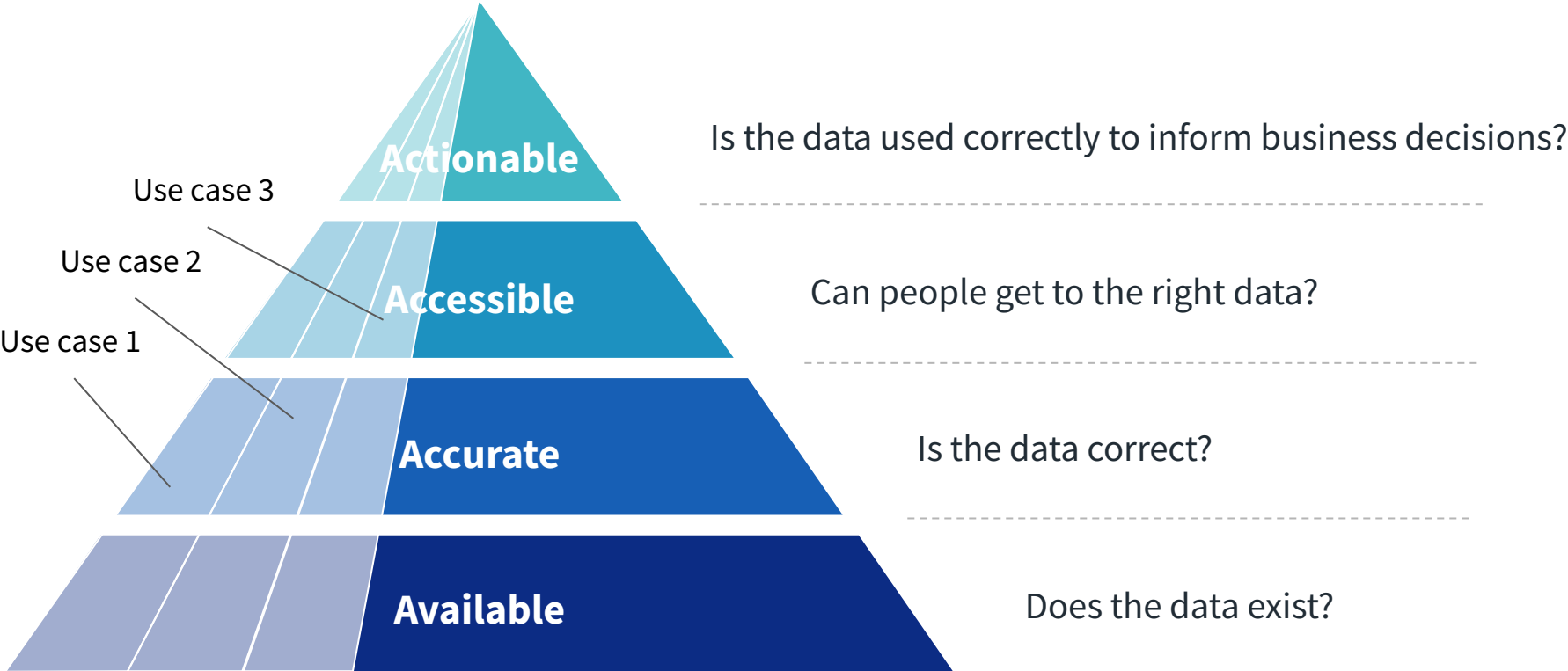
As much as the modern data stack has empowered analysts, you will still need engineering support in some cases

**Build in slices, not in layers**



Pick a particular analytics use case and solve it from end to end (from raw data to insights and operational decisions)

# Build your capabilities in slices, not layers





# Questions