

# HR ANALYTICS UNLOCKED

*Session 2:*  
**Making Sense of HR Data**  
Basic Statistics and Interpretation

**Hi**Bob INSIGHTS LAB

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Market Insights Manager

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- Holds a **Ph.D. in Organizational Behavior** and an **MBA**, blending behavioral science with business strategy.
- Turns complex people data into **clear, compelling stories** that help HR teams make confident, evidence-based decisions.
- **Mom of three** who brings curiosity, empathy, and a love of kitchen dance parties to everything she does.



# Poll 1

# UNLOCKING HR ANALYTICS

## Webinar Series

1

**Foundations of HR data & analytics**

Asking meaningful questions

2

**Making sense of HR data**

Basic statistics & interpretation

3

**Proving impact**

Measuring the effectiveness of HR interventions

4

**Data storytelling**

Turning data into compelling narratives

5

**Scaling people insights**

Fostering a data-first culture

# WHAT WE WILL COVER TODAY



Descriptive statistics



Trends and patterns



Correlation vs. causation



Statistical significance



Benchmarking



Data pitfalls

# START WITH SIMPLE SUMMARIES

Descriptive stats help us understand what's “typical” and what's “different.”



## What is typical?

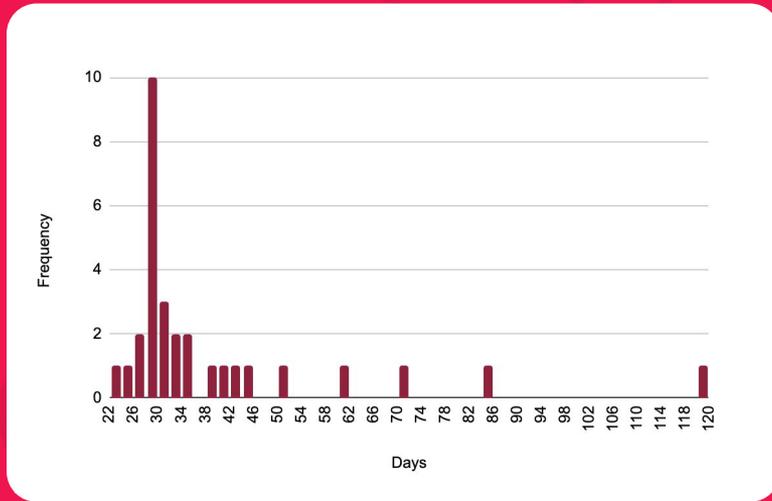
Statistic	What it tells you
Mean	Average value
Median	Middle value
Mode	Most frequent value

## What is different?

Statistic	What it tells you
Range	Highest minus lowest value
Standard Deviation	How far values vary from the mean

# TIME TO FILL: DESCRIPTIVE STATS EXAMPLE

Sample time-to-fill data from 30 hires.



Statistic	Value	What we learn
Mean	38.5 days	Avg. time-to-fill was 38.5 days but could be skewed by one really long search.
Median	30 days	Half took less than 30 days, half more. So mean of 38.5 is being pulled up by a few outliers.
Mode	28 days	10 out of 30 hires took 28 days. This is the "typical experience", good for setting expectations.
Range	22-120 days	Range of 98 days from shortest to longest. This is a signal to investigate.
Std Dev	20.5 days	This is high given that the mean is 38.5. This tells us the process is inconsistent and is another signal to investigate.

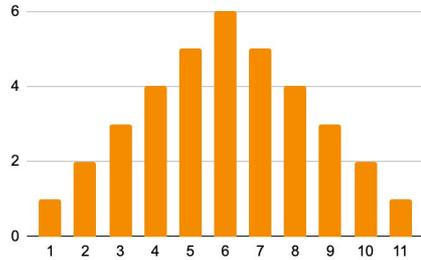
# HOW DO YOU LIKE YOUR COFFEE?

The fallacy of averages



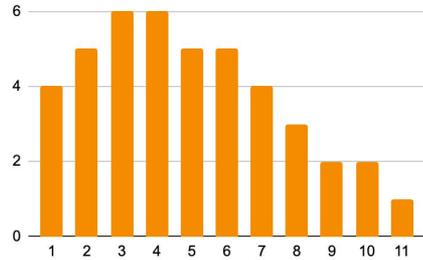
# DISTRIBUTIONS AND WHAT THEY TELL YOU

Patterns in the data can speak louder than averages; look for the shape of the story



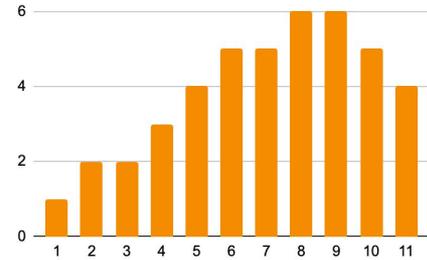
## Normal $\neq$ Ideal

Most people clustering around the middle is just one possibility.



## Shape = Signal

When data leans one way, it's trying to tell you something.

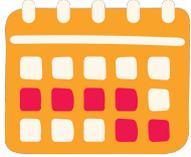


## Outliers

Always investigate. Sometimes they're noise. Sometimes they're gold.

# TRENDS AND PATTERNS

See the story your data is telling over time



## Time series chart

Track change over time to identify peaks, valleys, and external influences



## Moving average

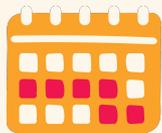
Smooth data to filter out noise and reveal meaningful direction



## Cohort analysis

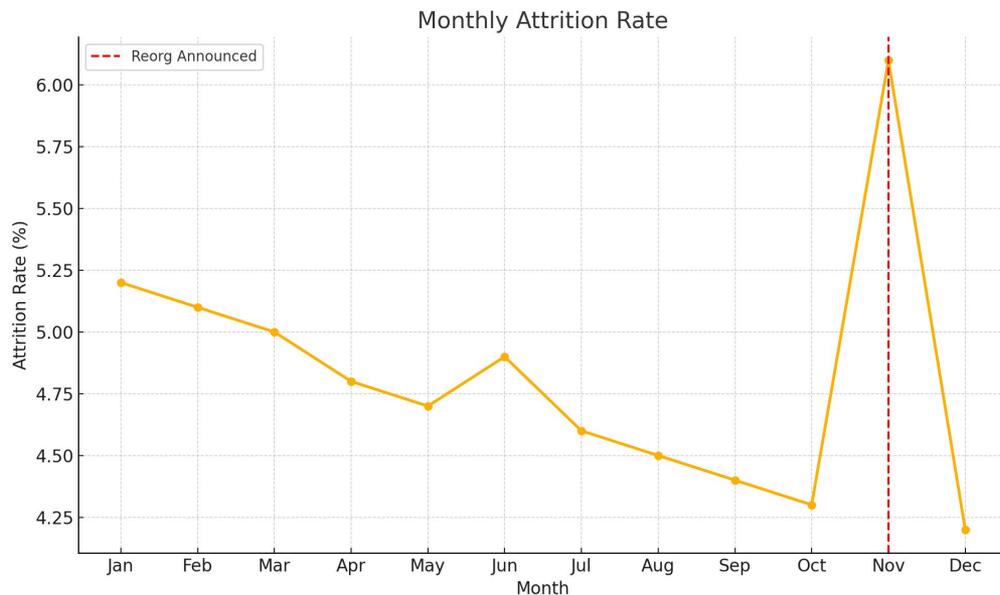
Compare groups who share a characteristic (e.g. tenure, department)

# TIME-SERIES: TRACKING CHANGES OVER TIME



## Time series chart

Track change over time to identify peaks, valleys, and external influences



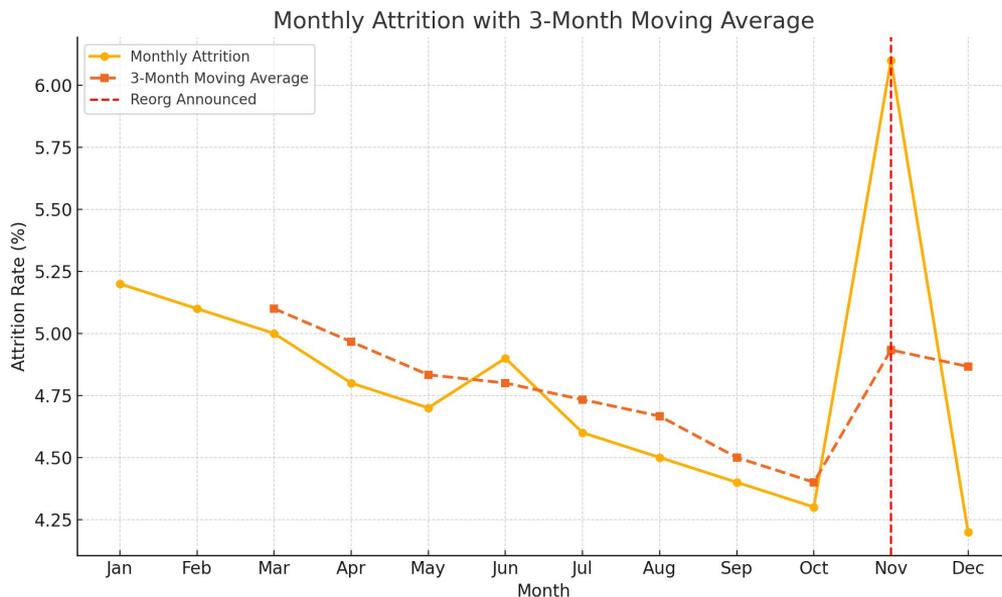
Time-series analysis helps us zoom out to spot long-term trends—and understand how individual data points fit into the bigger picture.

# MOVING AVERAGES: SMOOTHING THE SIGNAL



## Moving average

Smooth data to filter out noise and reveal meaningful direction



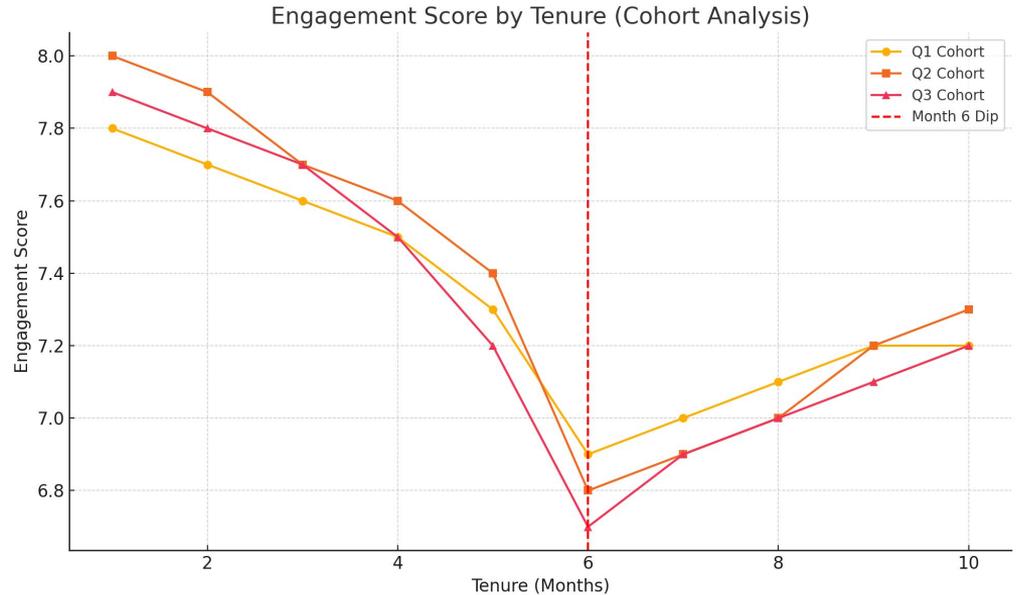
A moving average smooths out short-term spikes, helping you focus on the true direction of change.

# COHORT ANALYSIS: COMPARING GROUPS OVER TIME



## Cohort analysis

Compare groups who share a characteristic (e.g. tenure, department)



Cohort analysis lets you track how different groups experience the organization over time—so you can spot consistent patterns or isolated issues.

# CORRELATION $\neq$ CAUSATION

Not all patterns = proof



Engagement



Performance



# CORRELATION $\neq$ CAUSATION

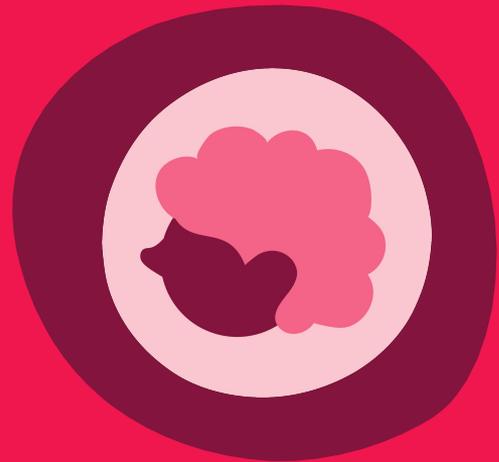
Not all patterns = proof



Engagement



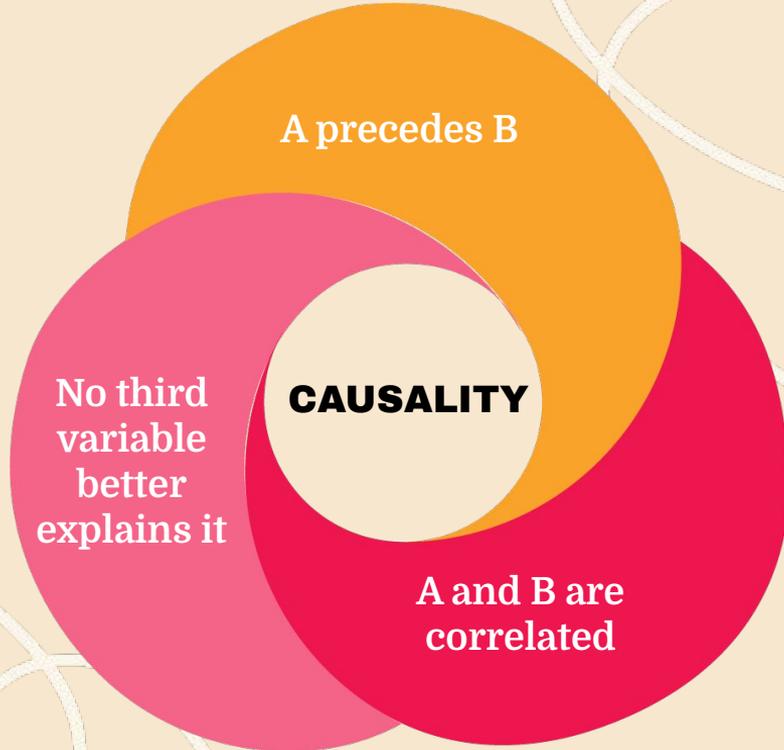
Performance



Great manager



# PROVING CAUSALITY



## Use third-party research

- What does the existing evidence say?
- Don't reinvent the wheel.

## Consider multiple contributing cause

- What else might be driving this outcome?
- Could several factors be working together?

## Consider moderators

- Under what conditions does this relationship hold – or fall apart?

## Cut yourself some slack

- You cannot prove or disprove everything. That's OK.

# STATISTICAL SIGNIFICANCE: A MISUNDERSTOOD METRIC

## Why it's confusing:

“Significant” sounds like  
“important” or “big” — but it's not

It's often misused  
as “proof” a result matters

It doesn't mean something  
is worth acting on

## When it's not relevant:

You have full population data  
(e.g., all employees, org-wide survey)

You're not trying to generalize  
beyond what you've measured

You're comparing actuals  
(not samples or predictions)

# WHEN STATISTICAL SIGNIFICANCE DOES MATTER

When - and how - to use statistical significance properly



## When To Use Statistical Significance:

You're working with a **subset of data** (e.g., 10% response rate)

You want to **generalize** findings to a larger group

You're testing an **intervention or hypothesis** (e.g., A/B testing)

# DATA IN PRACTICE: RISK, OPPORTUNITY, & IMPACT

1

Cohort  
analysis

**ENGAGEMENT  
DROP-OFF**

Dip at 6-9 months

**Risk Detection**

2

Time-series;  
moving average

**ABSENTEEISM  
STEADY DECLINE**

Steady decline over time

**Opportunity Discovery**

3

Distribution  
analysis

**TURNOVER  
IMPROVEMENT**

Spike at 4-5 months before  
intervention, smooth after

**Proof of Impact**

# BENCHMARKS BRING CONTEXT

## Internal vs. external benchmarks



### Internal benchmarks

Are we improving?

- Track performance over time
- Compare across teams, roles, and locations
- Spot outliers and best practices
- Set realistic goals based on your org's starting point

Use to track progress, surface outliers, and drive improvement



### External benchmarks

Are we competitive?

- Compare to market expectations
- Understand your EVP
- Identify red flags or standout strengths
- Inform strategy in talent, comp, and engagement

Use to compare performance, align expectations, and guide strategy

# DEALING WITH IMPERFECT DATA

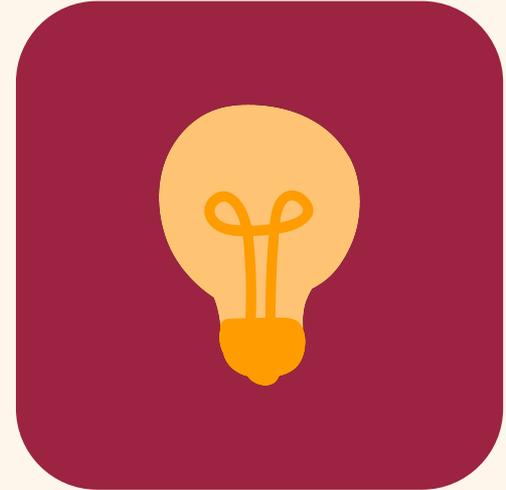
You don't need perfect data to make powerful decisions



**TRIANGULATE**



**LOOK  
DIRECTIONALLY**



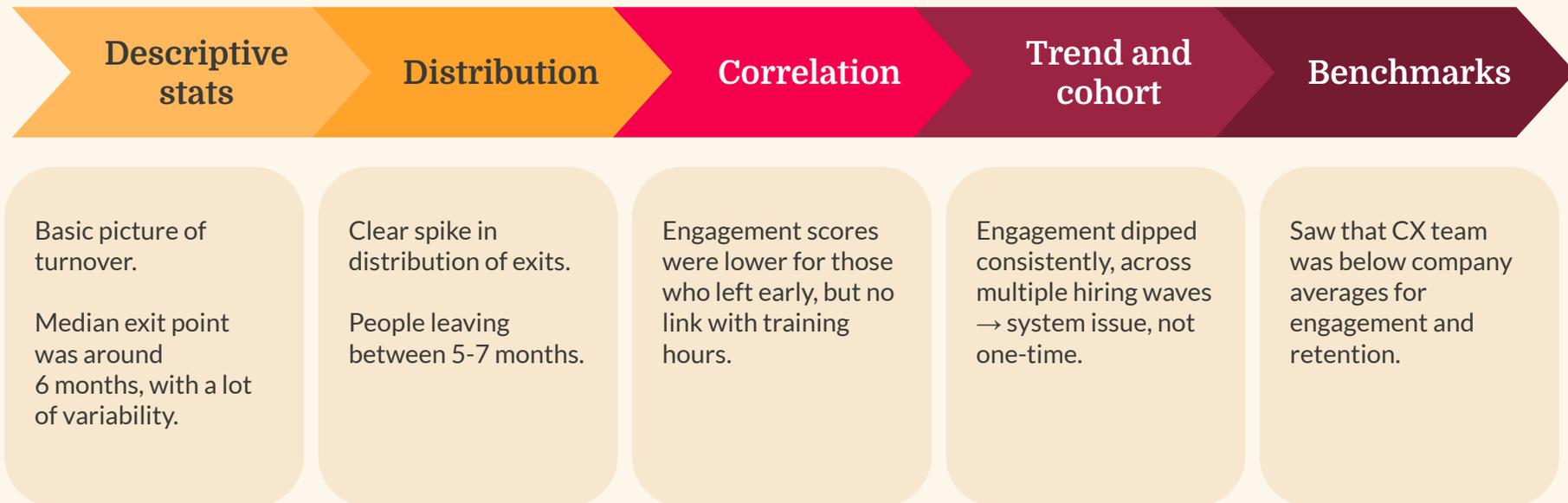
**ESTIMATE,  
DON'T PREDICT**

Imperfect data,  
interpreted well, is  
**MORE POWERFUL**  
than perfect data,  
misunderstood.

# Poll 2

# PUTTING IT ALL TOGETHER: A REAL-WORLD EXAMPLE

High turnover on the Customer Experience (CX) team



# NEXT UP IN THE ANALYTICS JOURNEY

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# In Good Company

A collective of people-first  
leaders on a mission to  
change how work, should  
work—for everyone.



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