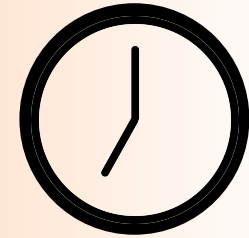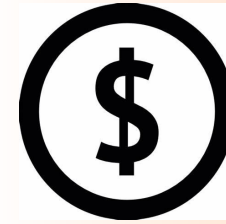# kyvos

## Money is Time

# What are We Here to Talk About Today

- Money = Time = Money

- What do we mean when we say that Money is Time is Money?

# But First... Some JSON Bio Notes

- "name": "Guillermo"

- "Job": ":Sales Leader, Kyvos Insights Software" [I will be followed by}

- "Former Jobs": "Pivotal Software, Vmware, U.S. Army Engineer"

- "Funny Story":

- In my career, I have been a technology implementer, supporter, seller, and purchaser

- You: Hybrid Group of Fin & Tech / Analytics

- Frequent customer feedback: Confusing Space

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# So a Few Notes about Sensemaking in the BI Tech Space

**Harvard Business Review**

Sales | **Sensemaking for Sales**

Subscribe    Sign In

Sales

# Sensemaking for Sales

Your customers are overwhelmed with information. Help them figure out what they need to know. **by Brent Adamson**

From the Magazine (January–February 2022)

# Got the Time?

Time

- The Denomination of Our Lives (Mortgage)

- Relative ($E=MC^2$)

- Our Scarcest Resource, essentially equally distributed across the population

- The Universal Foreign Key

# Got the Money?

Money:

- The quantification of opportunity cost for spending the time currency

  *$PV = FV / 1+R$,*

  *where Interest is the quantification of the reward for lost agency, lost opportunity*

- Reliable medium of exchange for all transactions

- Fungible token, goal of capitalism is to optimize its accretion

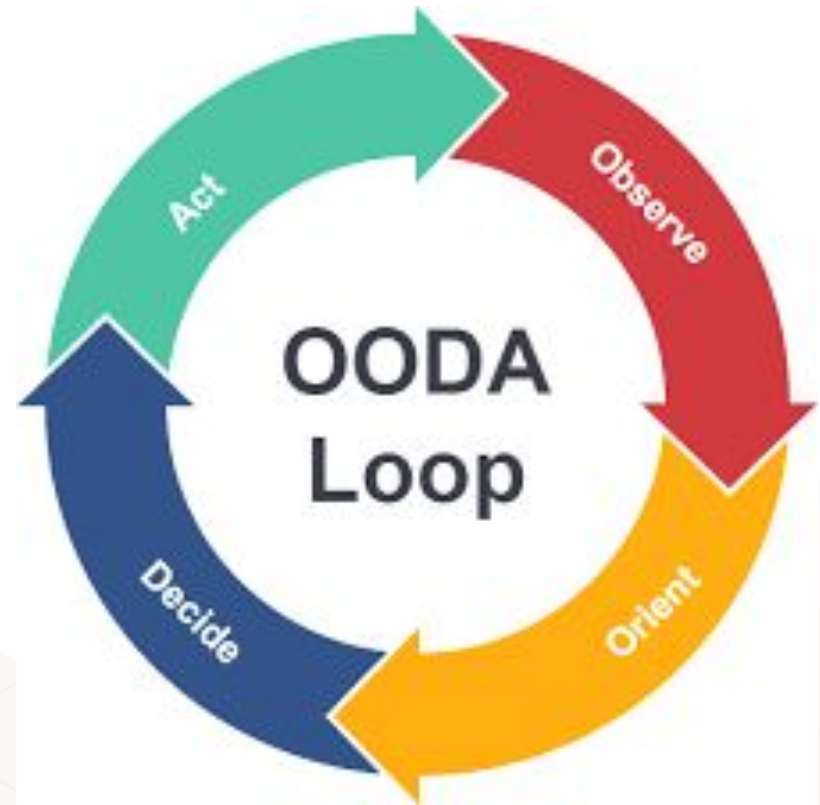- Goal of Fintech is optimizing tech for capitalism

# What's Business Intelligence

- The utilization of data to improve decision making:

  - Timely

  - Accurate

  - Valid

  - Actionable

- The time-bound management of uncertainty

# Top Performers

- Make decisions more quickly; ceteris paribus: Sooner is faster is better

- Ability to get inside the OODA Loop (competitors, customers, exogenous events)

# So, In a World Where:

- Decision quality and velocity correlate with greater profitability

- How do we optimize our BI technology choices for max success?

# 3 Humble Propositions

- Faster is Better

# 2nd Humble Proposition

First time faster is better

- Under-discussed first order impact of Gen AI

- Explosion of conversion of data from unstructured to semi / structured

- Expansion of self-service BI

- Expansion of ad hoc as default

# 3rd Humble Proposition

Don't Cargo Cult (Gen)AI

- Story from a friend

- Tech Adoption: What Peter Thiel said

- Neither a Luddite nor a Rabbit be

- Golden Mean: Thoughtful, deliberate implementations, explainable without hyperbole
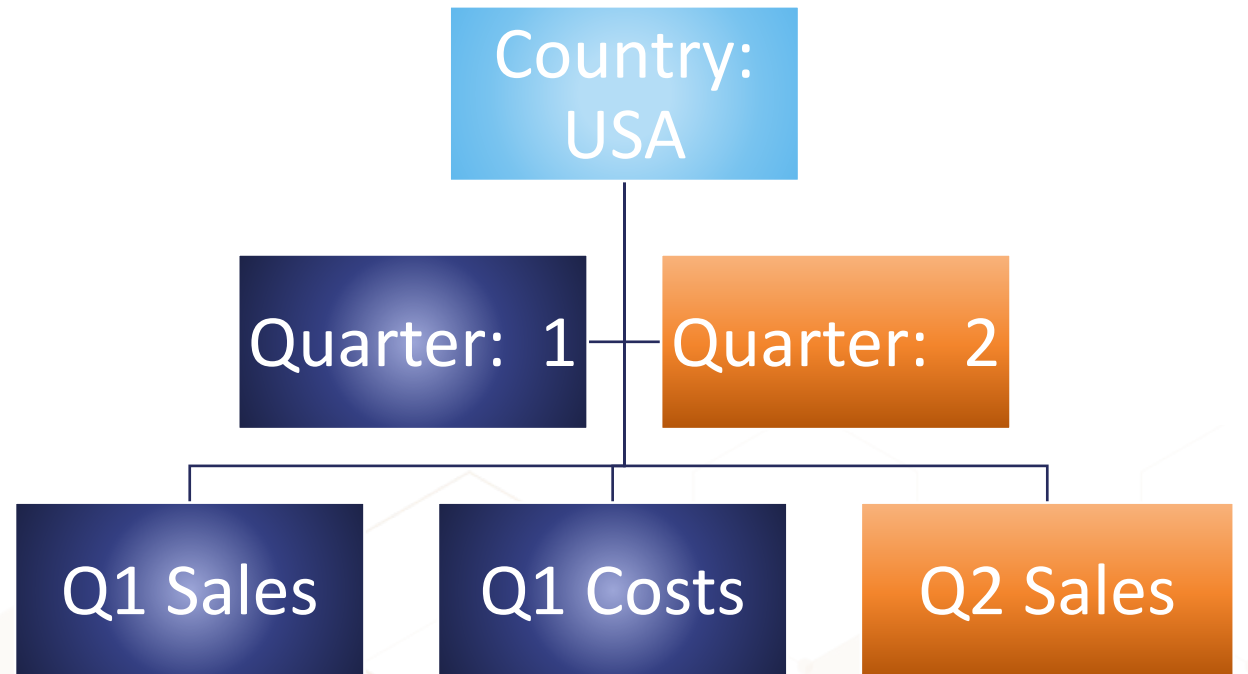
# Transition from Why to How...
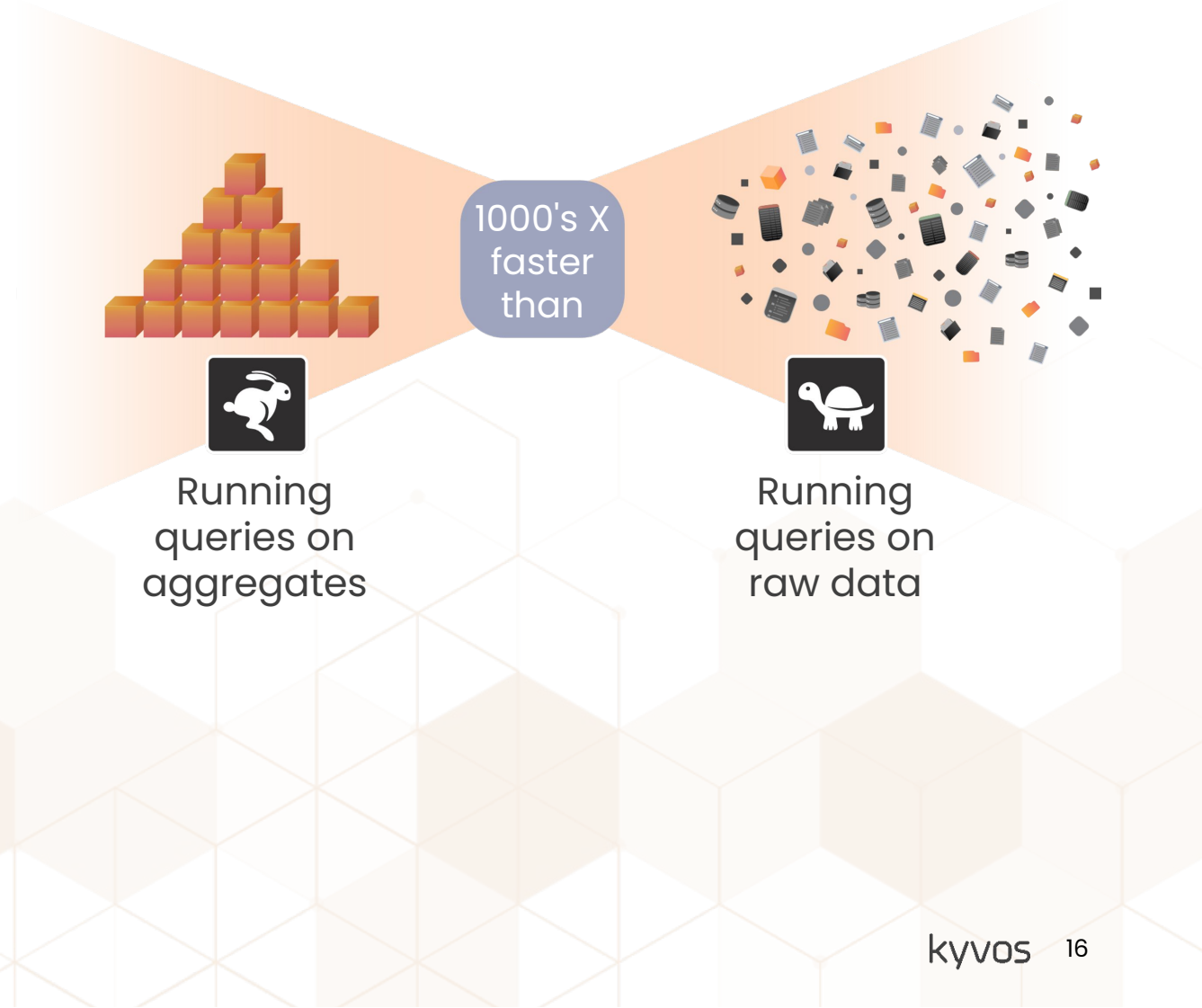
# kyvos

# Why We're Always Faster

# Data Aggregation Creates Answers

- Pre-calculate measures across other distinct values within the dataset:

  - Columns

  - Levels of detail

  - Time periods
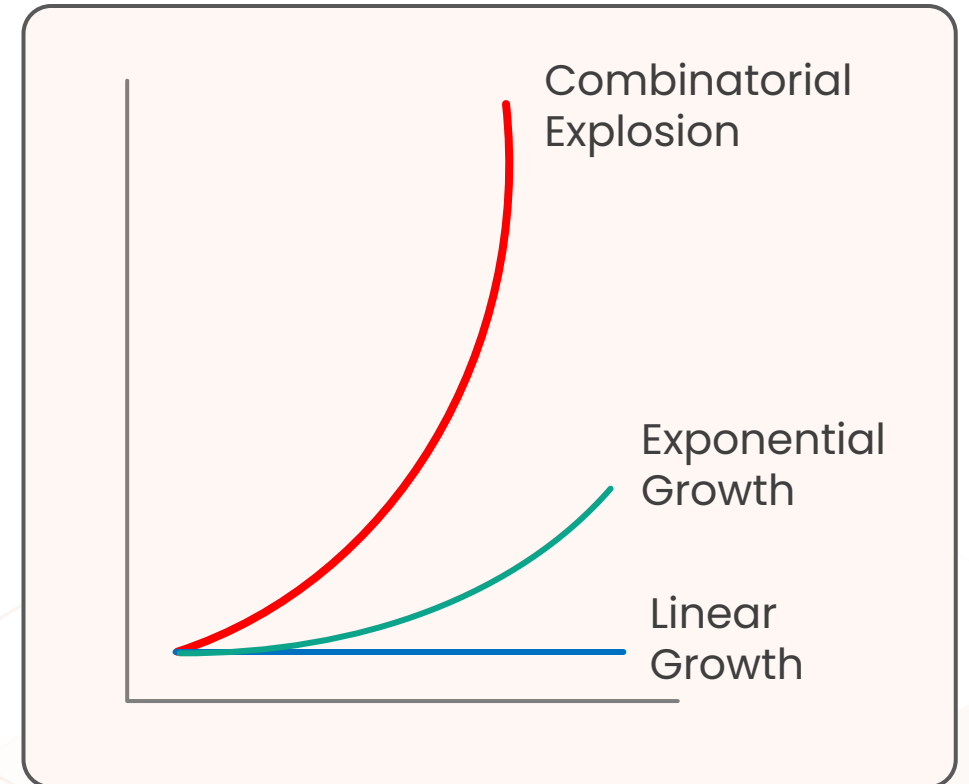
# Data Aggregation Accelerates Retrieval

- Store the pre-calculated answers as aggregations

- Query the aggregated answers instead of raw data

  - Faster queries

  - Highly-efficient resource usage

  - Unparalleled user experience

1000's X faster than

Running queries on aggregates

Running queries on raw data

# Combinatorial Explosion:
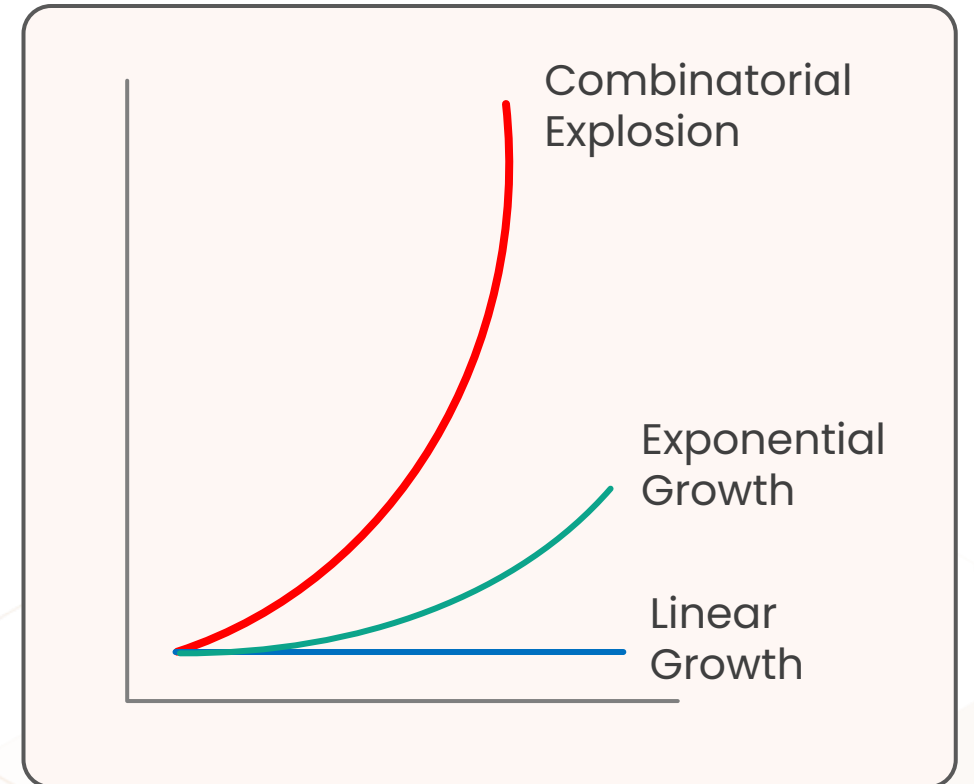## Traditional Aggregation's Glass Ceiling

**Combinatorial Explosion:**

As data model complexity and data scale increases, so do the number of distinct aggregate values. This leads to a logarithmic growth of aggregations.

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# Combinatorial Explosion:
## Traditional Aggregation's Glass Ceiling

**Combinatorial Explosion:**

- Longer loads

- Larger and more-expensive analytic systems; particularly if they are RAM-bound

- Slower queries


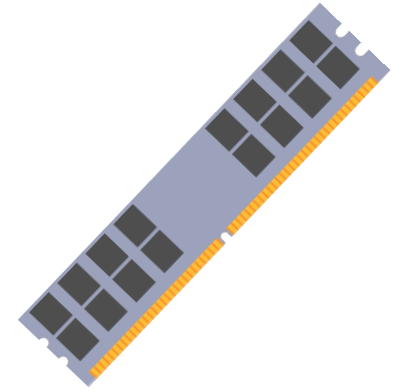
Combinatorial Explosion

Exponential Growth

Linear Growth

# Kyvos' Revolutionary Smart Aggregation

- Uses a patented storage format to continuously aggregate data without combinatorial explosion

- Disk-based solution that is hundreds of times more performant than in-memory solutions

- Up to a 94.1% storage reduction

- 5 – 20 nodes vs. 100s
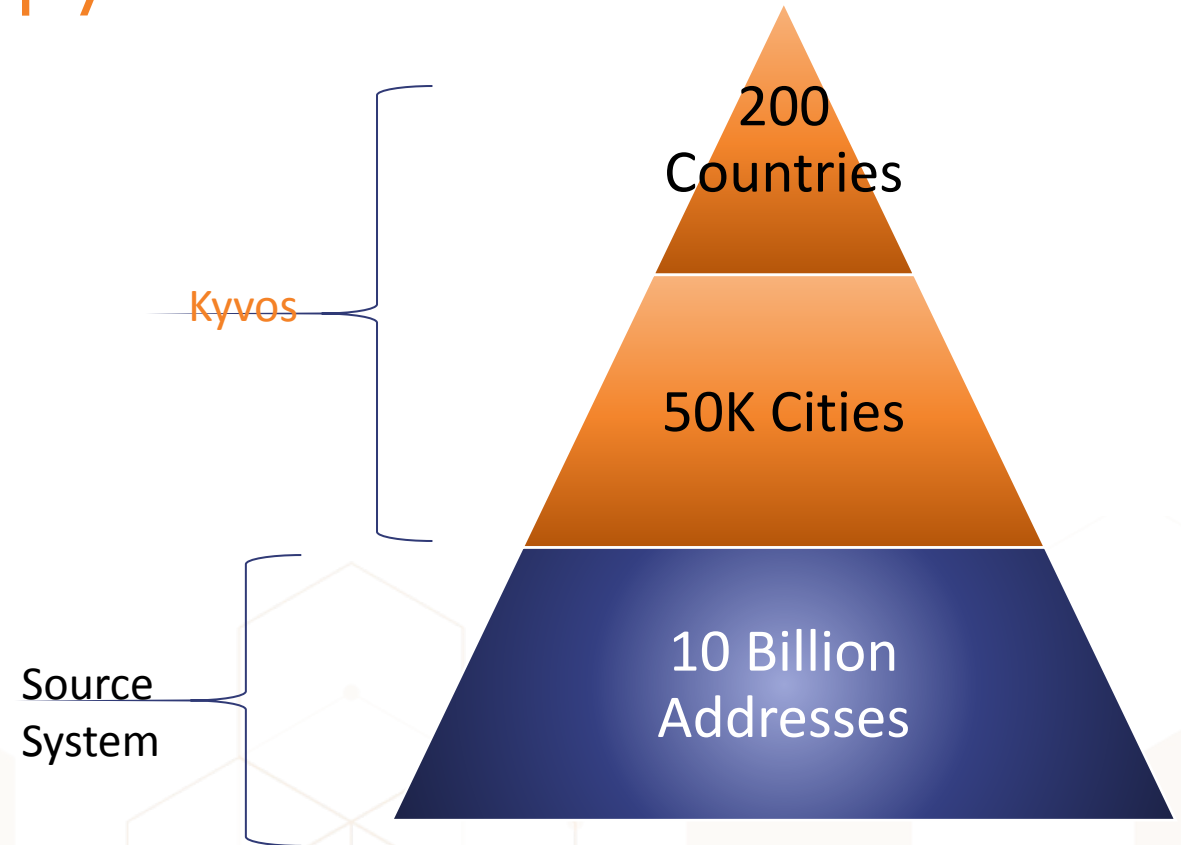
VS

Inexpensive Disk-based solution

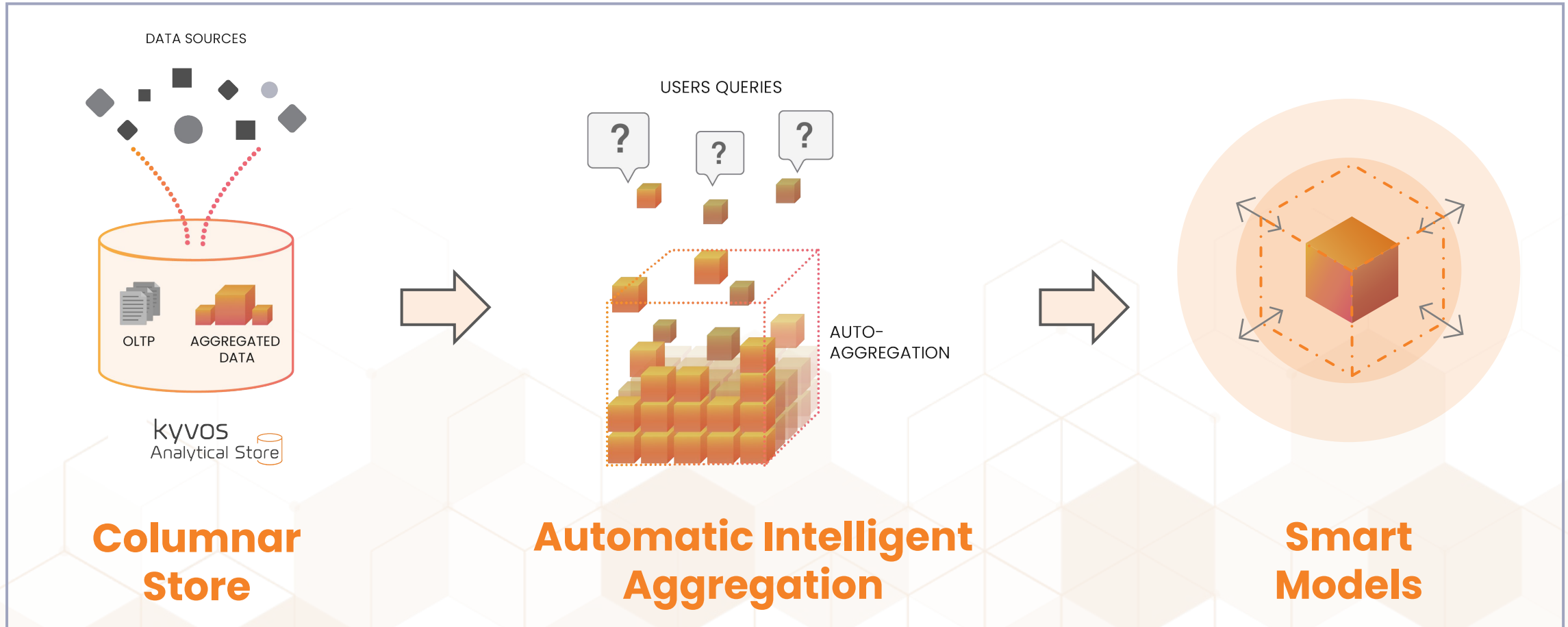Expensive In-memory solutions

# Smart Aggregation is not a Copy of Your data

- Raw data stays in-place

- Retain your row-level data for audit purposes

- Leverage the aggregates for analyses

- Kyvos chooses the right granularity based upon the query's requirements

Kyvos

Source System

200 Countries

50K Cities

10 Billion Addresses

# Kyvos' Next Generation Analytic Pipeline

**Smart Data Lifecycle**



DATA SOURCES

USERS QUERIES

OLTP     AGGREGATED DATA

kyvos
Analytical Store

AUTO-AGGREGATION

**Columnar Store**

**Automatic Intelligent Aggregation**

**Smart Models**

# Data
## Analytics

Star Schema Benchmark with 31 Bil...

Search

### Folders

**Customer**
- Customer Location Hierarchy
  - Customer Region
  - Customer Country
  - Customer City
- Customer Market Segment

**Date**
- Date Fiscal Calendar Hierarchy
- Day of Week
- Holiday Indicator
- Month
- Season
- Transaction Date
- Week Number of Year
- Weekday Indicator
- Year

**MeasureGroup**

**Part**
- Part Component Hierarchy

**Profit Measures**
- % YOY Change
- 2 Years Ago Profit
- 3 Years Ago Profit
- 4 Years Ago Profit
- 5 Years Ago Profit
- Calculated Profilt
- Last Year Profit
- Profit
- Profit by Customer
- Total Profit

**Supplier**

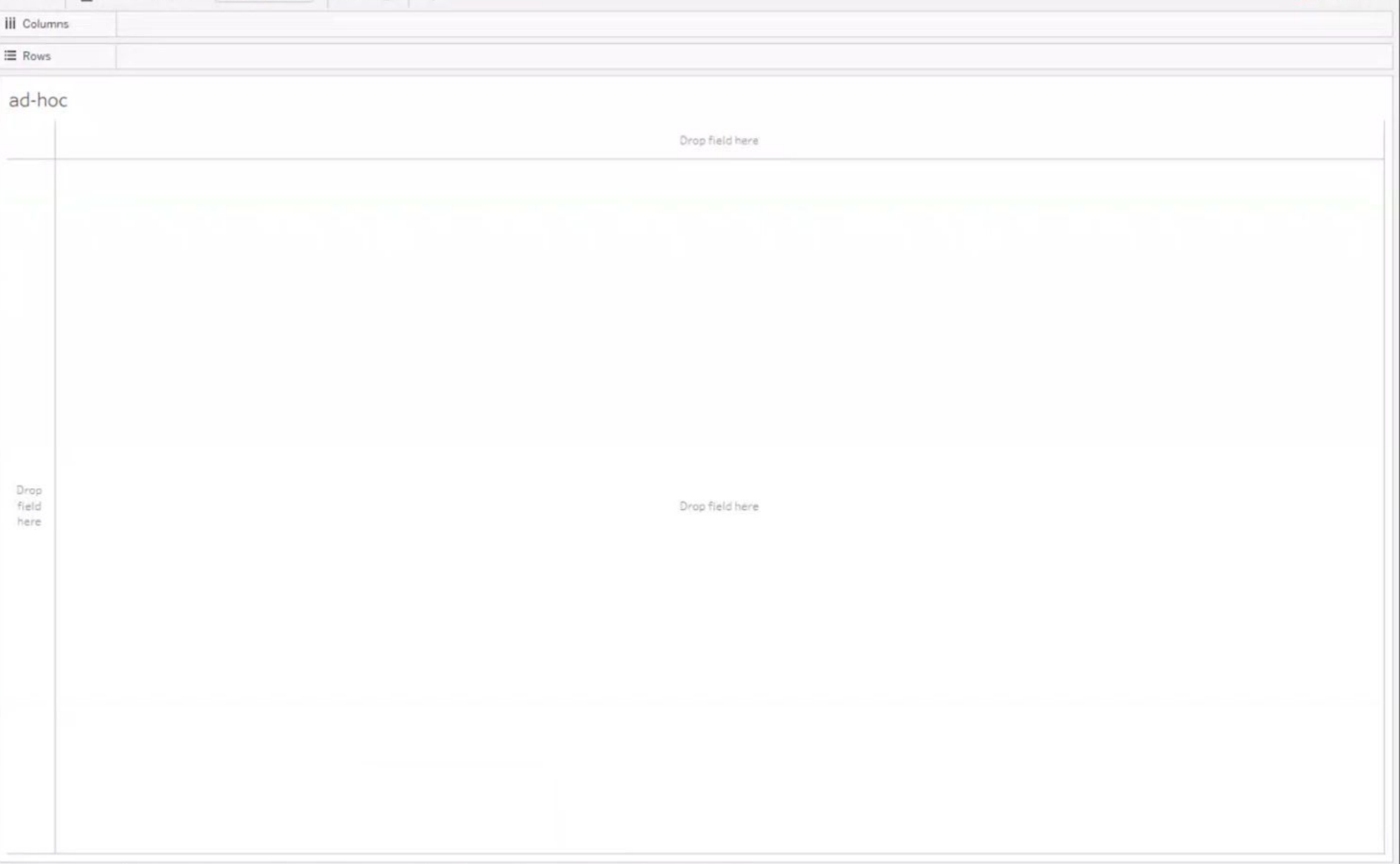### Parameters
Parameter 1

## Pages

## Columns

## Rows

## Filters

## Marks

Automatic

- Color
- Size
- Text
- Detail
- Tooltip

ad-hoc

Drop field here

Drop field here

Drop field here

Standard

Show Me

Data Source | ad-hoc | Sales Overview | Profit | Retail | Wholesale | Profit by Region | Profit by Market Segment | Distinct Customer Count | Profit by Month | Profit by Fiscal Year

Microsoft Remote Desktop     Edit     Connections     Window     Help

Thu May 9  3:46 PM

# Thank You!