



Enterprise Big Data Use Cases

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Big Data Pioneers



1,000,000,000 Queries A Day



250,000,000 New Photo's / Day



290,000,000 Updates / Day

WHAT DOES IT TAKE?

1. New Applications

Google

Google Search

I'm Feeling Lucky

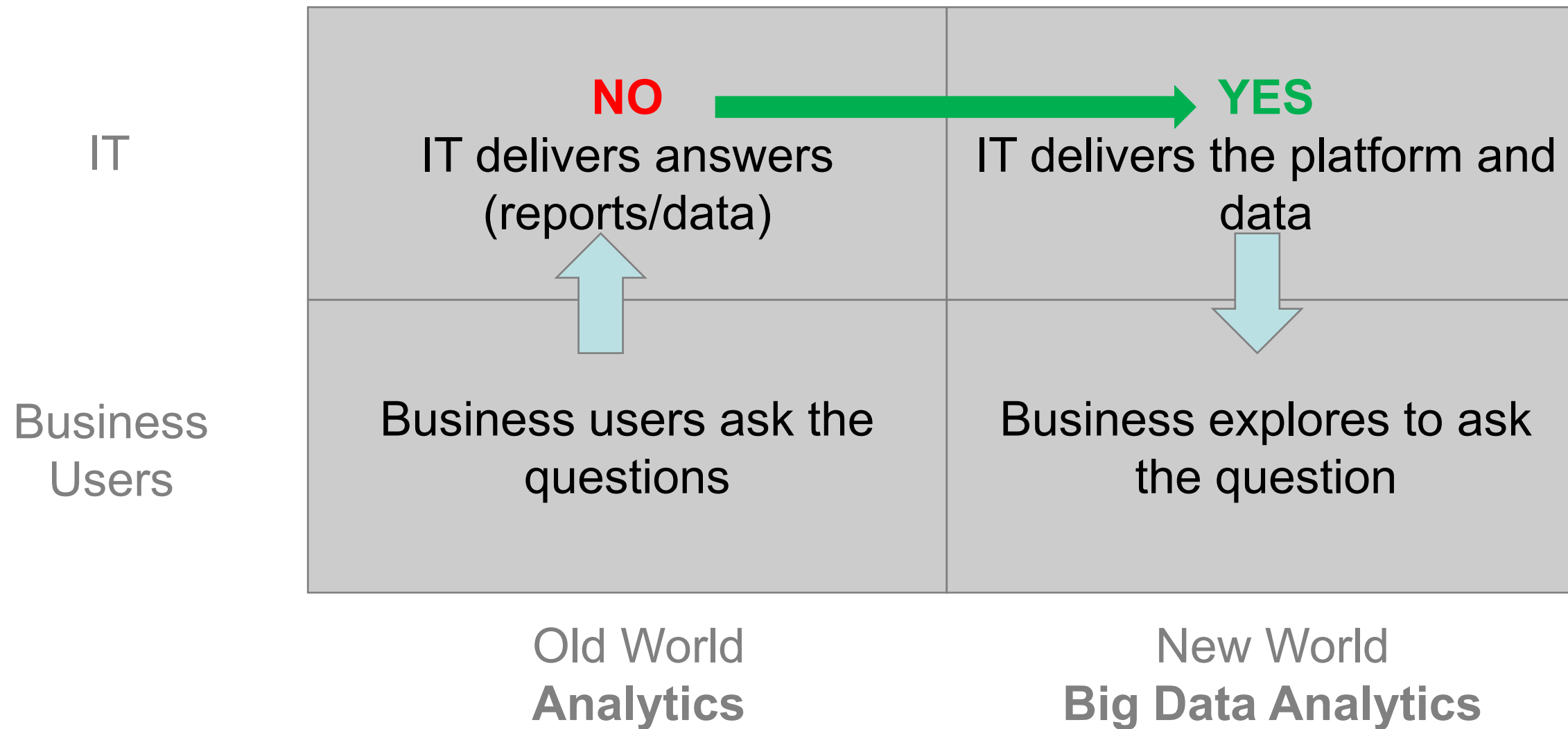
2. Data Science



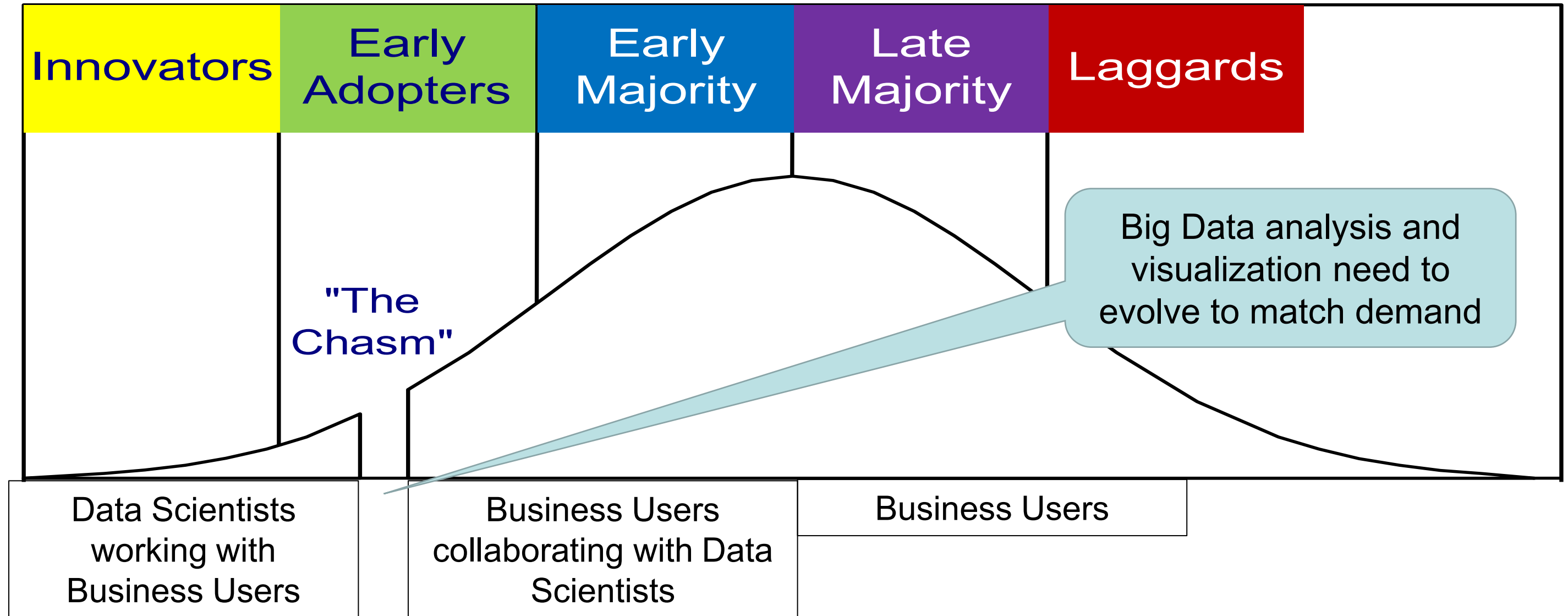
3. The Right Platform



Big Data Analytics – is it a new paradigm?



Enterprise Adoption of Big Data Analytics



Early Adopters - Big Data Analytics Use Case

- Online Companies
 - Media
 - Ad Optimization
 - Article Categorization
 - Retailers
 - Targeting
 - Product Recommendation
- Telco
 - Churn Prediction
- Banking
 - Product Recommendation
- Financial
 - High Frequency Trading
- Marketing
 - Sentiment Analysis

- Hire Data Scientists
 - To build complex optimization and recommendation models
- Why do these work
 - Actions are Automated and Require Scale
 - Business Process NOT an issue

How are Enterprises Different

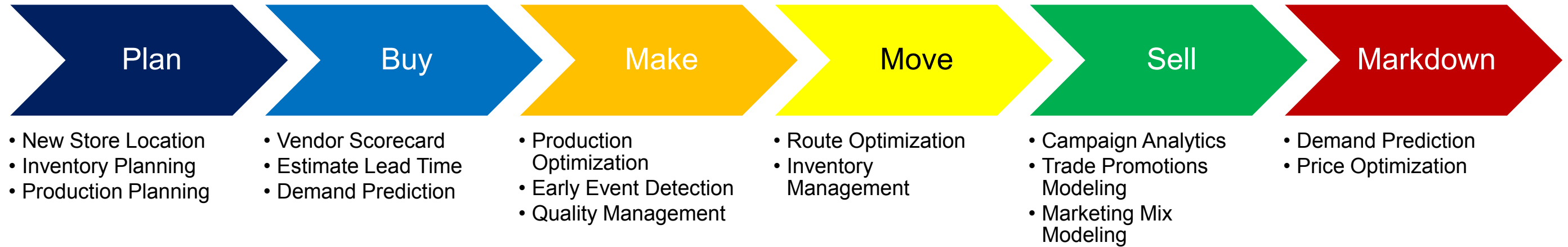
- Brick and Mortar Retailers
 - Product Placement
 - Product Pricing
 - Customer Segmentation
 - Manufacturing
 - Early Failure Detection
 - Return Analysis
 - Security Companies
 - Facial Recognition
 - Suspicious Pattern Alerting
 - Oil Refinery
 - Operations Optimizations
 - Long term Price/Demand prediction
 - Chemical Plant
 - Process Optimization (Pressure, Volume, Temperature, Catalyst)
- Challenges
 - Actions are complex and require Business Process Changes
 - Business decisions are Fragmented
 - Feedback expensive and NOT easy

Oil & Gas Use Case

- **Management & Analytics of Exploration Data** – Companies are starting to consider Hadoop for parallel processing and analytics of the unstructured data coming from oil exploration and production.
- **Predictive Analytics for Oil Rigs** – Reduce reactive maintenance to monitoring alerts by predictive analysis. Drilling Predictive Analytics.
- **Downstream Retail** – Analyze large volumes of customer data quickly to identify patterns in buying patterns and identify new cross sell opportunities.
- **Upstream Energy Trading** – Run predictive trading models that compare supply data, pricing data and weather patterns to maximize profits. Also, improve the success of hedges that ensure profitability of upstream and downstream operations



Brick and Mortar Retail Use Case



➤ Most categories require capital outflow

➤ Except Sell

➤ Maximizing Inventory Turn (Profits)

➤ Reduce working capital needs if turns are fast enough

➤ Scaling

➤ Reduce average store operating costs

➤ Supermarkets make their money by buying (from suppliers), not by selling (to shoppers)

➤ Sources of \$\$\$

➤ Trade Promo Allowance

➤ Float on Cash

➤ Real estate

➤ Margin on sales

Are the Workloads Different from Internet Companies

Volume

Comparatively Less Data
Sampling of Events

Large Amount of Data
Event size is not large

Variety

Disparate Sources of Data
Too many places where
data is generated

Limited Sources of Data
Few sources that generate
data

Velocity

Peaks and Valleys – Micro
Batches
Continuous stream is not
the norm today

Continuous stream of
events
Capture of almost all events

Usually Model Complexity is Higher for Enterprise Data

Questions