Gartner Data & Analytics Summit
Summit 2018

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Summits

The Essentials of Modern BI and Analytics

Cindi Howson
@BIscorecard

State of the Art

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State of the Art

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Key Issues

1. How is modern analytics and BI different from traditional BI?

2. What are the market trends?

3. What are the impacts on technology, roles and design choices?

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Strategic Planning Assumptions

By 2018, smart, governed, Hadoop-based, search-based and visual-based data discovery will converge in a single form of next-generation data discovery that will include self-service data preparation and natural-language generation. (Published in 2016. We are there.)

By 2020, augmented analytics — a paradigm that includes natural language query and narration, augmented data preparation, automated advanced analytics and visual-based data discovery capabilities — will be a dominant driver of new purchases of business intelligence, analytics and data science and machine learning platforms and of embedded analytics.
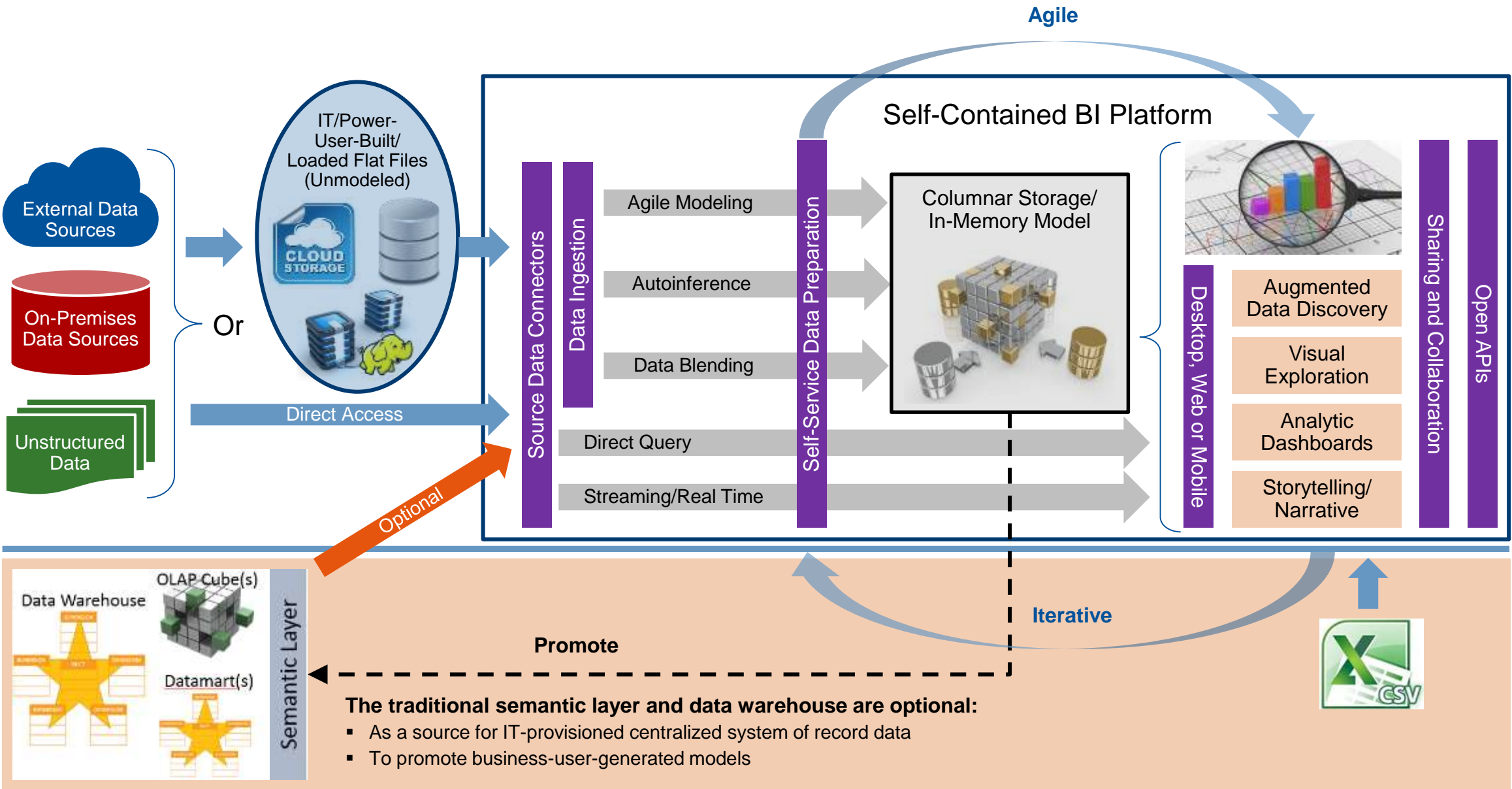
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Modern BI Platform Definition

A modern BI platform supports IT-enabled analytic content development.

It is defined by a **self-contained architecture** that enables **nontechnical** users to **autonomously** execute full-spectrum analytic workflows from data access, ingestion and preparation to interactive analysis and the collaborative sharing of insights.
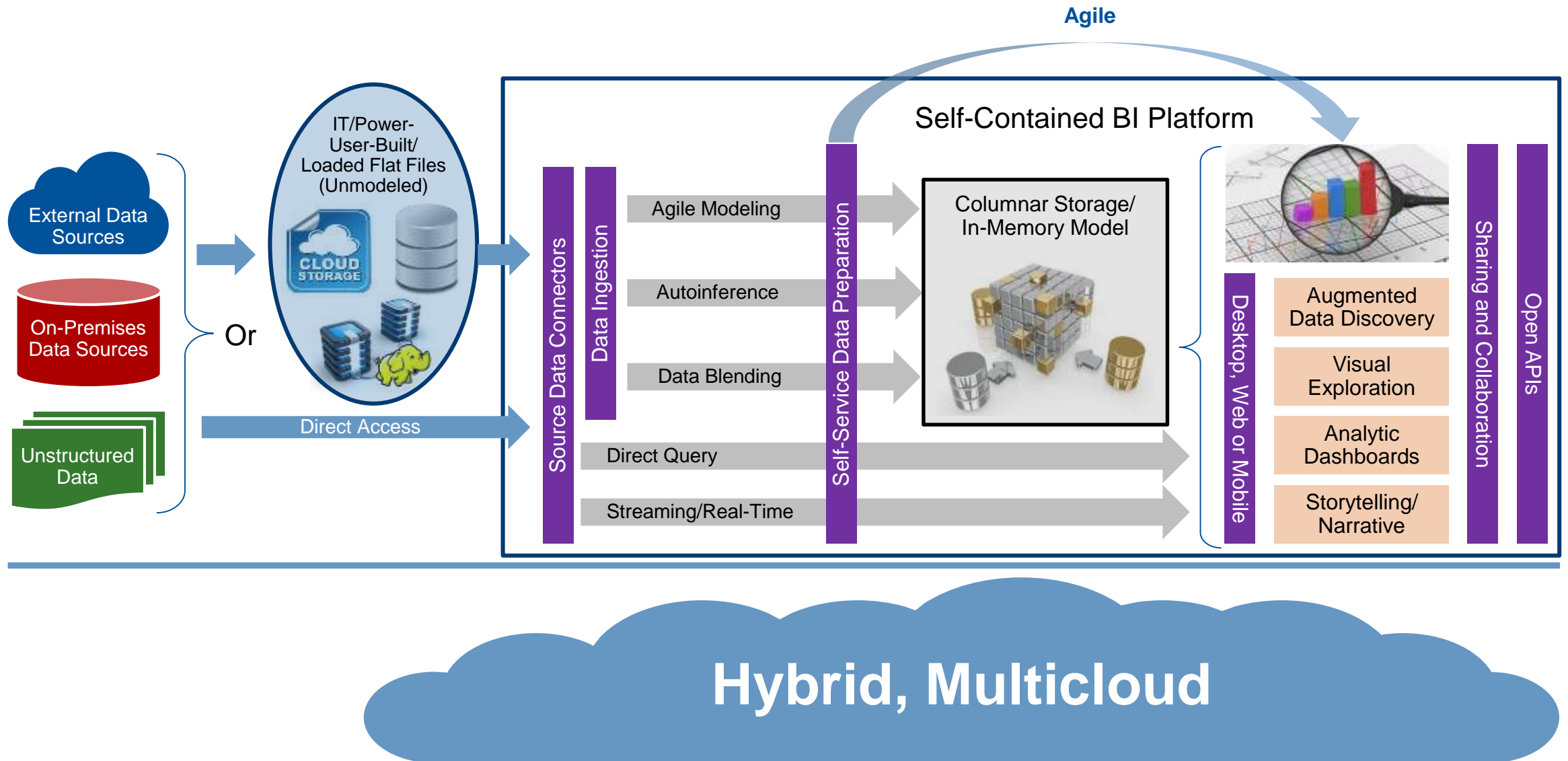
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Modern Analytics and BI

Agile

Self-Contained BI Platform

External Data Sources

On-Premises Data Sources

Or

Unstructured Data

IT/Power-User-Built/ Loaded Flat Files (Unmodeled)

Source Data Connectors

Data Ingestion

Agile Modeling

Autoinference

Data Blending

Direct Access

Direct Query

Streaming/Real Time

Optional

Self-Service Data Preparation

Columnar Storage/ In-Memory Model

Desktop, Web or Mobile

Augmented Data Discovery

Visual Exploration

Analytic Dashboards

Storytelling/ Narrative

Sharing and Collaboration

Open APIs

Iterative

Semantic Layer

Data Warehouse

OLAP Cube(s)

Datamart(s)

Promote

CSV

The traditional semantic layer and data warehouse are optional:
- As a source for IT-provisioned centralized system of record data
- To promote business-user-generated models

Modern Analytics and BI: On-Premises, Cloud, Hybrid

Agile

External Data Sources

On-Premises Data Sources

Unstructured Data

Or

IT/Power-User-Built/Loaded Flat Files (Unmodeled)

CLOUD STORAGE

Direct Access

Self-Contained BI Platform

Source Data Connectors

Data Ingestion

Agile Modeling

Autoinference

Data Blending

Self-Service Data Preparation

Columnar Storage/In-Memory Model

Direct Query

Streaming/Real-Time

Desktop, Web or Mobile

Augmented Data Discovery

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Open APIs

Hybrid, Multicloud

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By contrast, traditional BI platforms are designed to support modular development of **IT-produced** analytic content, specialized tools and skills and significant **upfront data modeling,** coupled with a **predefined metadata layer,** is required to access their analytic capabilities.

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Traditional BI Architecture: On-Premises

IT-Centric

OLAP Cube(s)

Data Warehouse

Semantic Layer

BI Platform

On-Premises, Relational Data Sources

On-Premises, Relational Data Sources

On-Premises, Relational Data Sources

E T L

Reports

Scheduling and Distribution

Mobile

Dashboards

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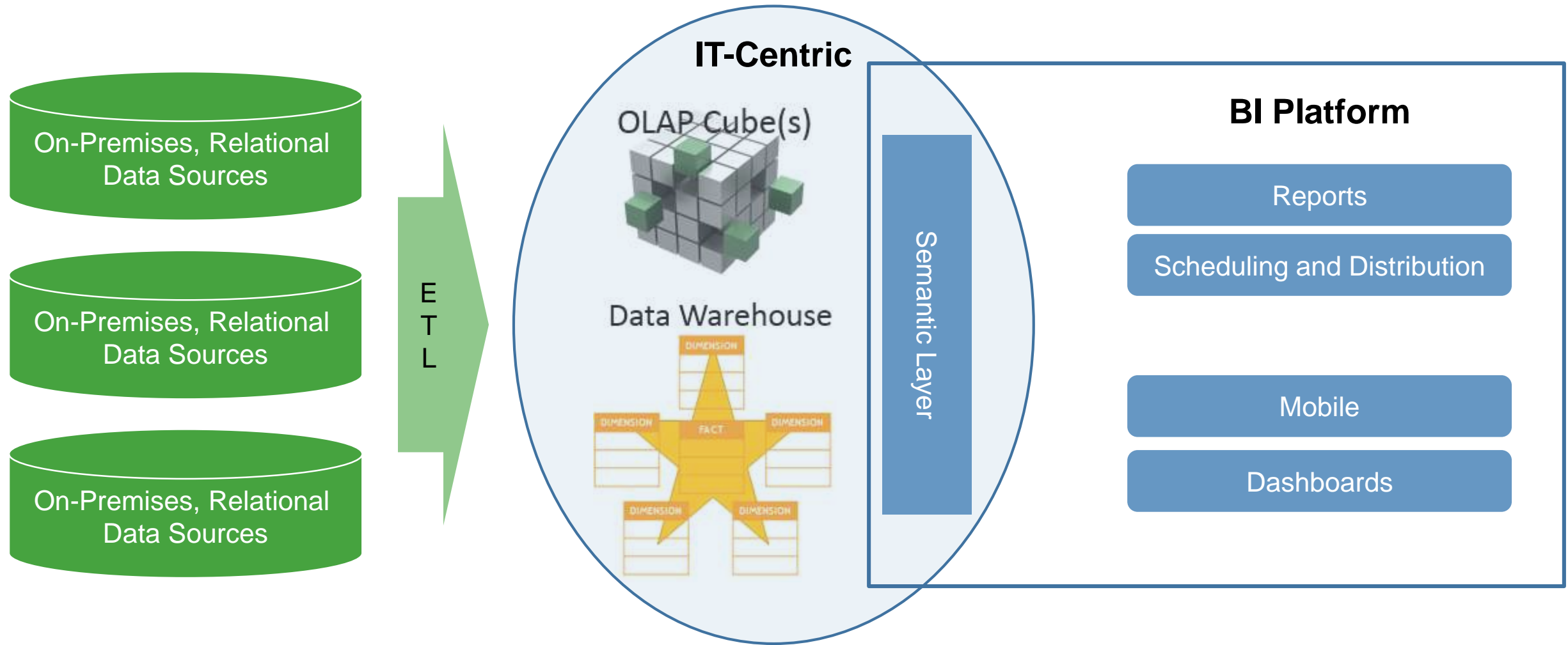
Picture Your Current Traditional BI Platform

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Differences in Time to Market, Ease of Use, Business Benefits

Traditional BI

ETL → Model Star Schemas or Cubes → Model Semantic Layer → Design Report → Program Interactive Report

Months, Waterfall Approach

Modern Analytics

Point to Data, Prepare → Visualize and Explore → Design Story → Discuss

Hours or Days, Iterative Approach

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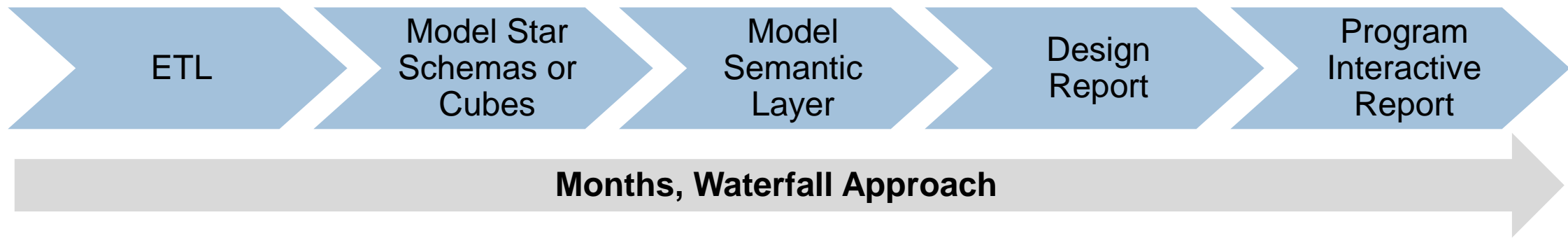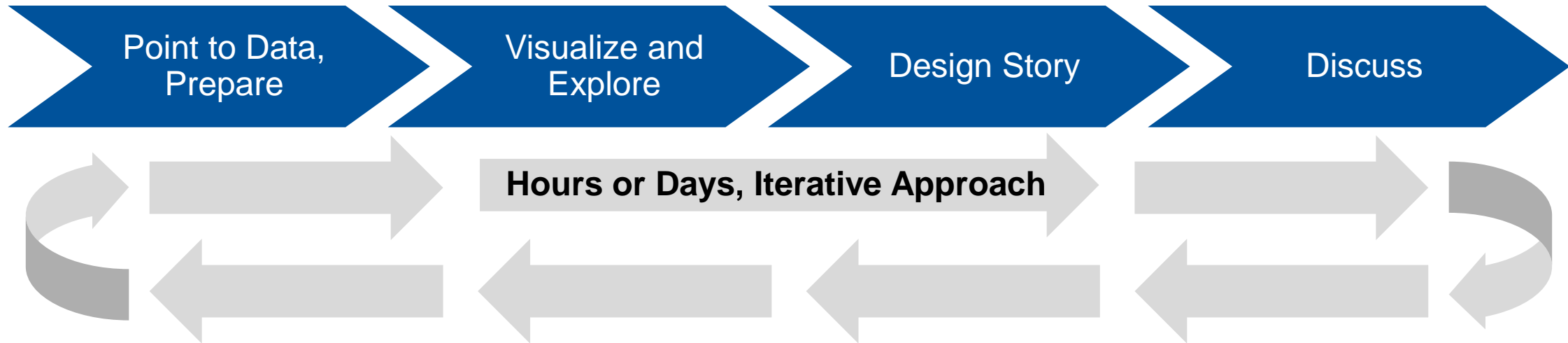
Examples of Leading Traditional BI Platforms

SAP BusinessObjects Web Intelligence
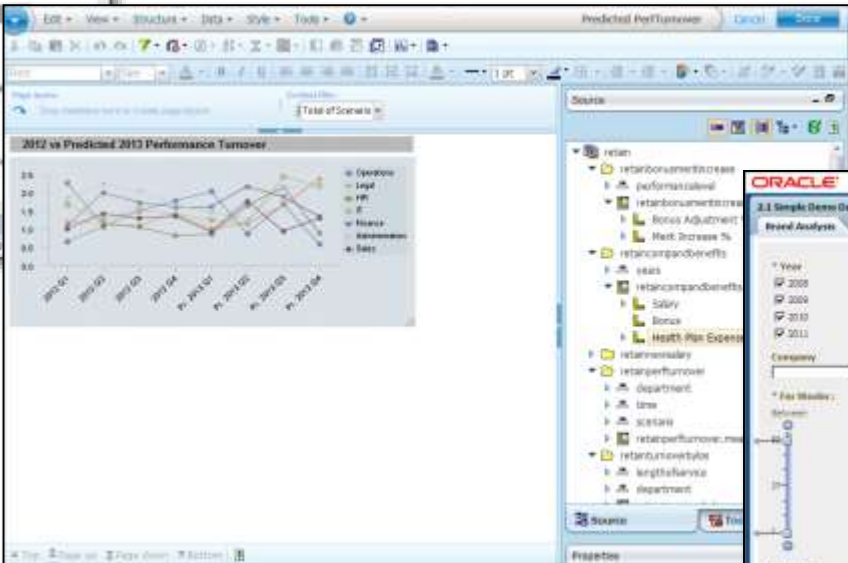
IBM Cognos 10

Oracle BI EE

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Contrast That With Modern Analytics and BI Interactive Dashboard Example With Qlik

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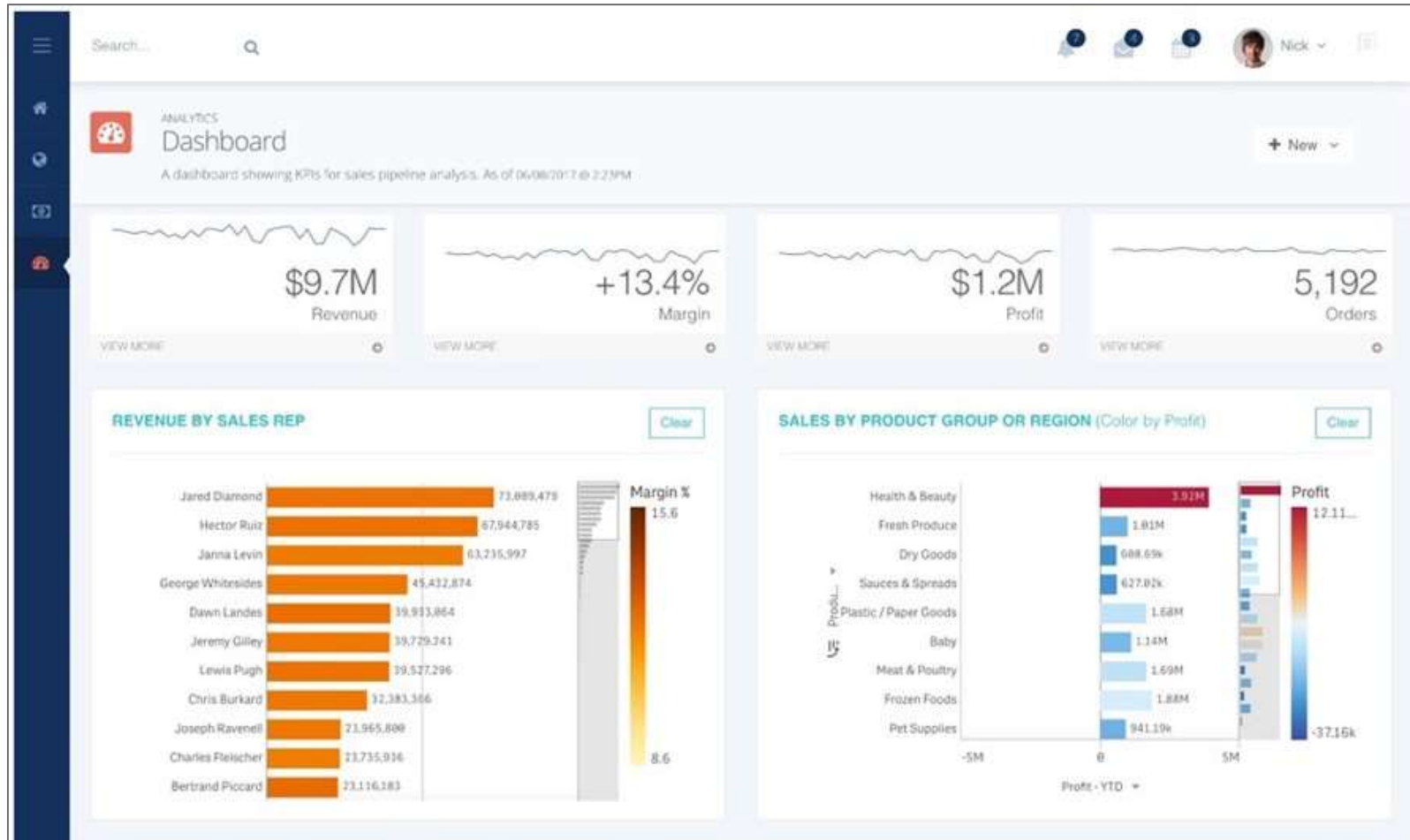
Contrast That With Modern Analytics and BI Dashboard With Discussions Example With Domo

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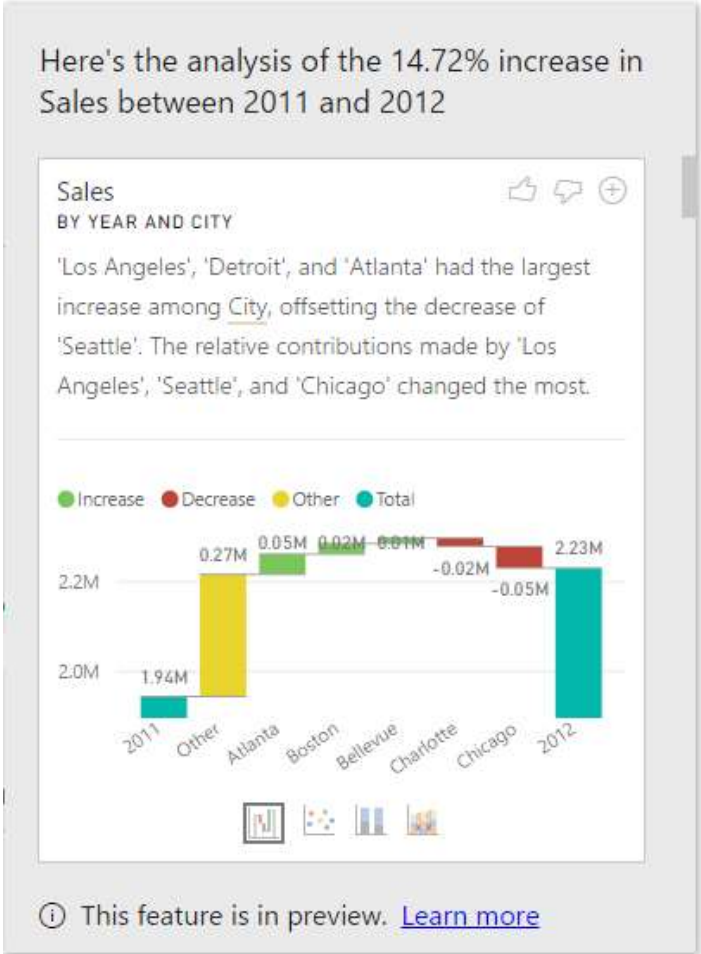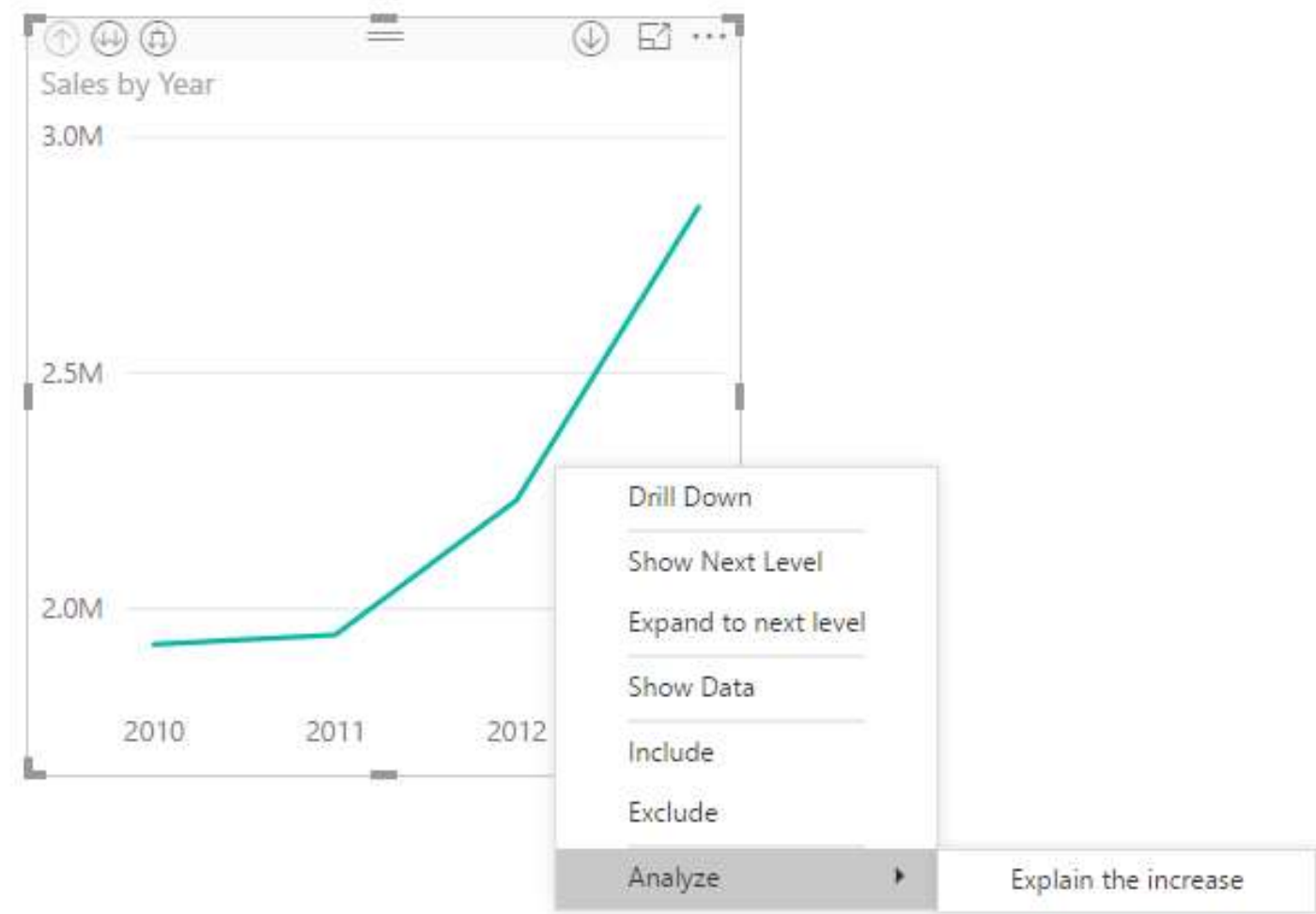# Contrast That With Modern Analytics and BI Search Example With ThoughtSpot

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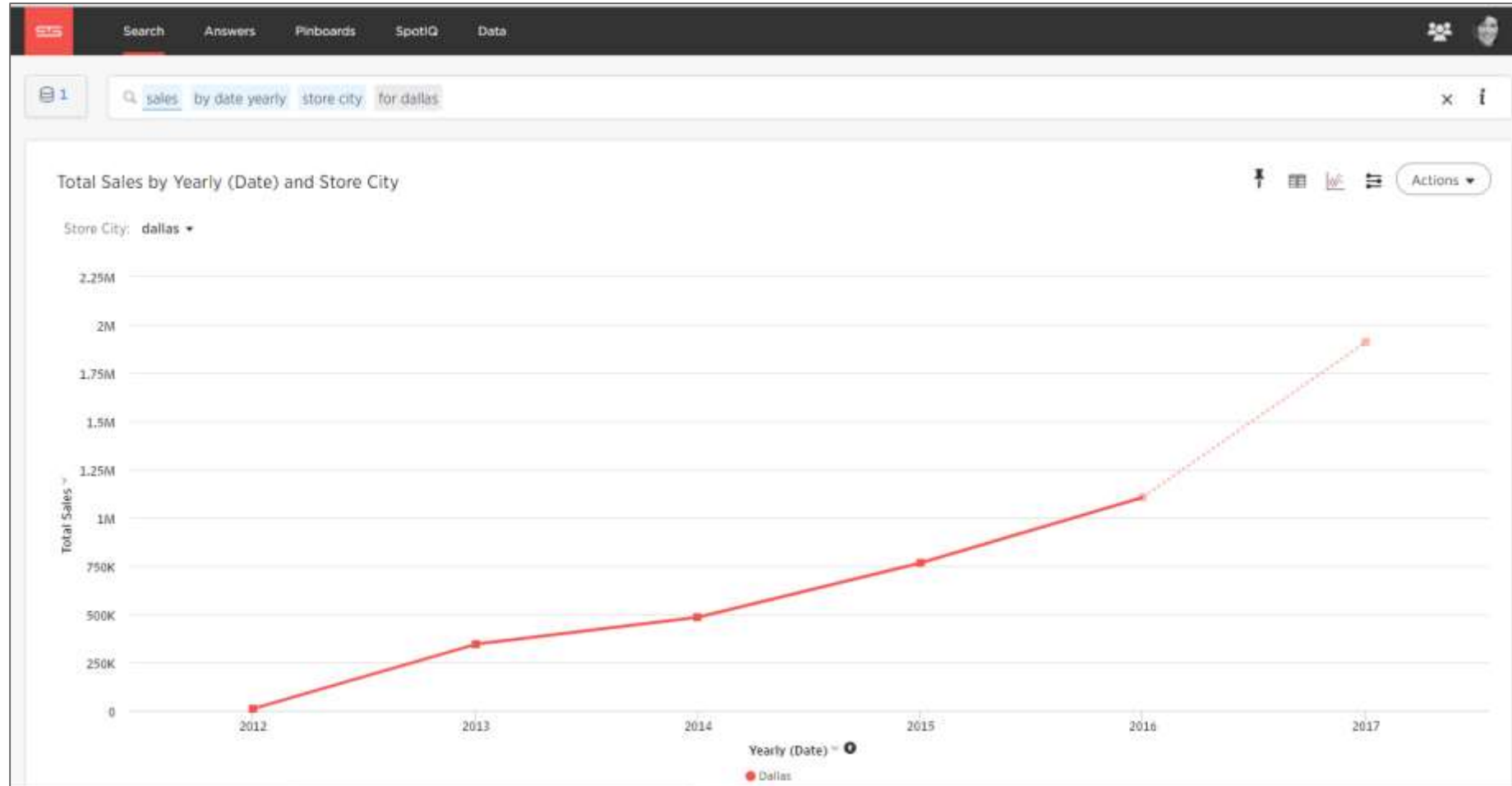
Contrast That With Modern Analytics and BI
Menu-Driven Clustering With Tableau Software

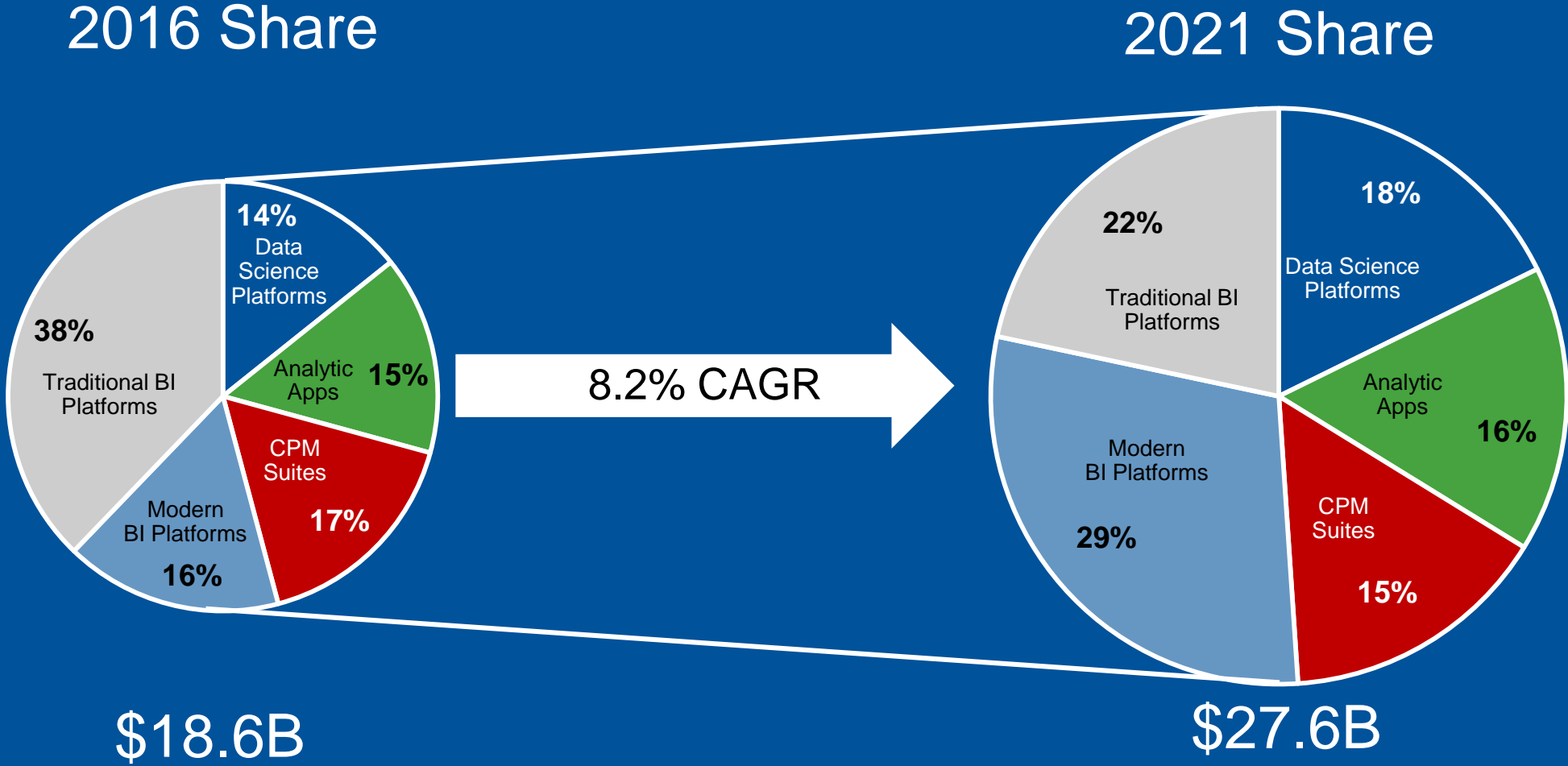**Gartner.**
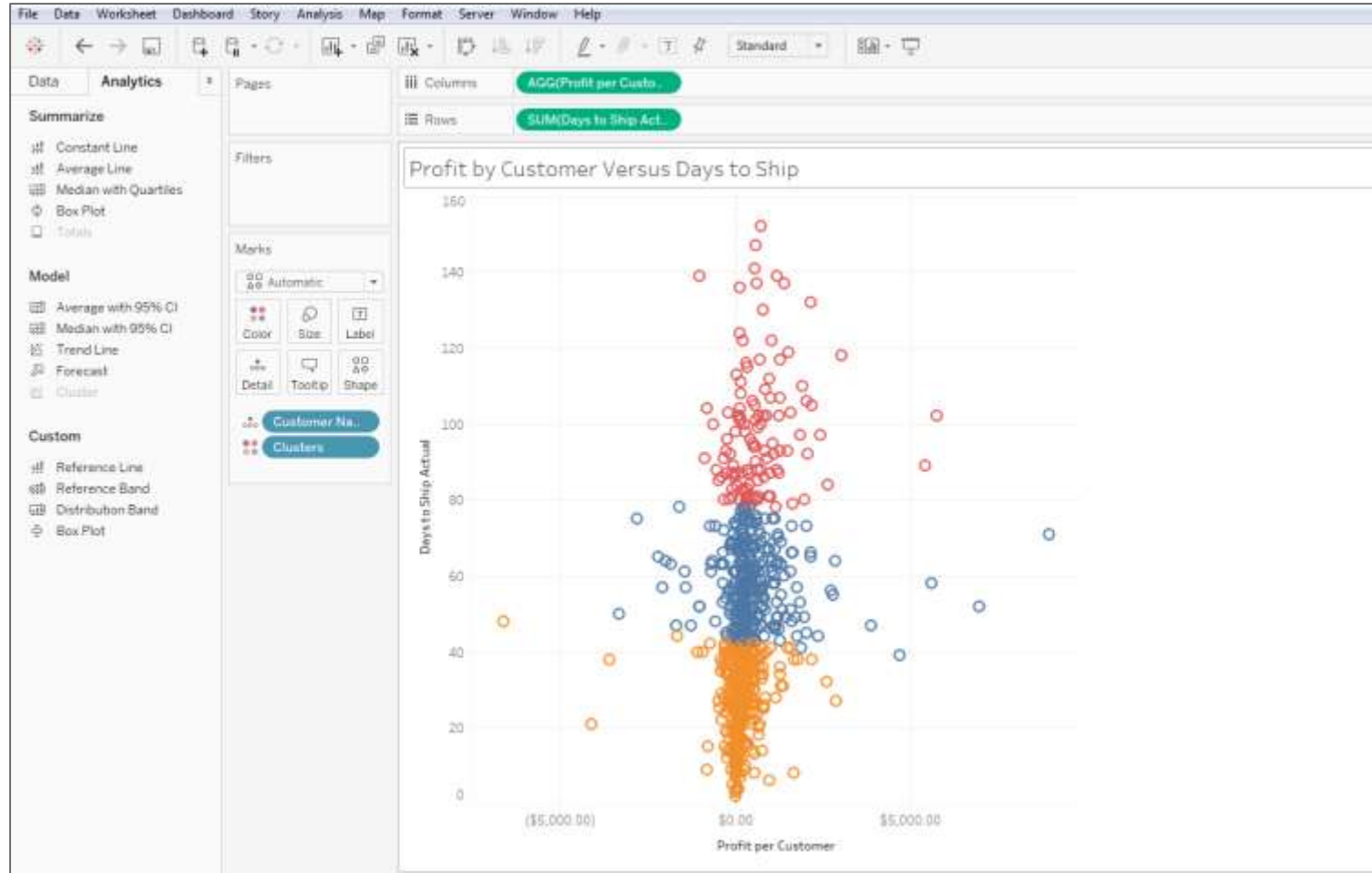
Contrast That With Modern Analytics and BI Menu-Driven Variance Analysis With Microsoft Power BI
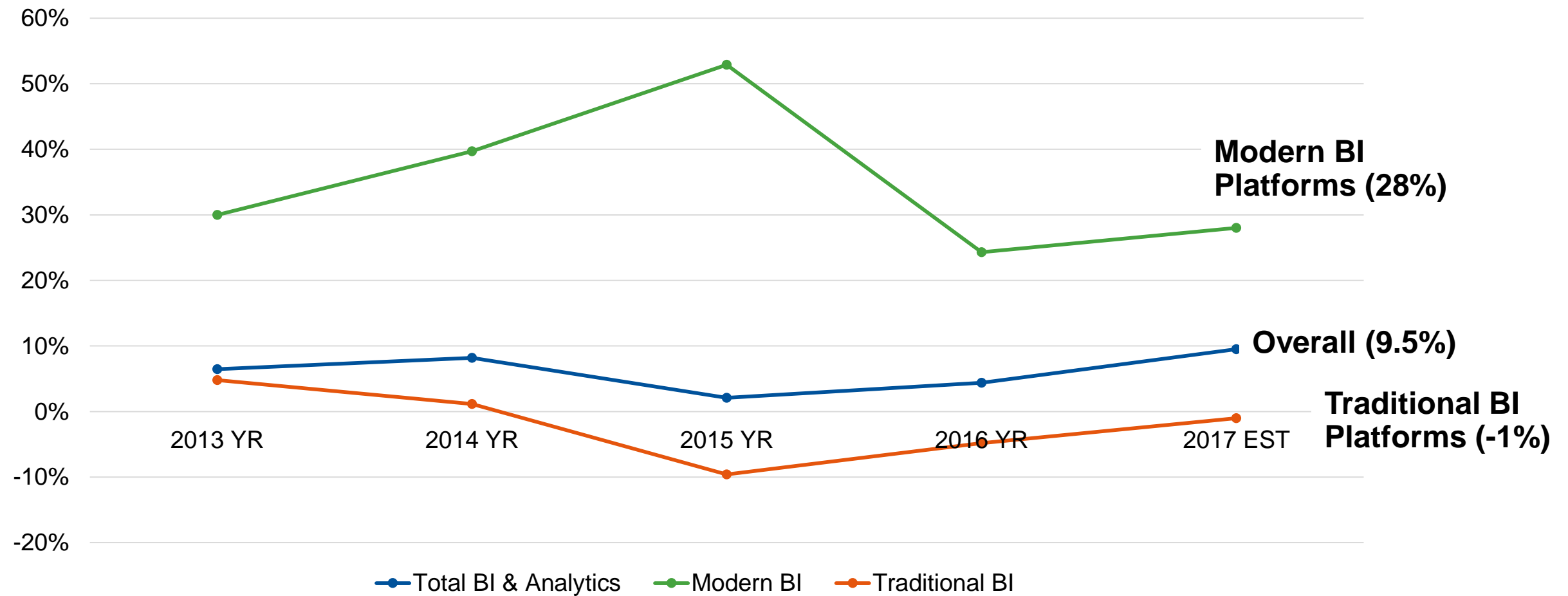
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Analytics and BI Market Transition Continues

2016 Share

- **14%** Data Science Platforms
- **15%** Analytic Apps
- **17%** CPM Suites
- **16%** Modern BI Platforms
- **38%** Traditional BI Platforms

$18.6B

2021 Share

- **18%** Data Science Platforms
- **16%** Analytic Apps
- **15%** CPM Suites
- **29%** Modern BI Platforms
- **22%** Traditional BI Platforms
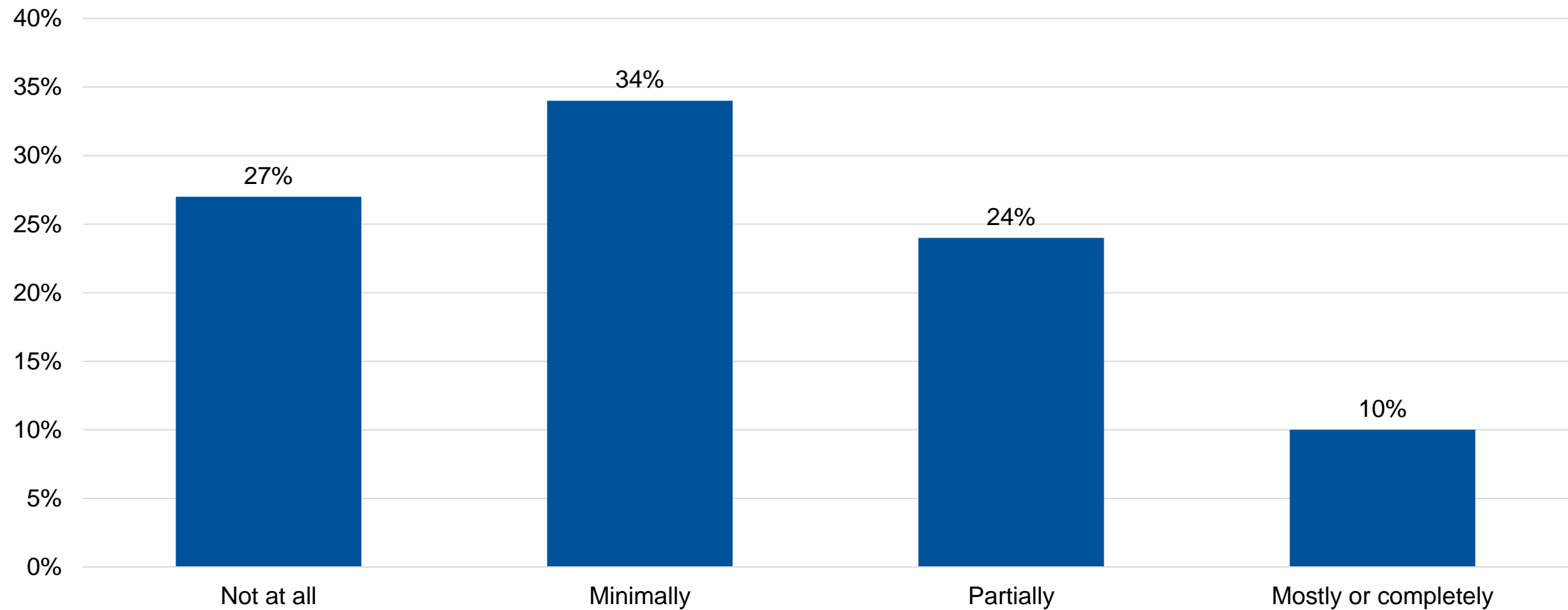
$27.6B

8.2% CAGR

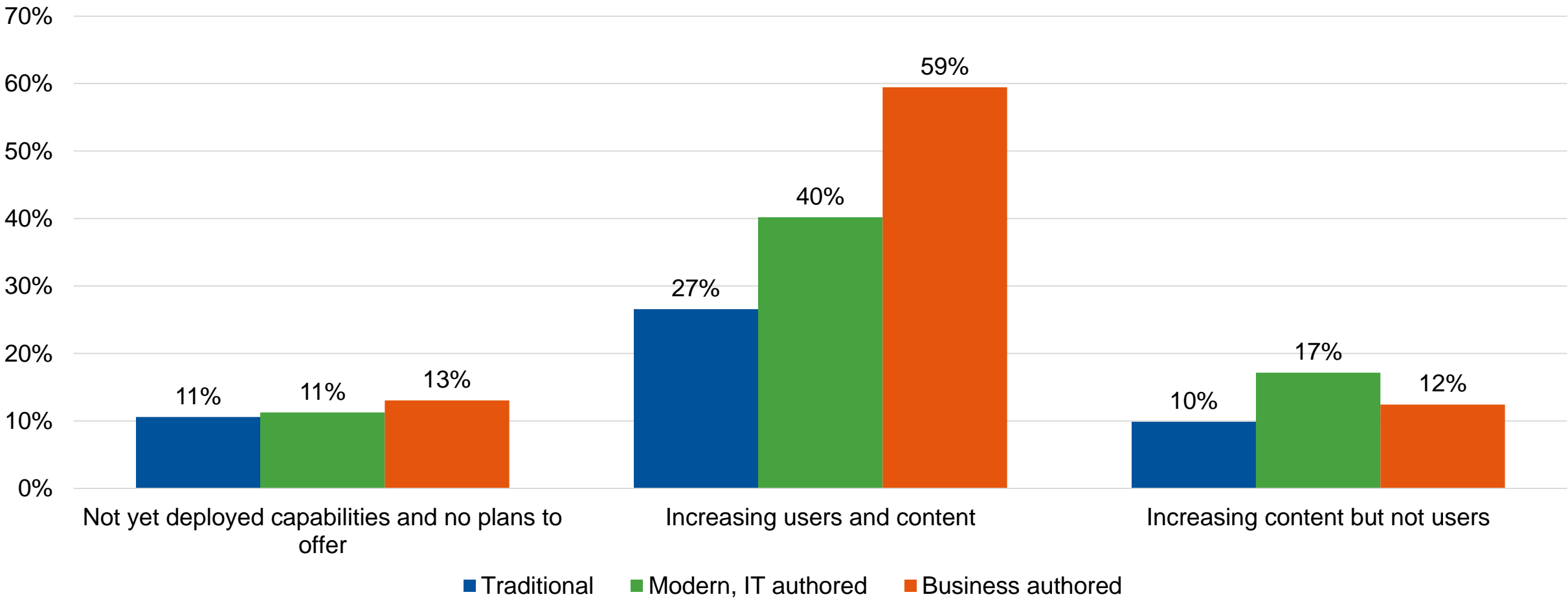**Gartner**

Analytics and BI Market Share Growth, Year Over Year

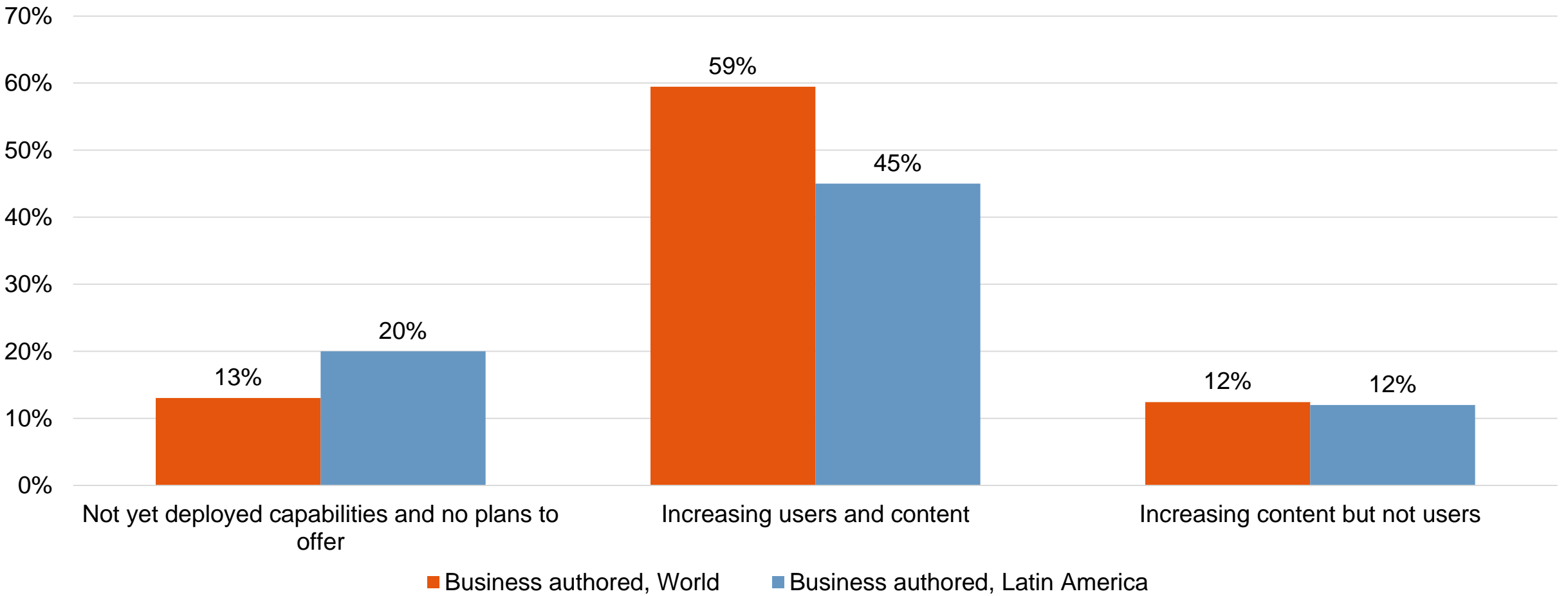# ITScore Self-Assessments: Degree of Having Modern ABI With Self-Service Data Discovery

n = 691 ITScore Assessments, June 2016 to June 2017

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The State of Modernization From ABI MQ References

n = 1359, 2018 Analytics and BI Magic Quadrant Reference Survey

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The State of Modernization From ABI MQ References — Latin America

Legend:
- Business authored, World
- Business authored, Latin America

Categories:
- Not yet deployed capabilities and no plans to offer: 13% (World), 20% (Latin America)
- Increasing users and content: 59% (World), 45% (Latin America)
- Increasing content but not users: 12% (World), 12% (Latin America)
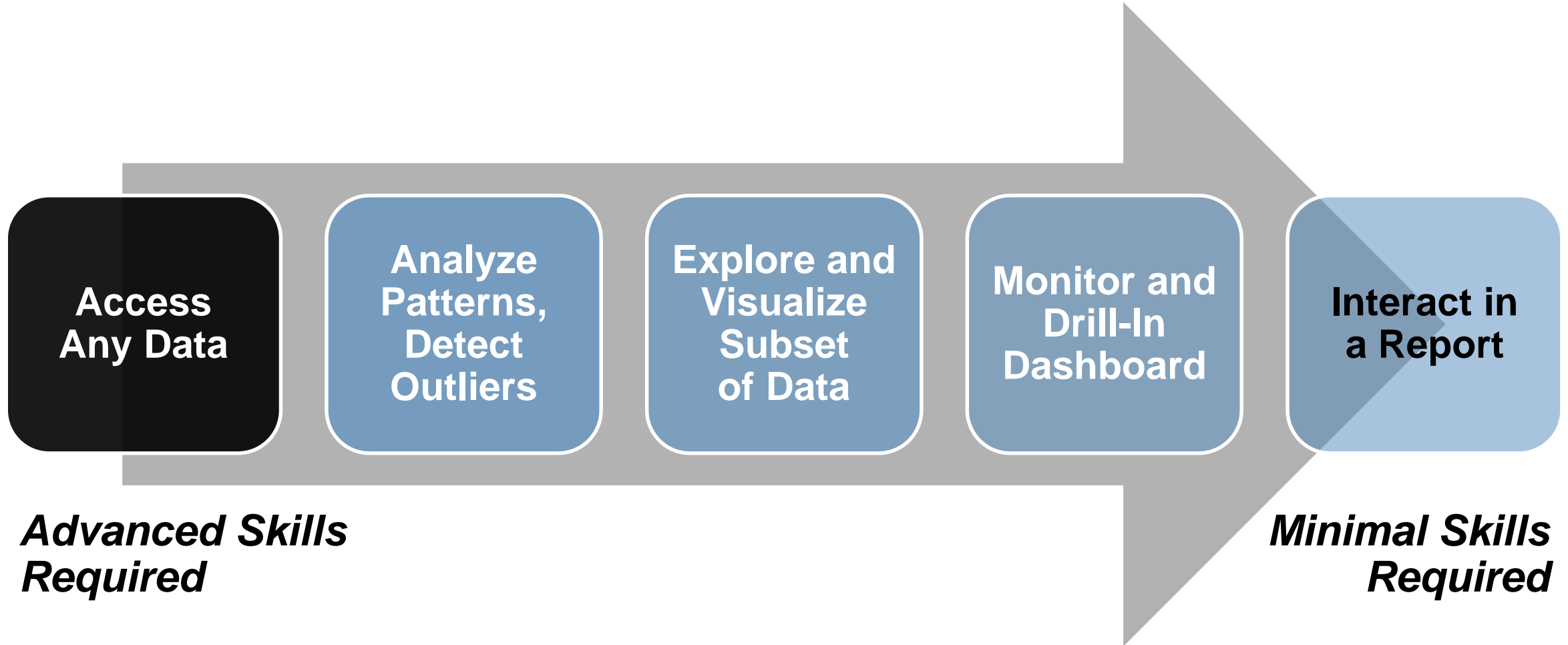
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Key Issues

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Steps to Modernization

1. Upgrade or augment the technology

2. Shift in roles and responsibilities:

    – But only if skills-ready

3. Shift of where and how you do the data modeling:

    – Data warehouse, data lake, analytic tool

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Self-Service Analytics and BI Continuum

Access Any Data

Analyze Patterns, Detect Outliers

Explore and Visualize Subset of Data

Monitor and Drill-In Dashboard

Interact in a Report

Advanced Skills Required

Minimal Skills Required

Self-Service Analytics and BI Continuum: Users Not Ready and Fearful of Change

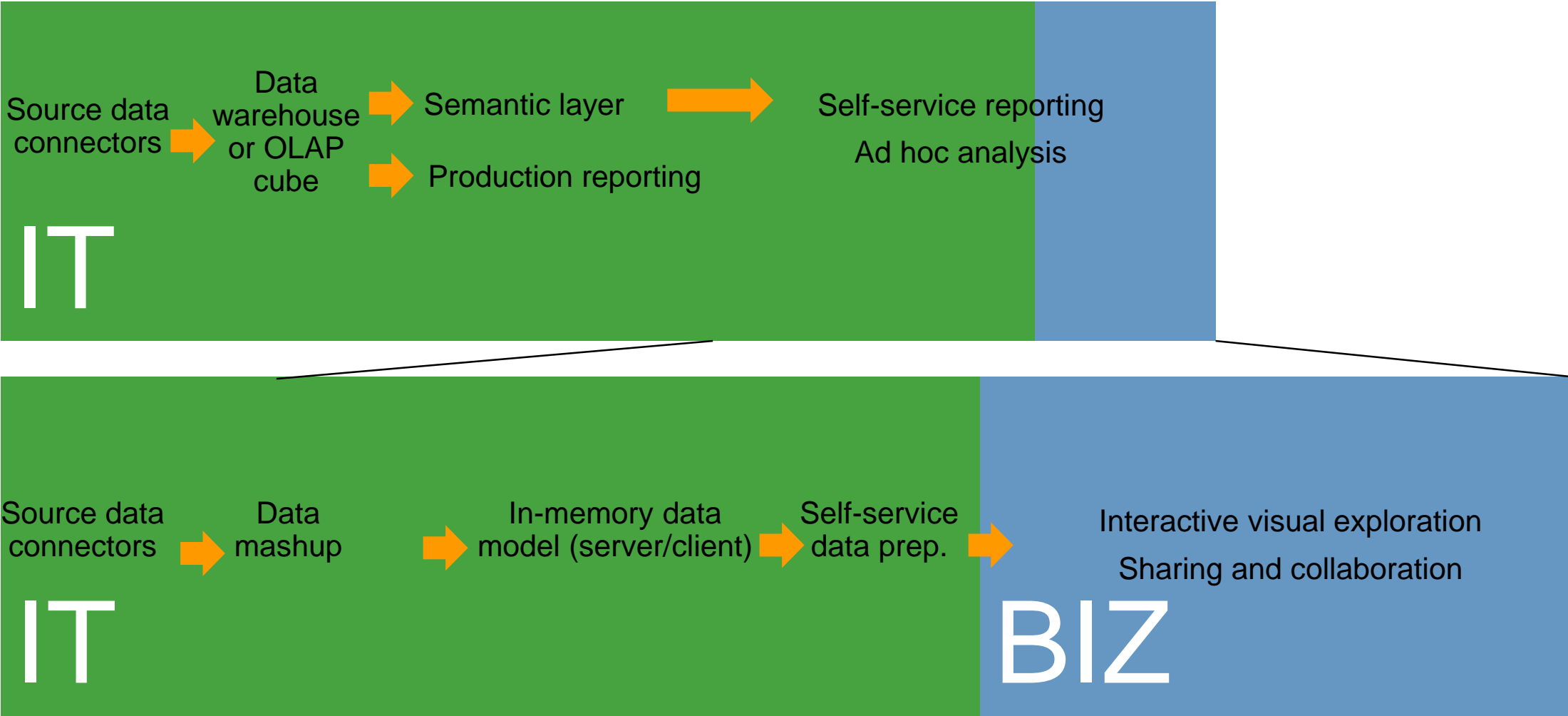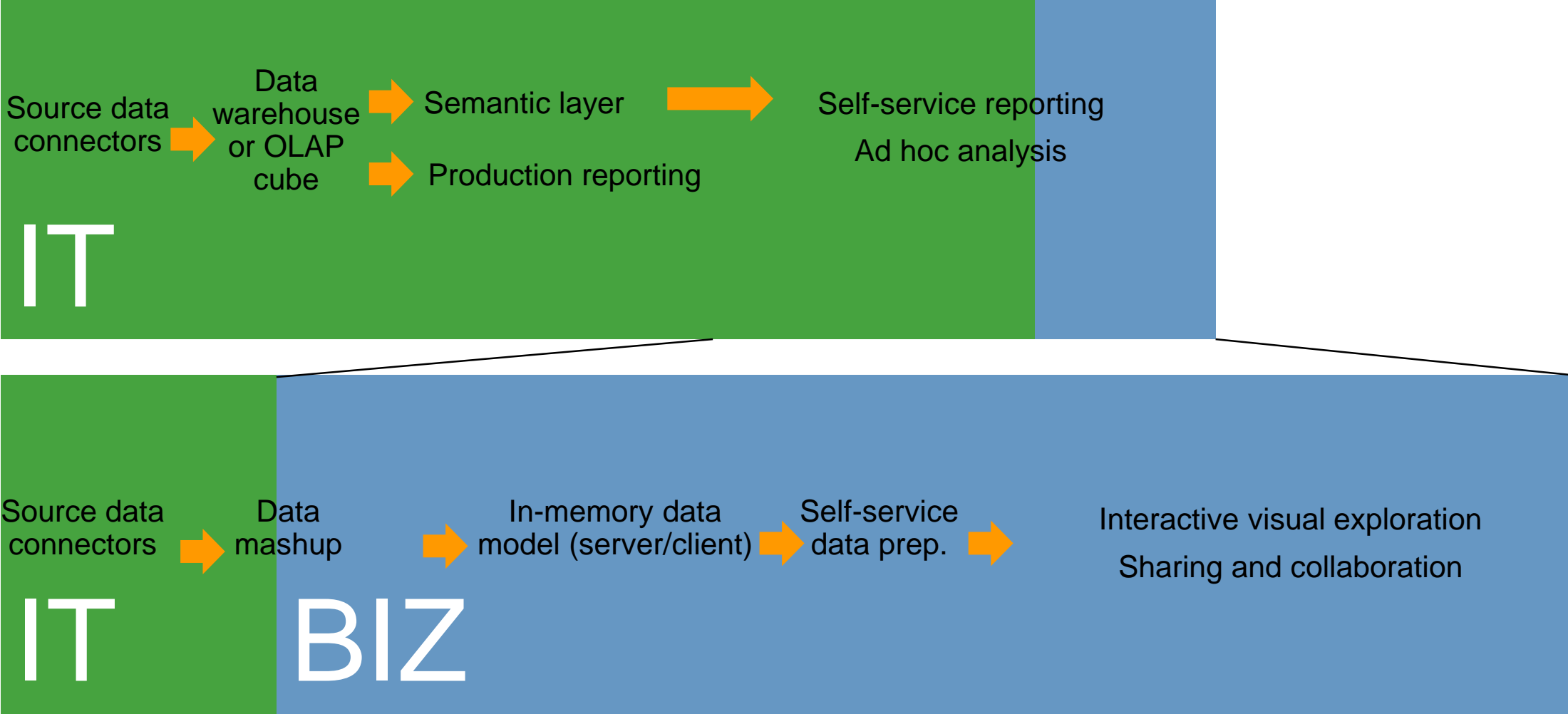**Advanced Skills Required**

Minimal Skills Required

Invest in Data Literacy

Modernization: Shift in Roles and Responsibilities

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Modernization: Shift in Roles and Responsibilities

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Assess Your Readiness: Establish Guard Rails

Drive

Ride

Ride With Training Wheels

Walk

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Evolve to Self-Service Analytics and BI
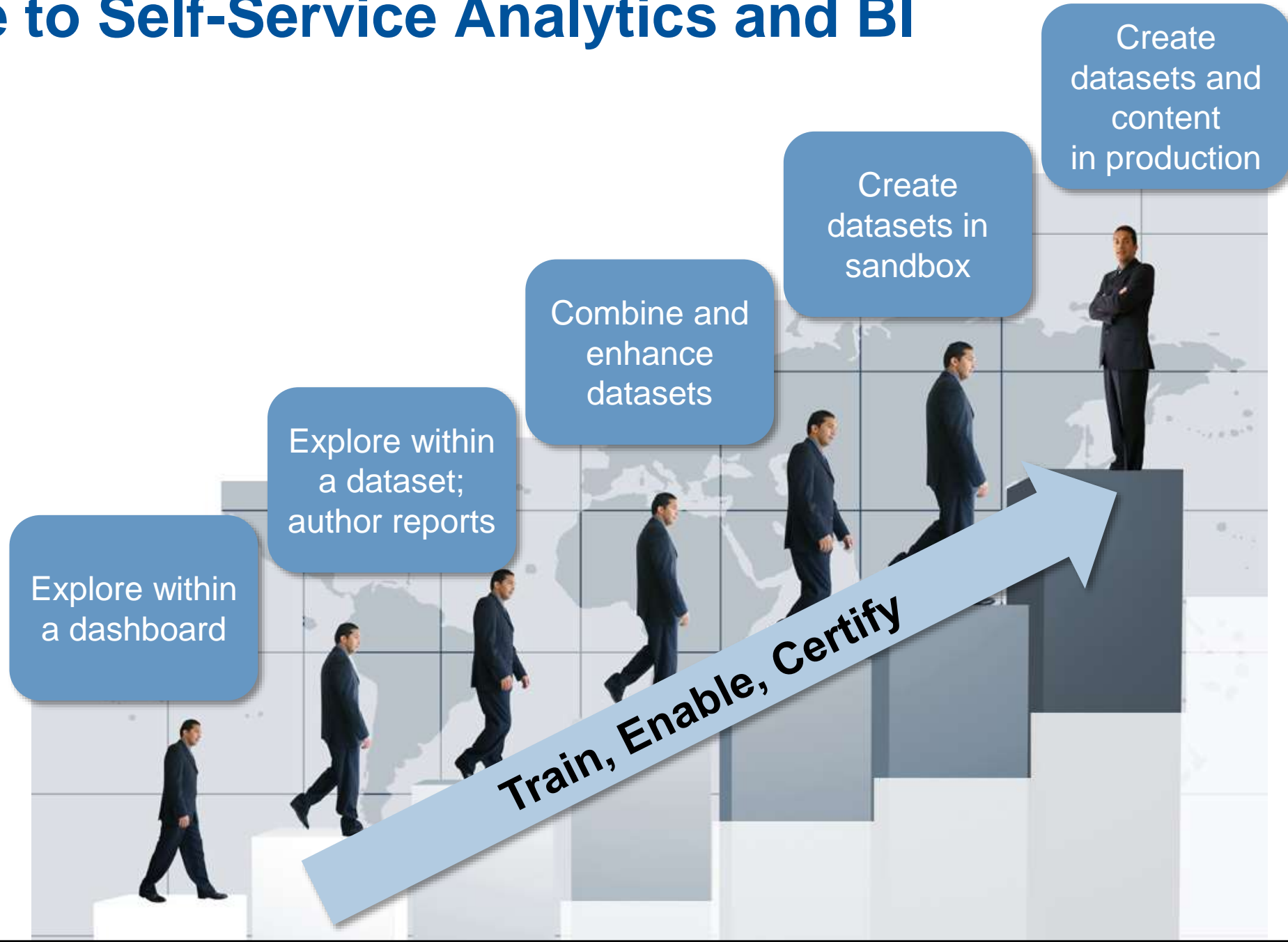
Explore within a dashboard

Explore within a dataset; author reports

Combine and enhance datasets

Create datasets in sandbox

Create datasets and content in production

Train, Enable, Certify

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Re-assess Design Choices Based on Predictability of Questions and Data

	Data	
Questions **Unknown**	Expanding Understanding and Investigating	Innovation and Exploration
Known	Foundational Core	Establishing Value
	Known	Unknown

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Re-assess Design Choices Based on Predictability of Questions and Data

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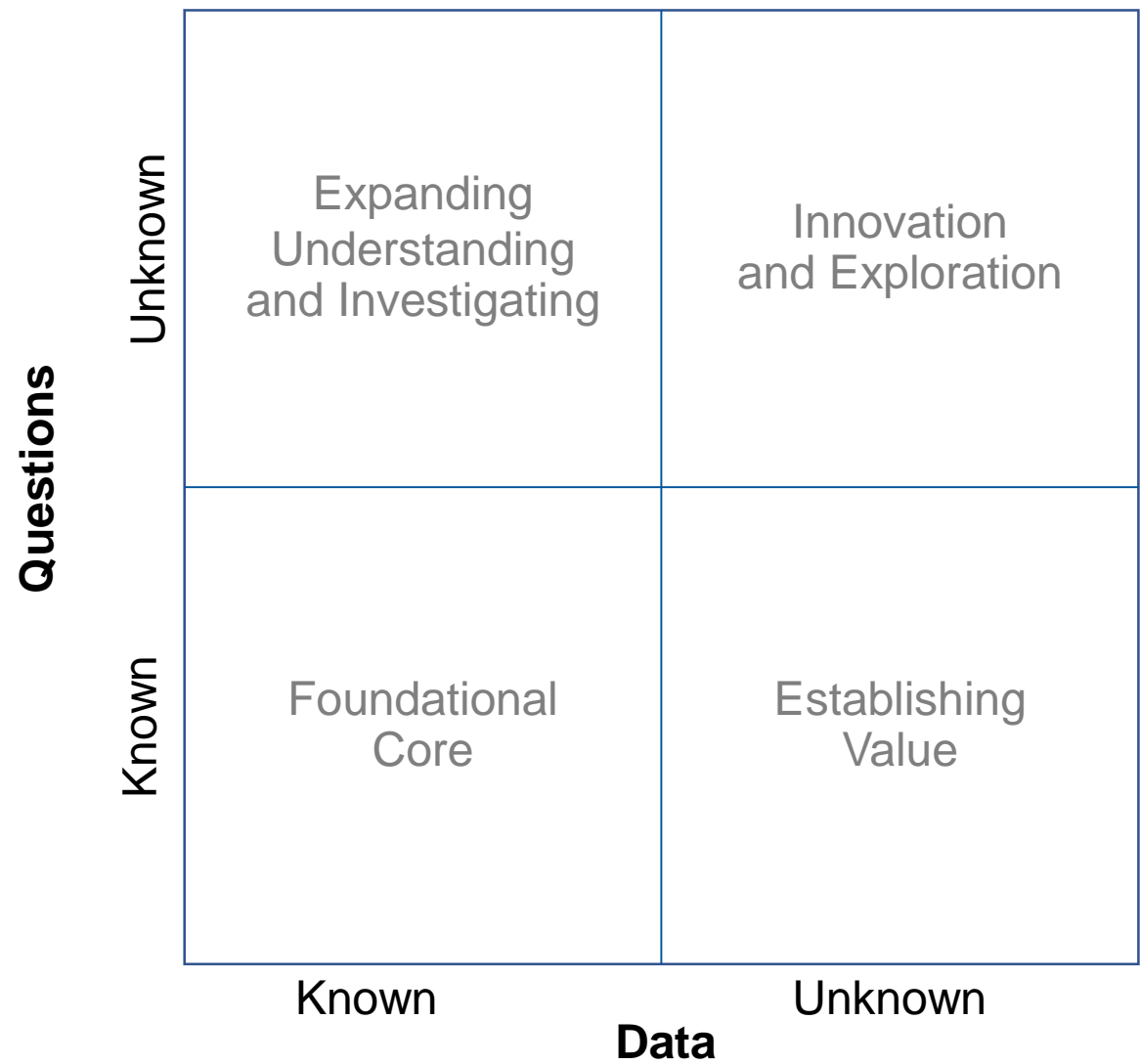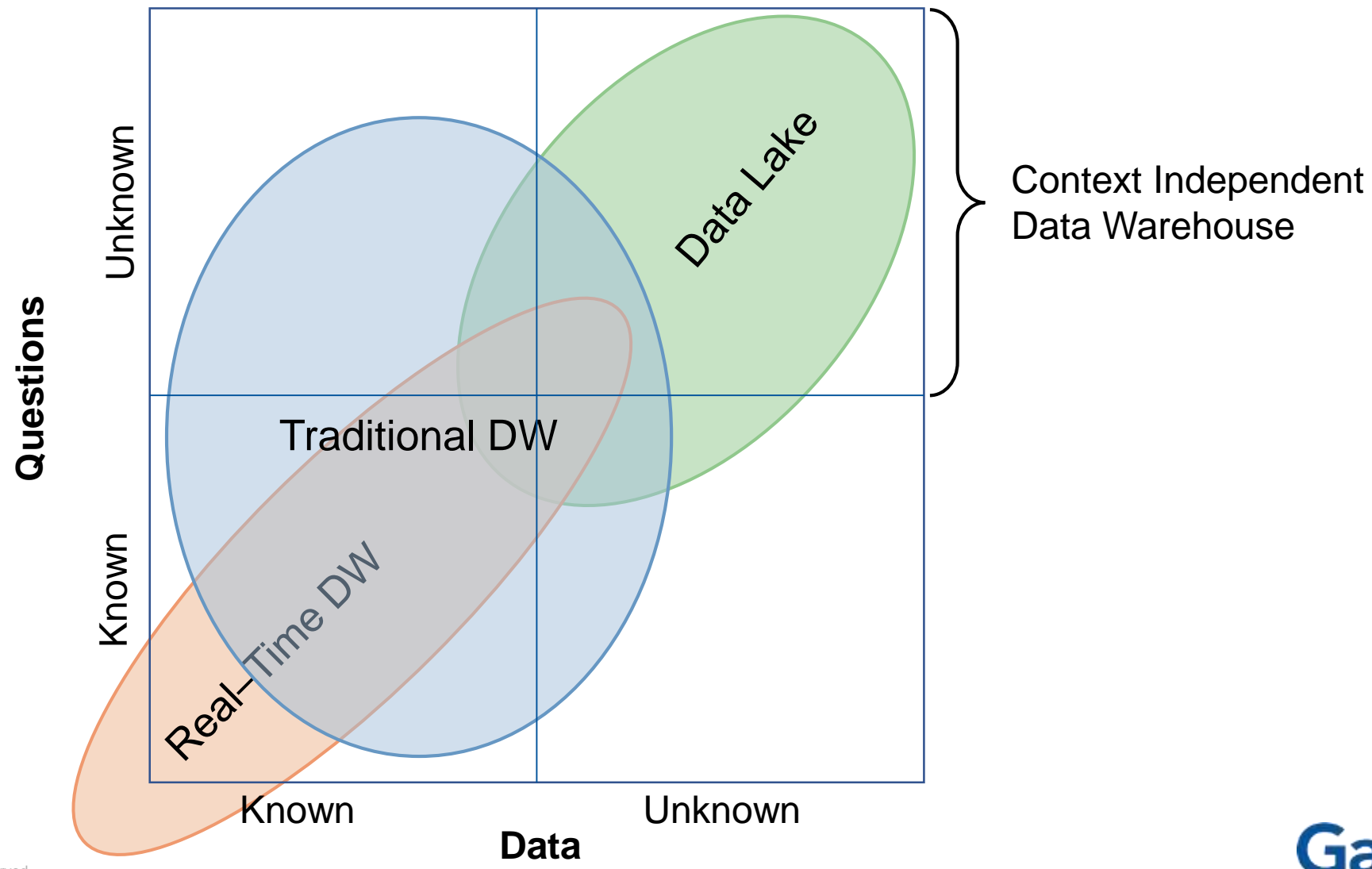
Recommendations

- ✓ Modernize!

- ✓ Assess readiness and establish guard rails.

- ✓ Invest in data literacy.

- ✓ Clarify roles, responsibilities, governance processes.

- ✓ Leverage new technologies and design approaches based on the use case and analytic patterns.

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Future State of the Art:

From Landline to Mobile Phone to

?

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Future State of the Art:

Augmented Analytics

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Recommended Gartner Research

▶ **Magic Quadrant for Analytics and Business Intelligence Platforms**
Cindi Howson, Rita L. Sallam, James Laurence Richardson and Others (G00326555)

▶ **Critical Capabilities for Business Intelligence and Analytics Platforms**
Cindi Howson, Rita L. Sallam, James Laurence Richardson and Others (G00303250)

▶ **Technology Insight for Modern Analytics and Business Intelligence Platforms**
Cindi Howson, Rita L. Sallam, Joao Tapadinhas and Others (G00331857)

▶ **Five Steps to Control Disengagement, Gain User Trust, and Modernize BI and Analytics**
Joao Tapadinhas (G00325887)

▶ **Information as a Second Language: Enabling Data Literacy for Digital Society**
Valerie A. Logan (G00300137)

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