

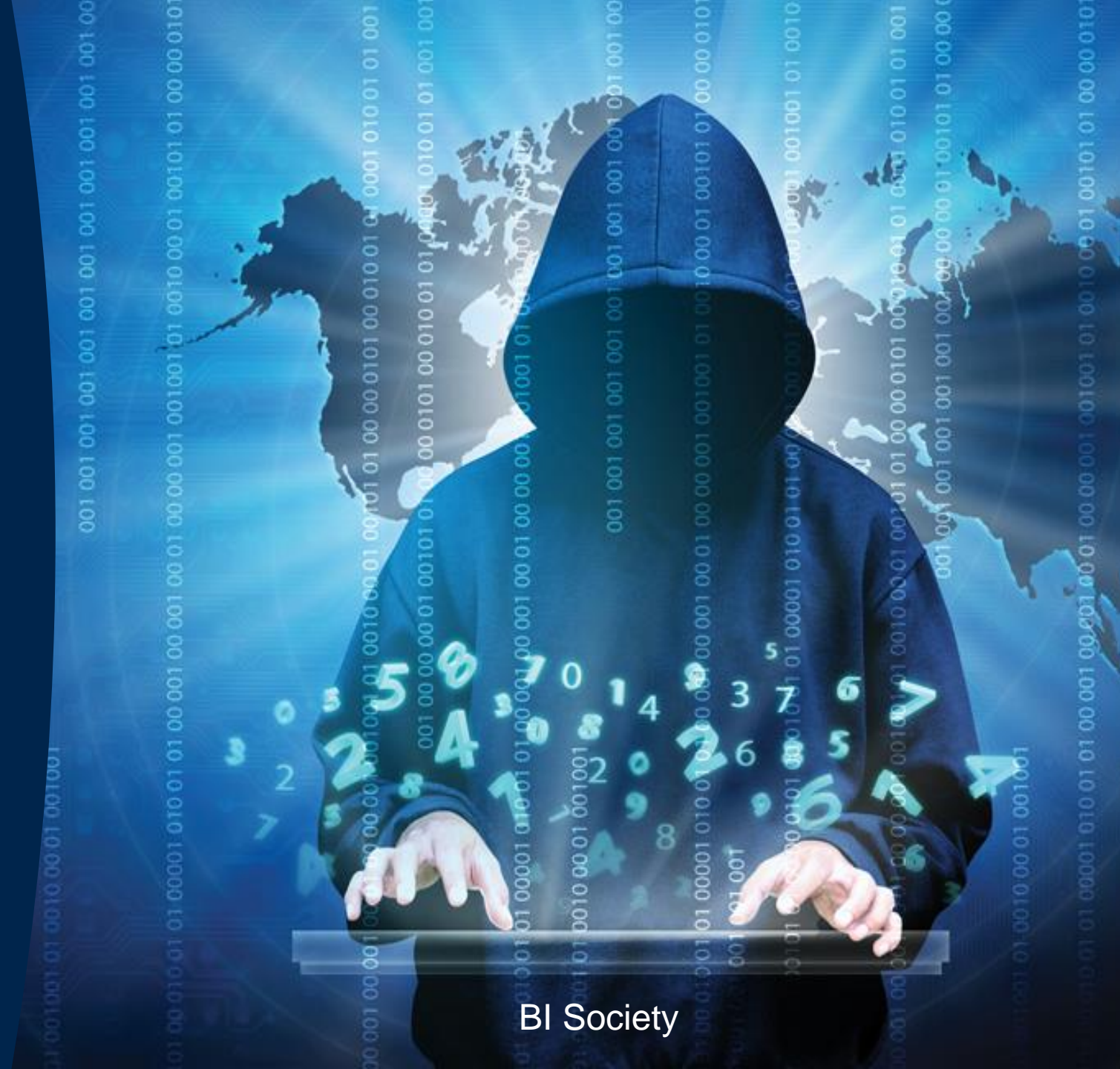


Harnessing Data and Analytics: Empowerment or Anarchy?

Carlie Idoine

April 9th, 2019

From enabling IT



BI Society

To enabling the Information Superhero

- Hard things easy
- Be the information superhero



To enabling everyone: Augmented Intelligence

- Smart
- Pervasive
- In context



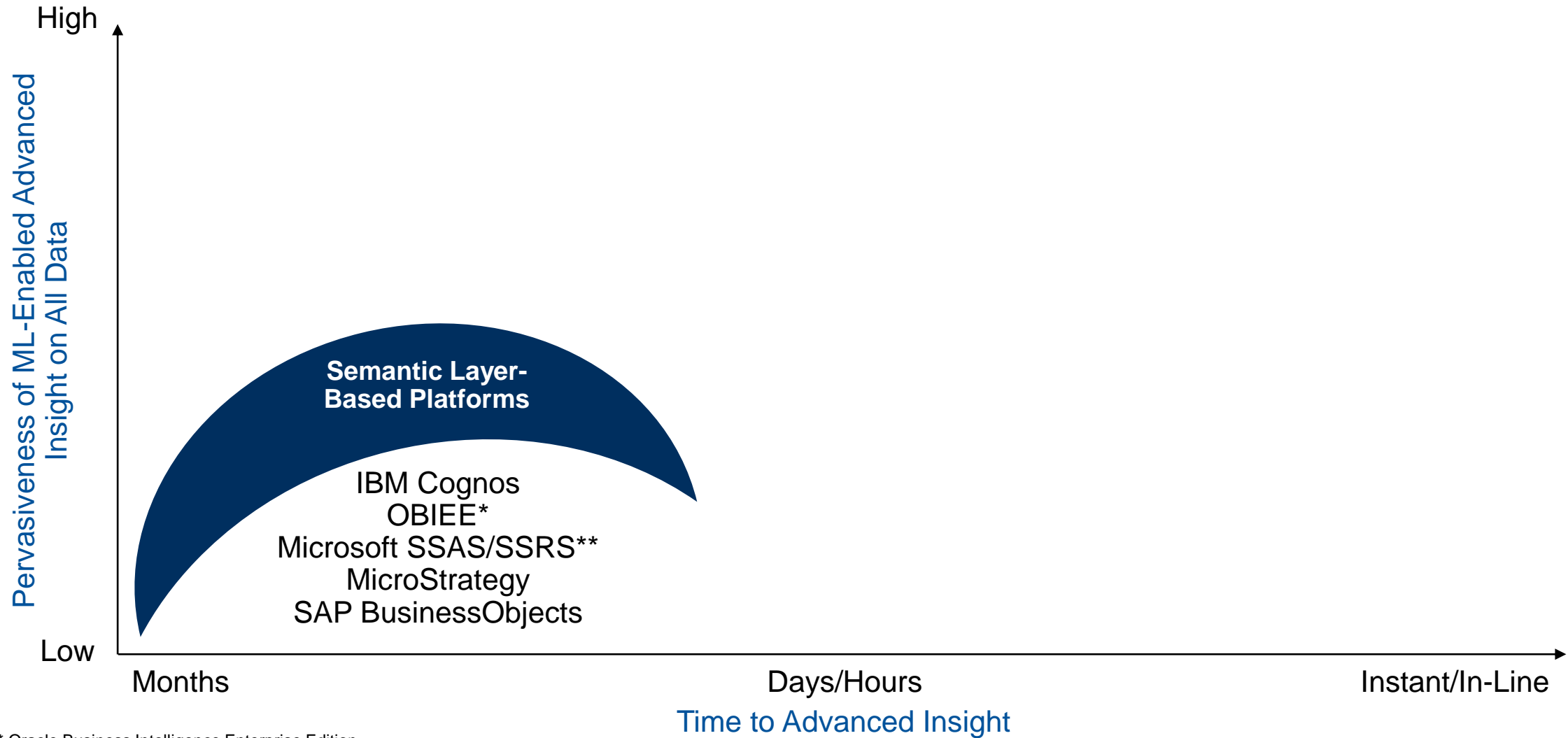
Key Issues

1. What is the state of the D&A market today?
2. What emerging trends and best practices are driving success?
3. Where is the cutting edge moving and how do you prepare?

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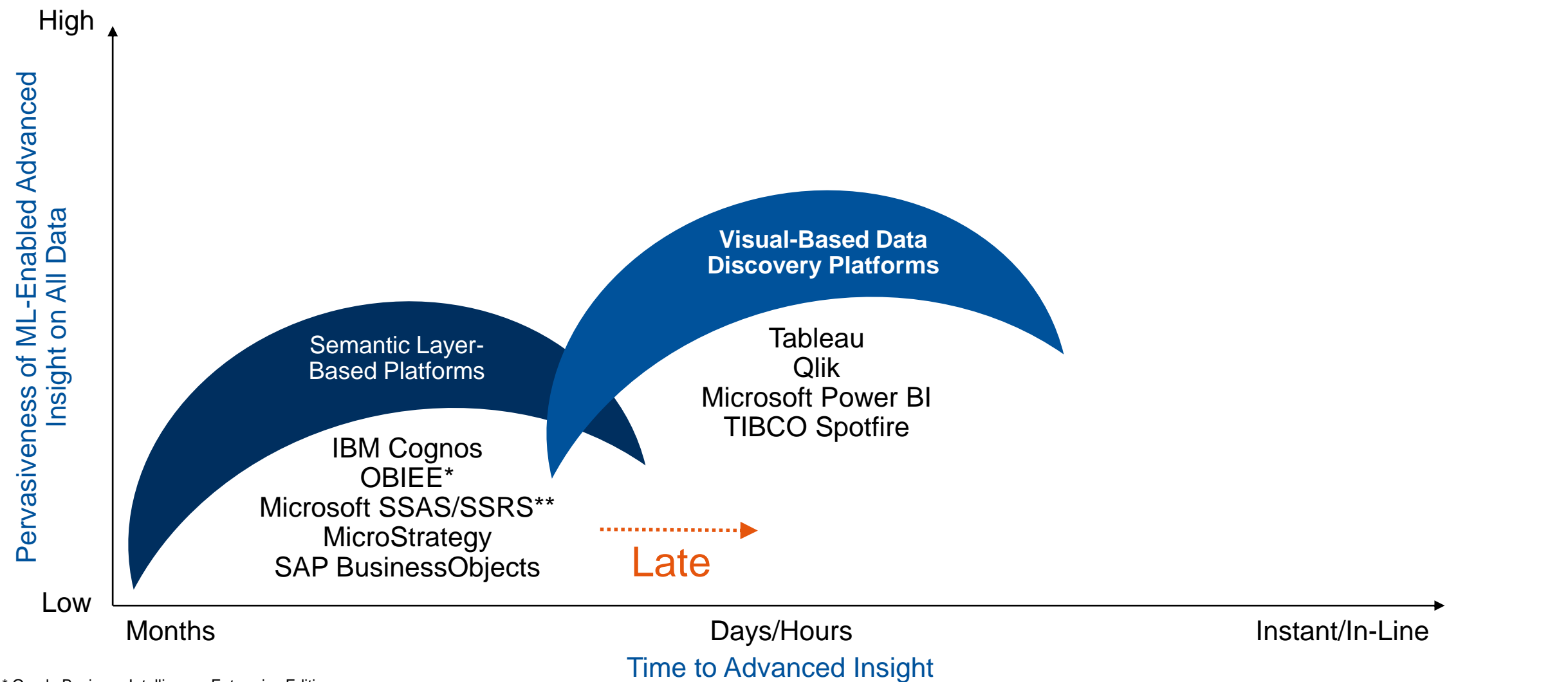
First Wave of Disruption



* Oracle Business Intelligence Enterprise Edition

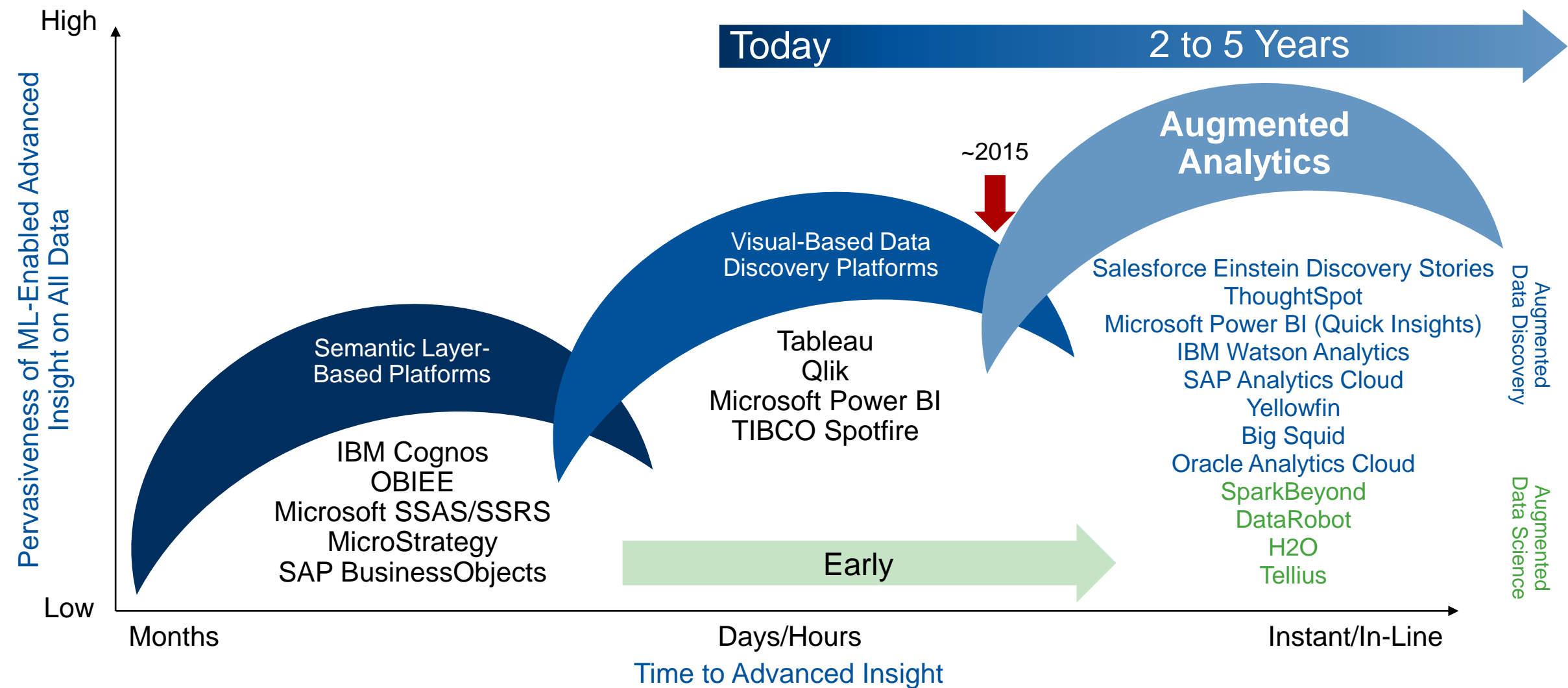
**Microsoft SQL Server Analysis Services/SQL Server Reporting Services

The Visual-Based Data Discovery Market Disruption



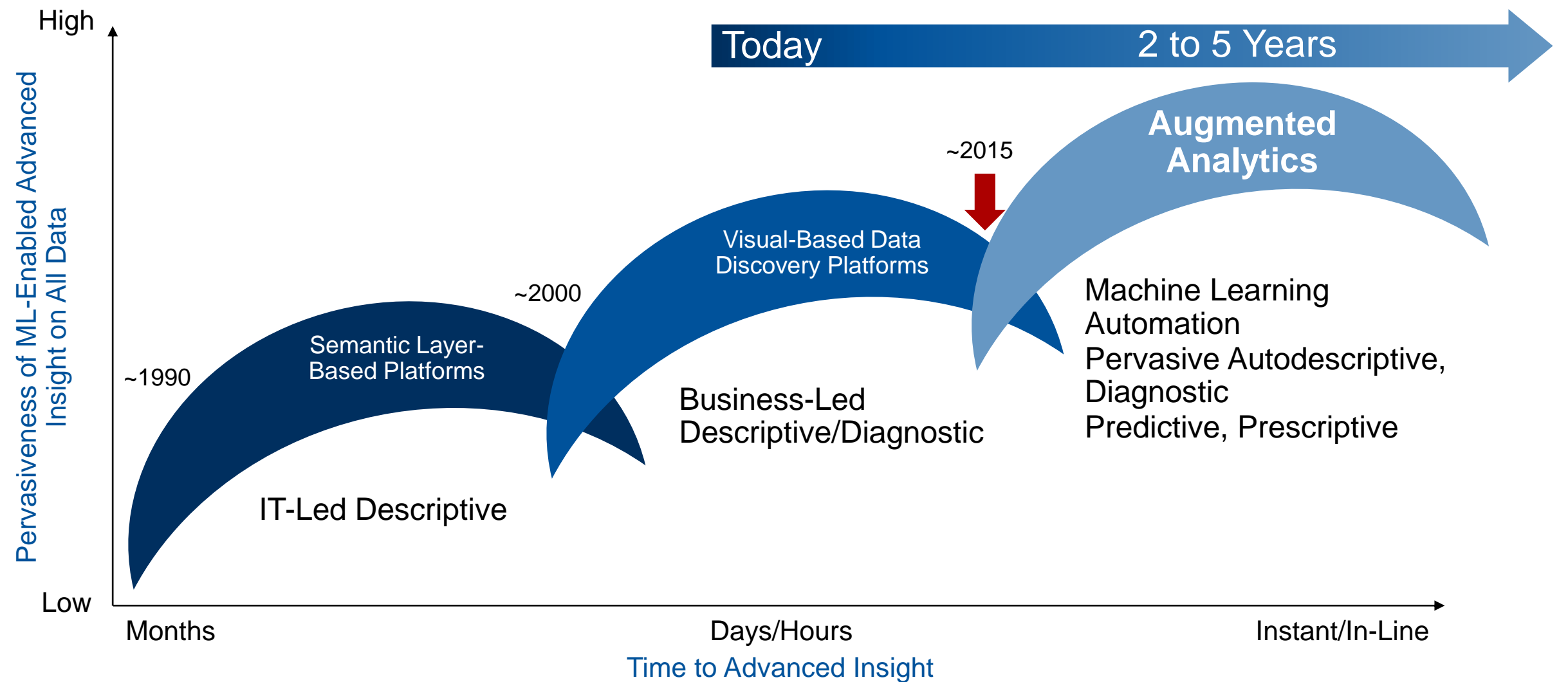
* Oracle Business Intelligence Enterprise Edition
**Microsoft SQL Server Analysis Services/SQL Server Reporting Services

We Are at a Market Disruption Point



*Sample of vendors not exhaustive

The Future of Data & Analytics Is Augmented Analytics



Machine learning (ML) and artificial intelligence (AI) projects:

- Grant organizations the superpowers to **classify and predict** in ways workers cannot achieve alone.
- From “what happened?” and “why?” to “**what’s next?**” and “**what’s best?**”
- Integrated into the business in a way that is **automated and optimized**



Why So Much Interest in Analytics, Machine Learning and AI Now?

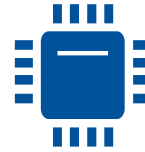
Open Source



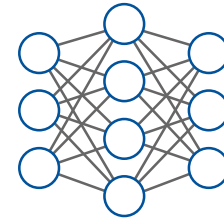
Cloud



High-Performance Computing



New Algorithms



Big Data



Digital Disruption



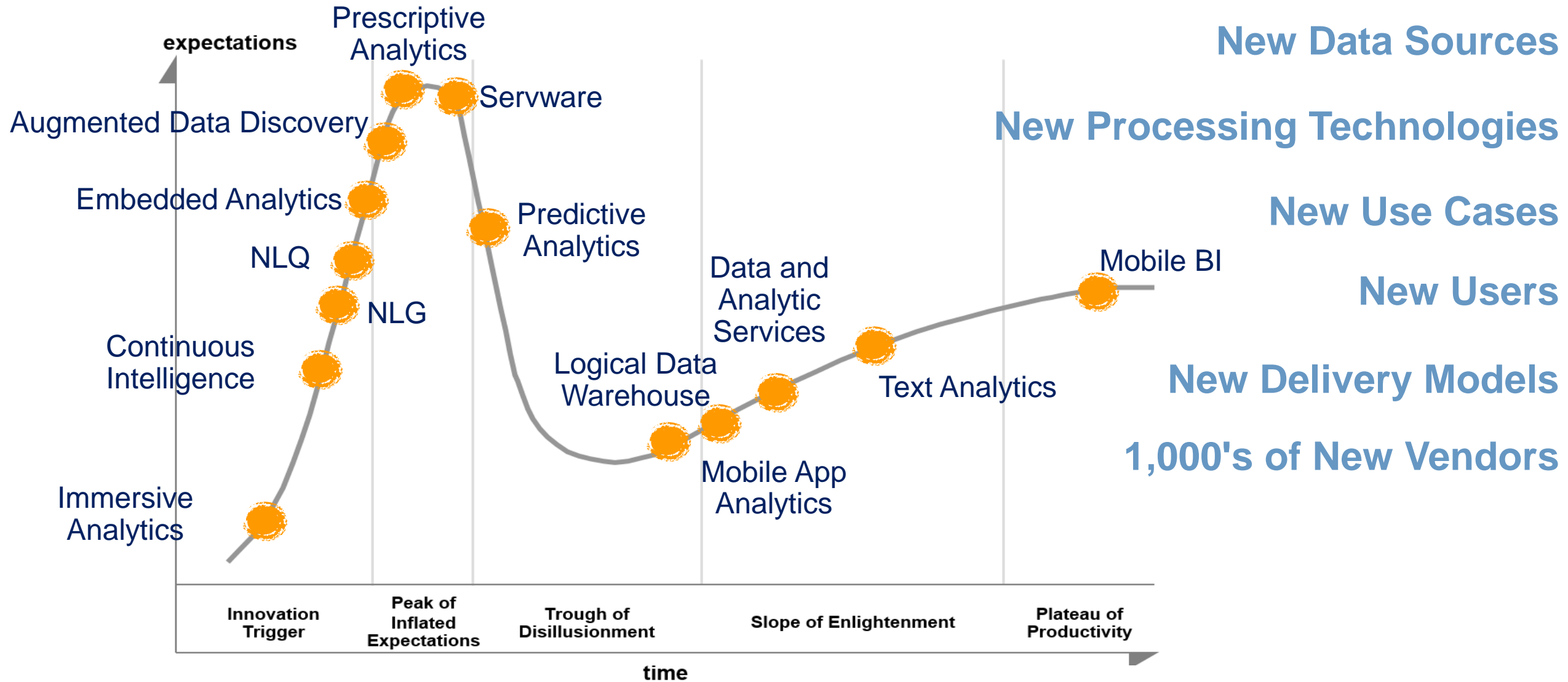
Proven ROI



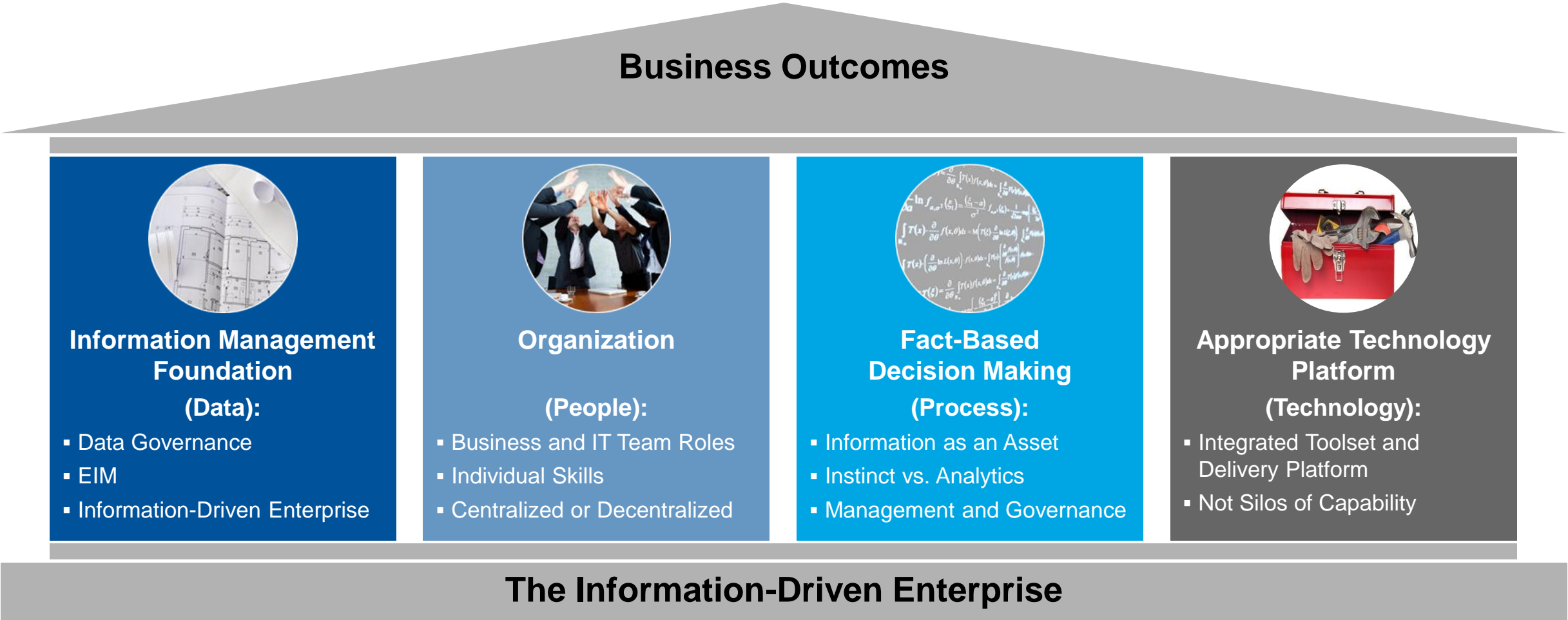
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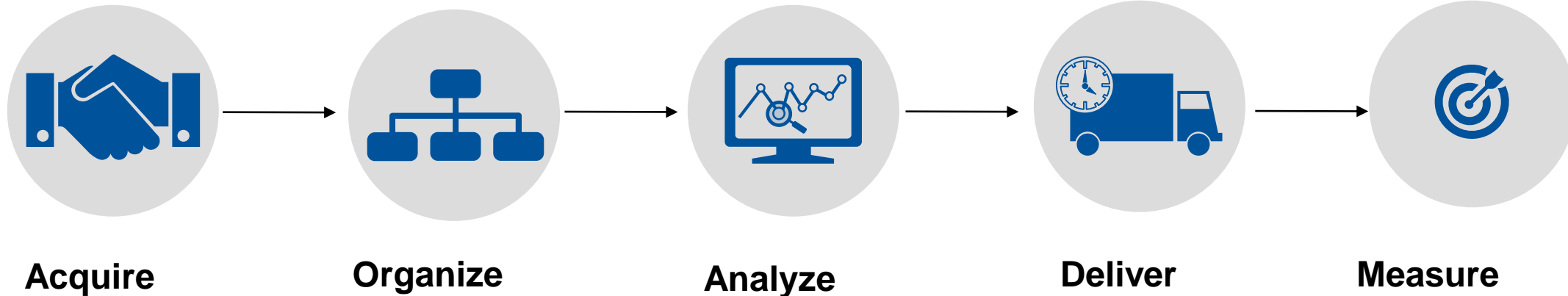
Hype Cycle for BI and Analytics, 2018



Keep the Four Pillars in Mind



Consider the Complete Data & Analytics Pipeline



Focus on Real Organizational Needs: Goals Organizations Pursuing with ML and AI

Improved speed and efficiency



"Process improvement and efficiency — ensuring staff are better utilized on value-add processes."

"Reduce operating costs and increase operating efficiencies."

Better data processing and analytics



"Use AI for predictive analytics and handling huge amount of event logs and tickets we have to process on a daily basis."

"Leveraging the treasure trove of unstructured data for analysis and future efficiencies."

Enhance customer experience and engagement



"Customer care and service desk optimization."

"New customer services or significantly enhance process effectiveness/value/cost savings."

Base: n = 79 Gartner Research Circle Members/Excludes 'blanks'

Q. Lastly, what specific business goal or objective is your organization trying to address with AI?

INTERNAL or RESTRICTED

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SPAs: What Will the Market Impact Be?

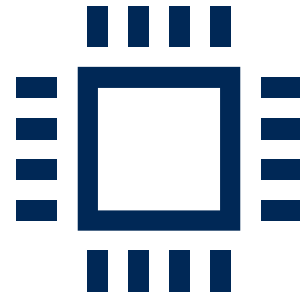
- By 2020, organizations that offer users access to a curated catalog of internal and external data will realize twice the business value from analytics investments than those that do not.
- By 2020, 50% of the analytic queries will be generated using search, NLP or voice or will be autogenerated.
- By 2020, 30% of today's data scientist tasks will be automated and the number of citizen data scientists will grow five times faster than the number of highly skilled data scientists.
- By 2021, the number of users of modern BI and analytics platforms that are differentiated by augmented data discovery capabilities will grow at twice the rate of those that are not, and will deliver twice the business value.
- By 2022, more than half of major new business systems will incorporate continuous intelligence that uses real-time context data to improve decisions.

Common Themes

Intelligent



Emergent



Scale



Where is the Cutting Edge Moving?



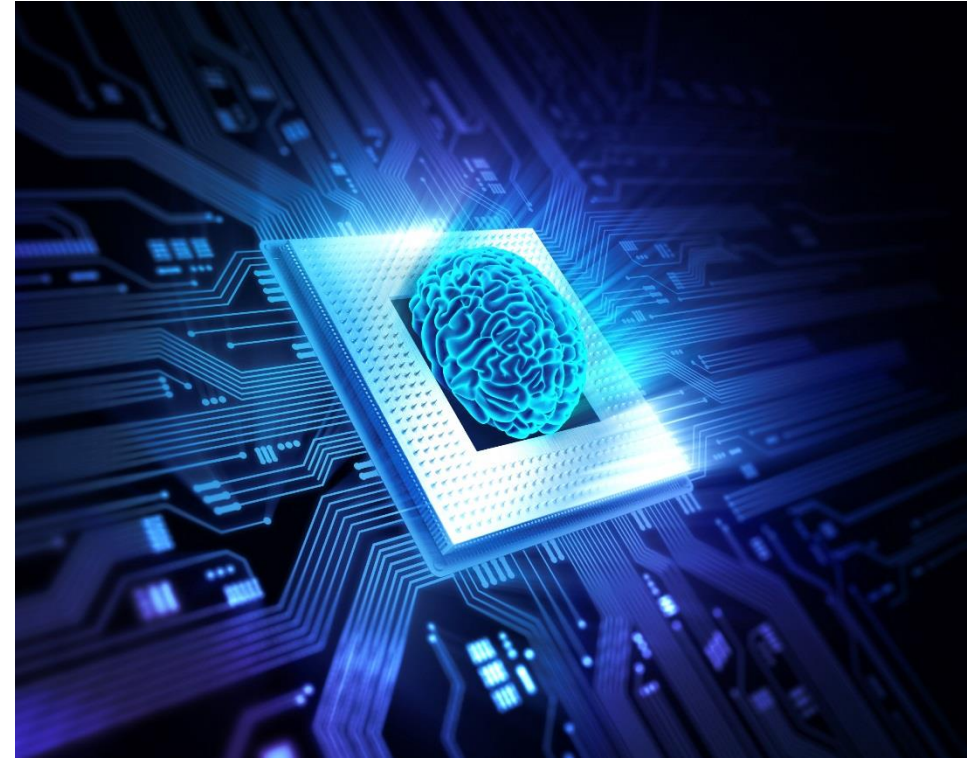
Where is the Cutting Edge Moving?



Smarter Business Analytics

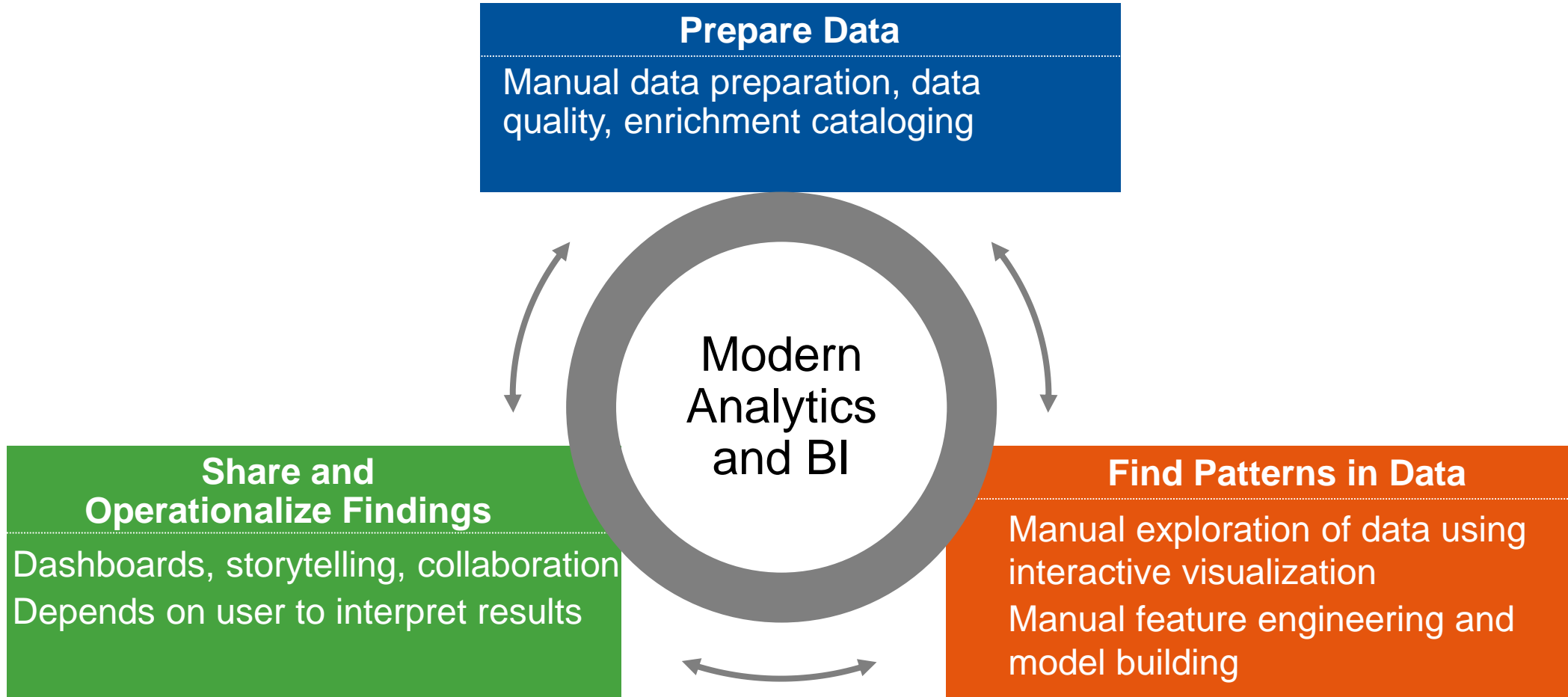


Visual Perception and
Brain Research



Advanced Analytics, Natural
Language, Machine Learning

Modern Analytics and BI Today



What Changes With Augmented Analytics

Augmented Data Preparation

Prepare Data

Algorithms detect schemas, profile, catalog and recommend enrichment, data lineage and metadata

Augmented Analytics

Share and Operationalize Findings

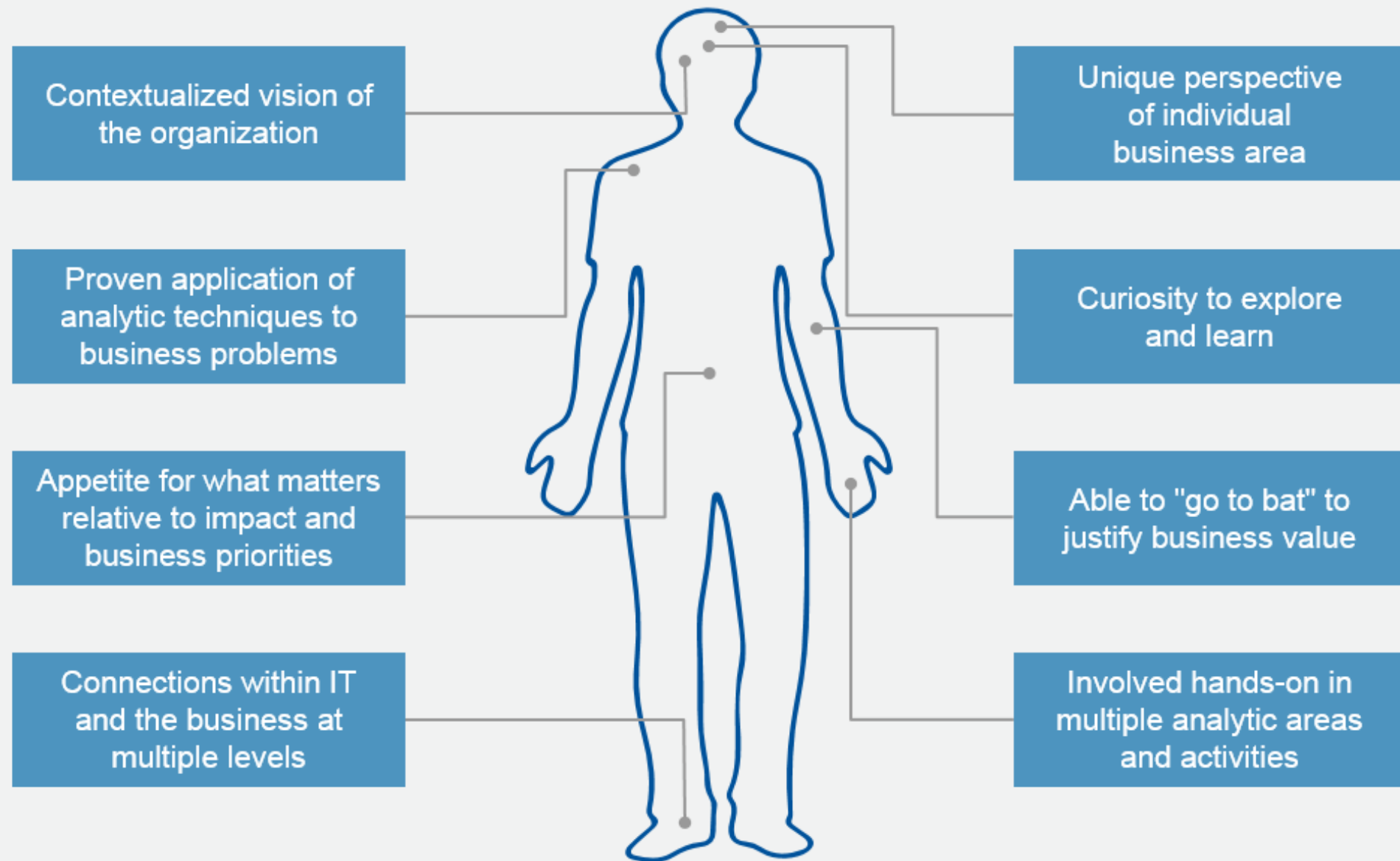
Insights are narrated in natural language or visualizations to focus user on what is important and actionable
Embedded in apps or conversational UI

Find Patterns in Data

Natural-language query
Algorithms find all relevant patterns in data
Features are autoselected
Models are autoselected
Code is autogenerated

Augmented Data Discovery Augmented Data Science and ML

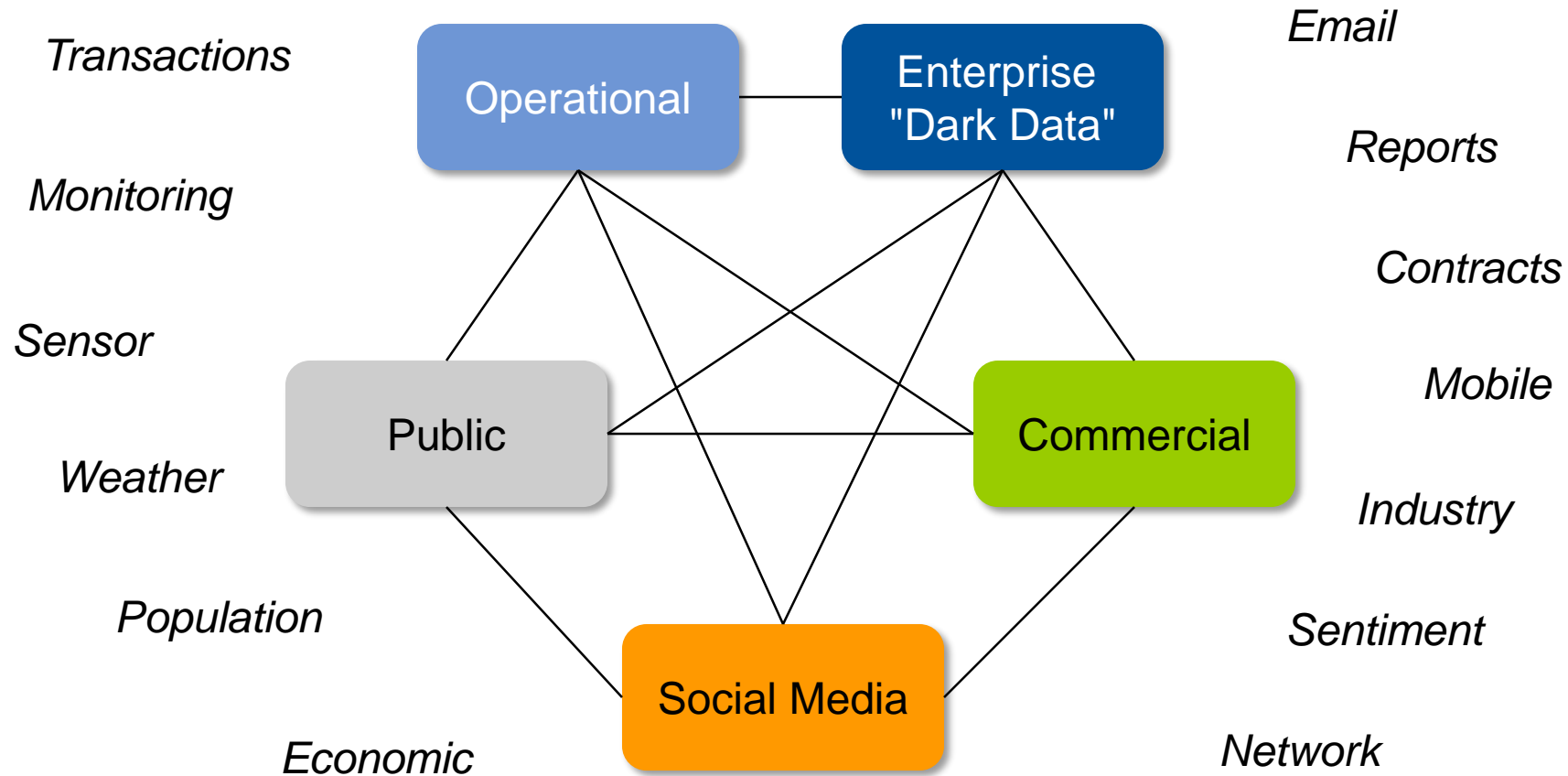
Traits of a Citizen Data Scientist



Where is the Cutting Edge Moving?

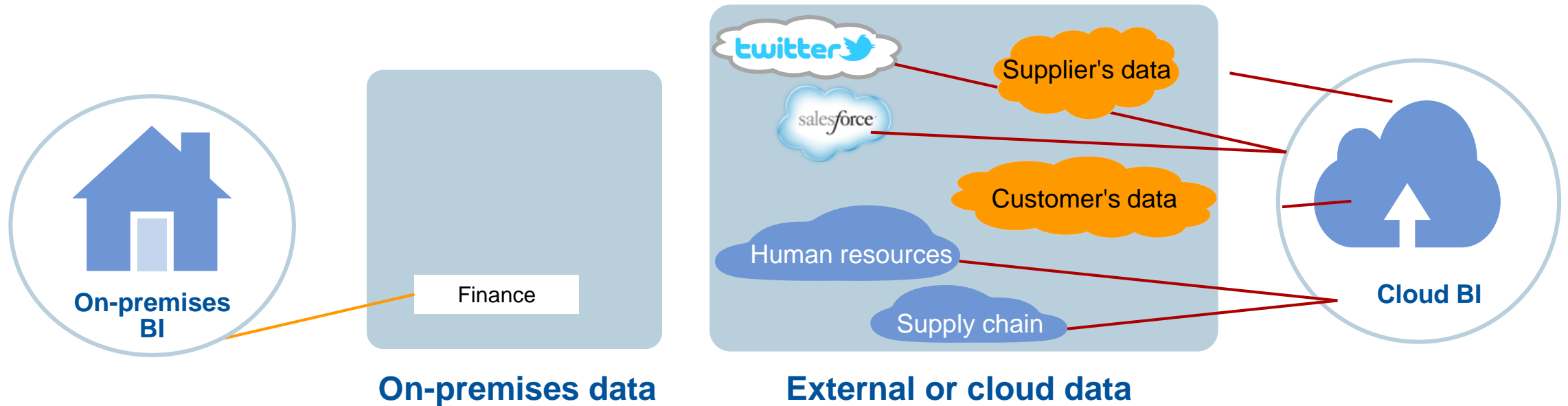


Analytic Businesses Are Concerned With More Than Just Transaction Data



***Relational data warehouse no longer sufficient.
Logical data warehouse, big data, NoSQL.***

Data Gravity Pulls BI and Analytics to the Cloud



- Elastic scale needed for Pervasive Use
- More data sources move to the cloud, so will BI and analytics — *"Data Gravity."*
- Hybrid BI deployments will become the norm as each solution finds its sweet spot.
- Line of business buyers more ready to adopt cloud BI than IT.

Invest in Data Literacy to Drive a Data-Driven Culture



The ability to read, write and communicate data “in context”.

Where is the Cutting Edge Moving?



Pervasive: Embedded and Mobile



INTERNAL or RESTRICTED

Pervasive: Pushing Analysis to Where Consumed



INTERNAL or RESTRICTED

Where is the Cutting Edge Moving?



Market-Created Solutions



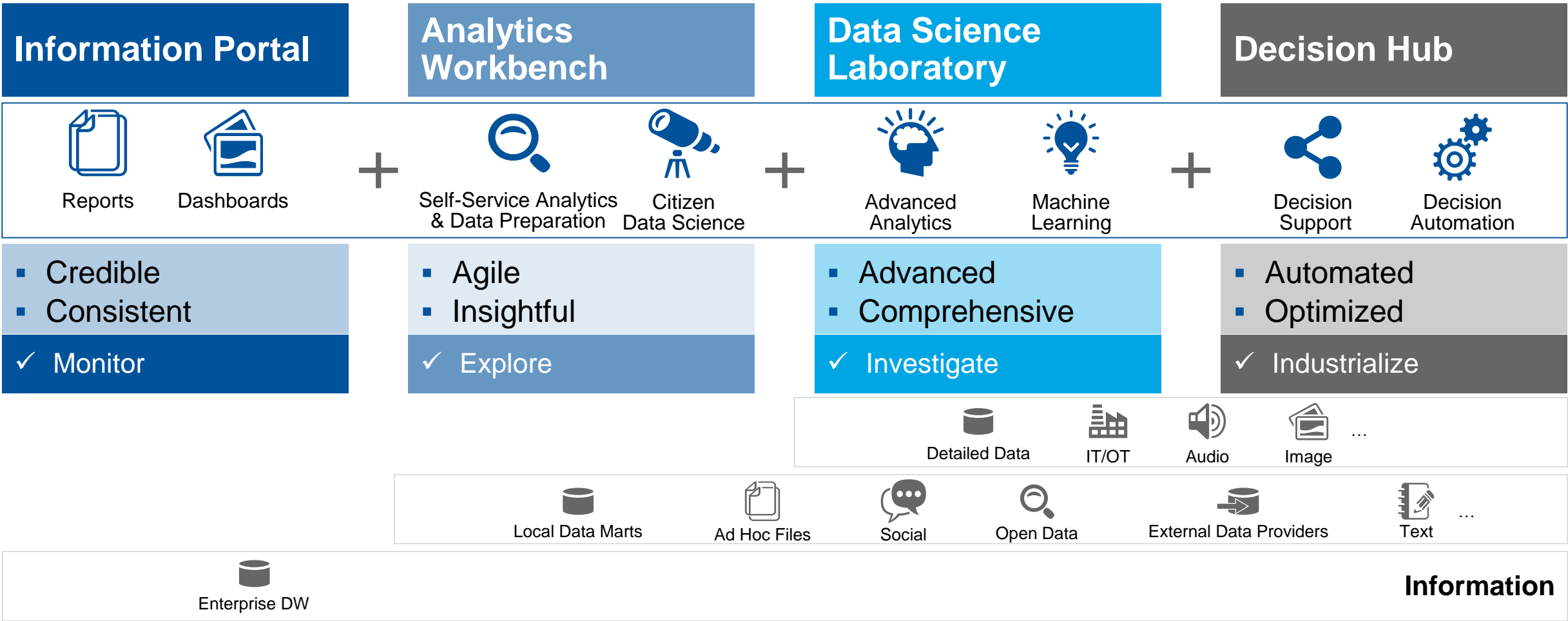
Convergence of Analytics Services and Software



Where is the Cutting Edge Moving?



Four-Tier Analytic Architecture Supports Functional Clusters



Recommendations

- ✓ Understand the definition, emerging trends, best practices and cutting edge technologies for analytics
 - And share your knowledge
- ✓ Use packaged analytic applications, embedded analytics and augmented analytics for broader business impact
- ✓ Empower data scientists and the citizen community
 - But in a managed way
 - Across the analytic pipeline and all 4 pillars
- ✓ Monitor analytics marketplaces, services and offerings as they evolve



**Begin With the
End in Mind**

**Collaboration
Is Key**



Data and Analytics has Transformative Power

Guide Every Interaction

Ensure Better Outcomes

**Data and Analytics
at the
Center of
Everything**

Drive Every Process

Inform Every Decision



Recommended Gartner Research

- ▶ [Augmented Analytics Is the Future of Data and Analytics](#)
Rita Sallam, Carlie Idoine and Cindi Howson (G00375087)
- ▶ [Maximize the Value of Your Data Science Efforts by Empowering Citizen Data Scientists](#)
Carlie Idoine and Erick Brethenoux (G00343732)
- ▶ [Build a Comprehensive Ecosystem for Citizen Data Science to Drive Impactful Analytics](#)
Carlie Idoine (G00375359)
- ▶ [Hype Cycle for Analytics and Business Intelligence, 2018](#)
Jim Hare and Kurt Schlegel (G00340330)
- ▶ [Hype Cycle for Data Science and Machine Learning, 2018](#)
Peter Krensky and Jim Hare (G00340329)



Thank You!