



# Data Literacy Forum: University of Georgia

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# Do you speak a second language?

# Do you "speak data"?

# Key Issues

1. What is data literacy, and why is it critical to becoming a data-driven business?
2. How do you explain data literacy? An example.
3. When and how to get started?

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# Defining Data Literacy: The New Core Capability of Digital Society

While conversant in the "people, process and technology" capabilities of business change, most executives and professionals do not speak "data" fluently as the new critical capability of digital society.

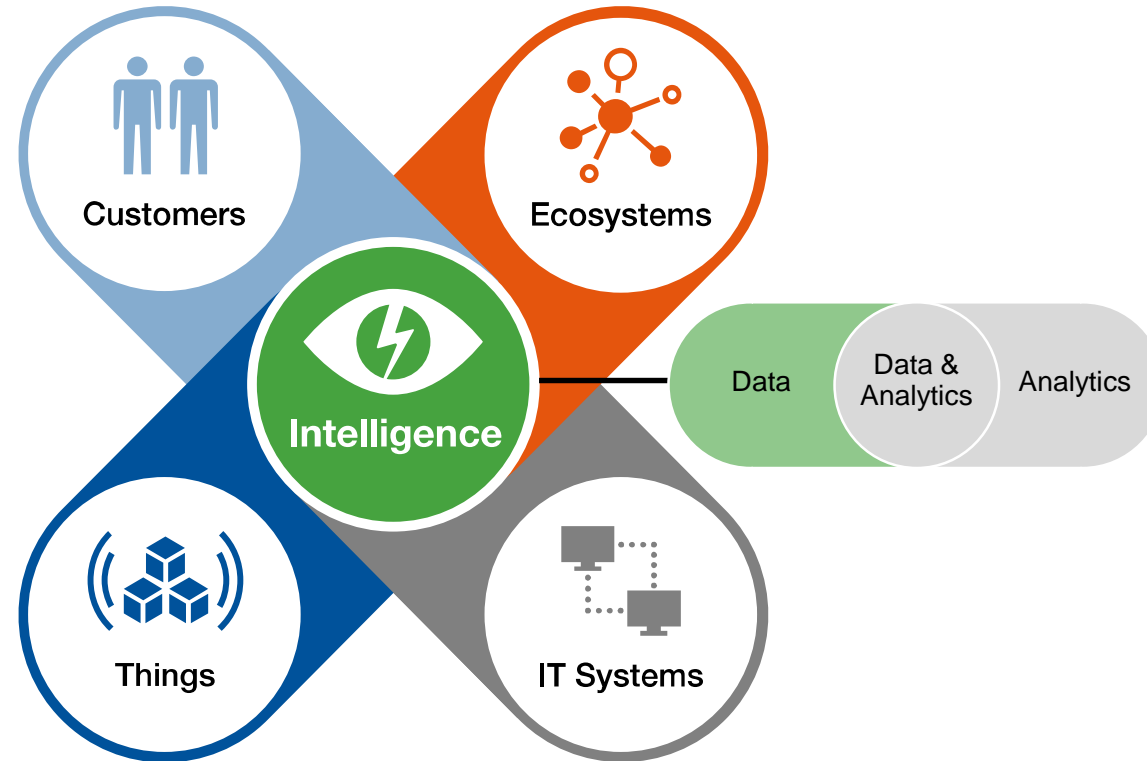


**Gartner formally defines data literacy as:** The ability to read, write and communicate data in context, including an understanding of data sources and constructs, analytical methods and techniques applied, and the ability to describe the use-case application and resulting value.

**Informally** ... do you "speak data?"

# Digital Context: Data and Analytics at the Heart of It All

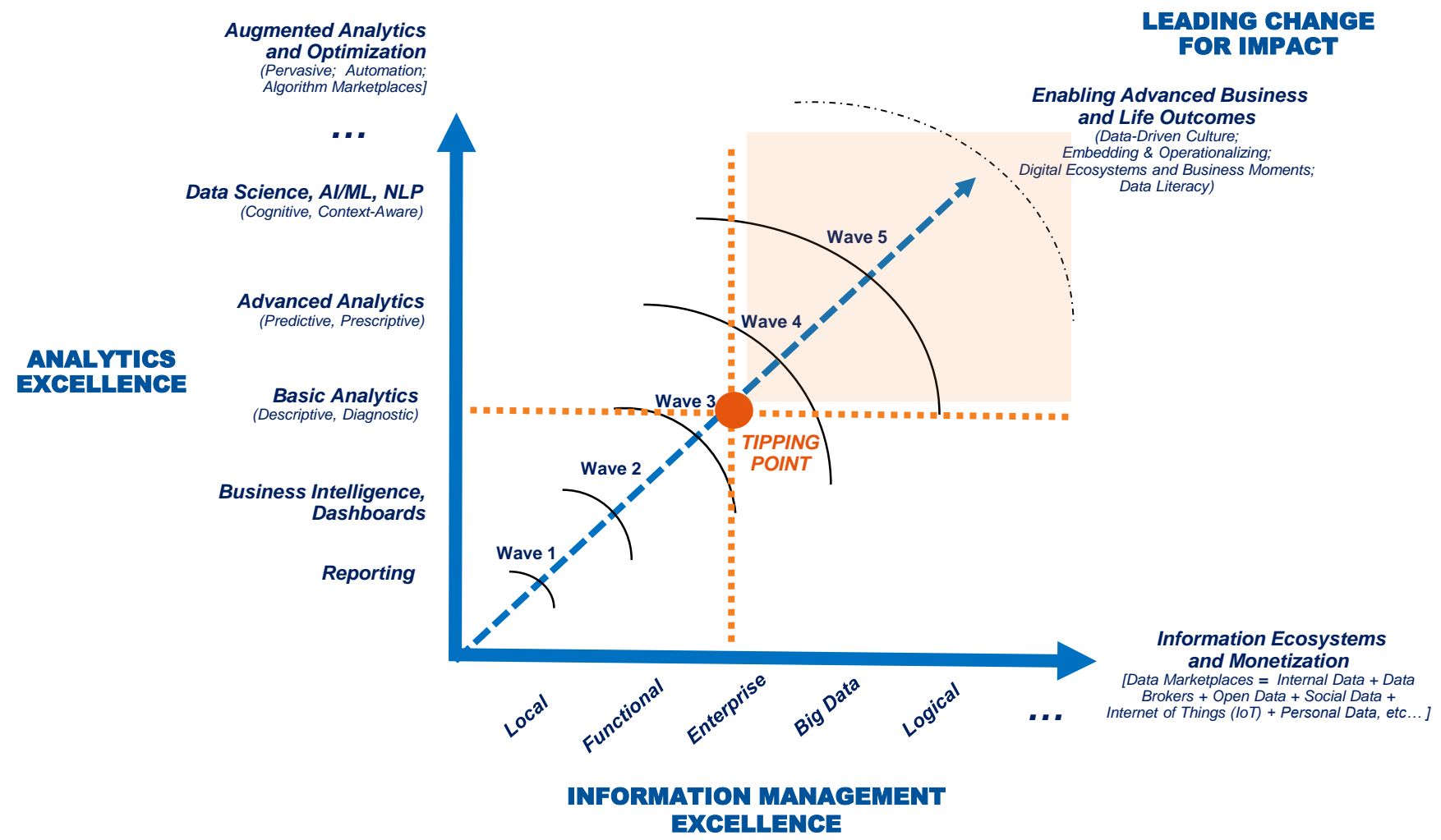
Data and analytics are central to competitive differentiation, innovation, process automation and powering new business models ...



... and this is only going to get more complex, with data and analytics pervasive to every industry, process, role and decision.

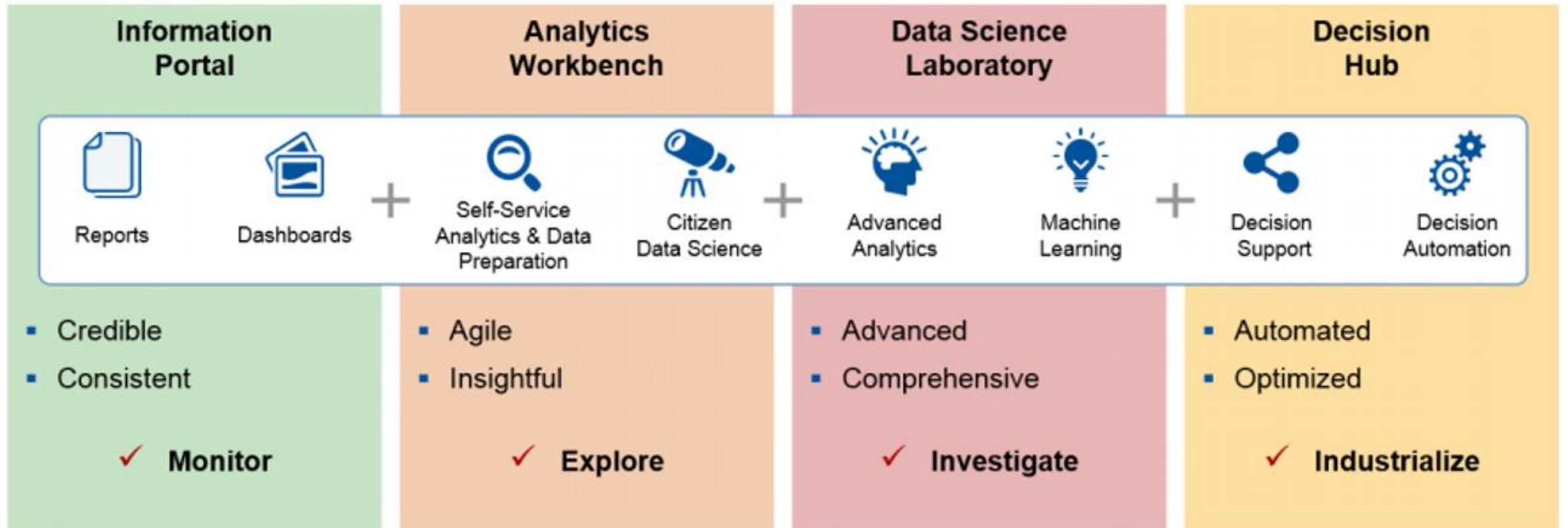
# Information & Analytics Evolution Model v2.2

*A conceptual view of the market evolution*

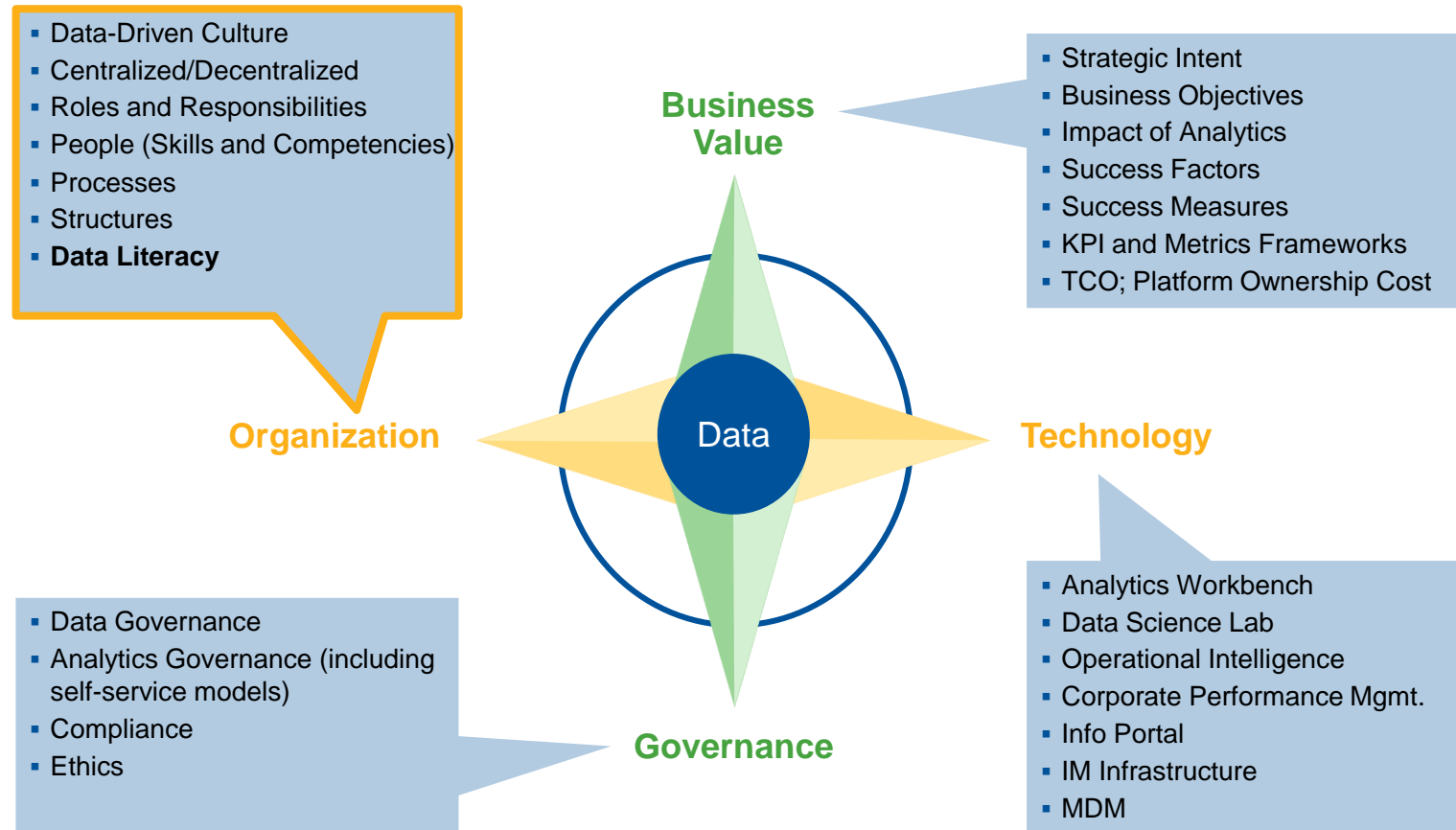




# Enabling Insights: From Self-Service to Advanced and Automated

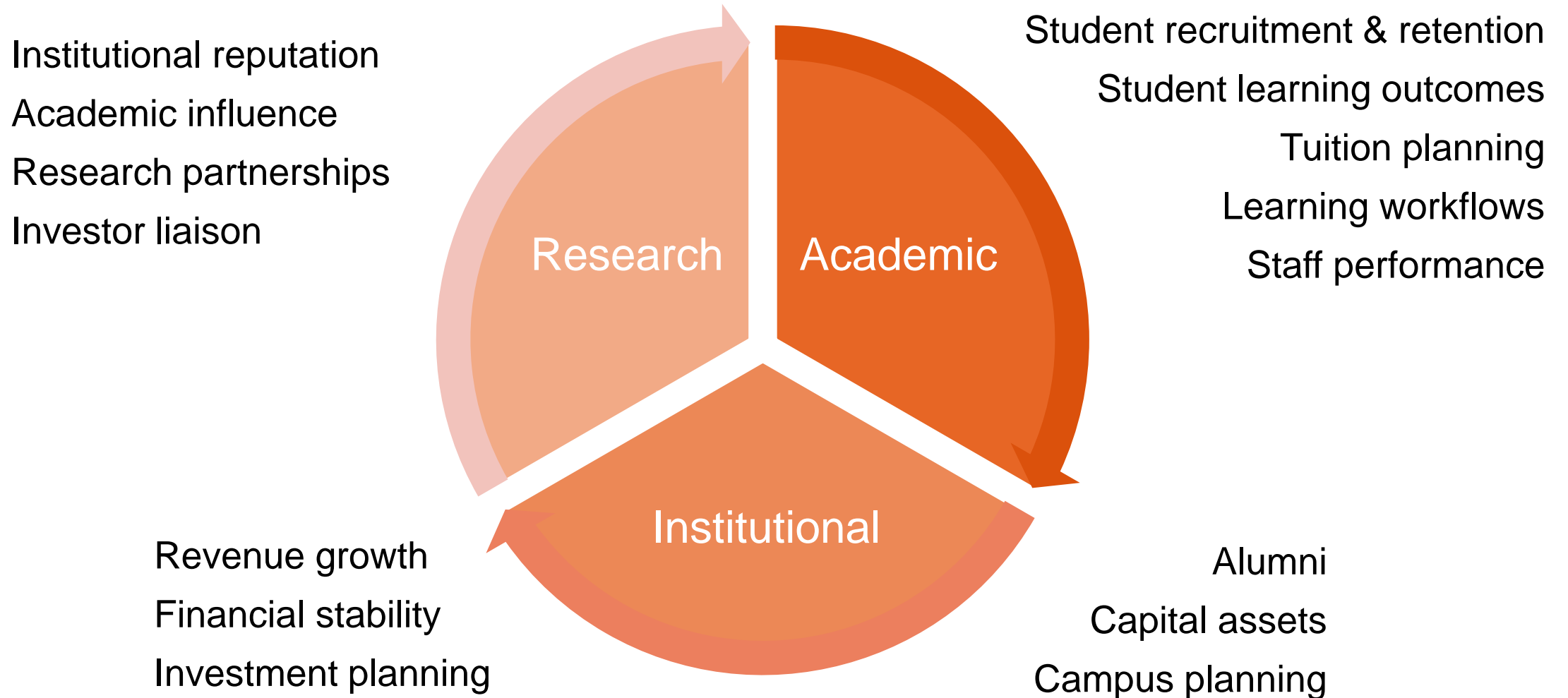


# Data & Analytics Strategy: A Balancing Act of 4 Key Elements



Gartner Business Intelligence & Analytics Strategy Compass

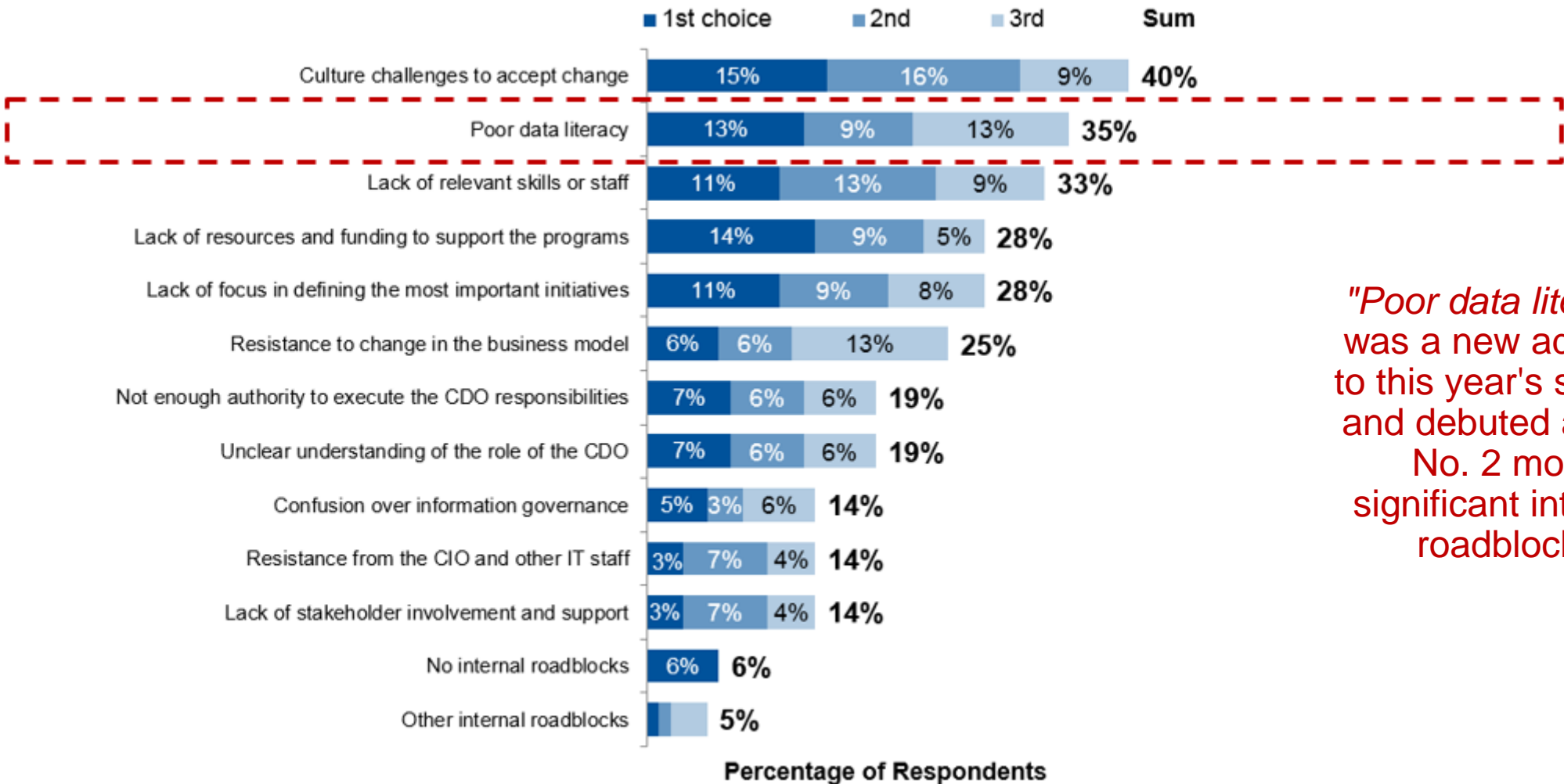
# Higher-Ed Analytics: Benefits areas



# Strategic Planning Assumption

- By 2018, 30% of organizations will formalize workforce **digital dexterity** strategies to improve business outcomes and employee engagement.
- By 2020, 80% of organizations will initiate deliberate competency development in the field of **data literacy**, acknowledging their extreme deficiency.
- By 2020, 50% of organizations will lack sufficient artificial intelligence (AI) and **data literacy** skills to achieve business value.

# Gartner's 3rd CDO Survey: Internal Roadblocks



*"Poor data literacy" was a new addition to this year's survey, and debuted as the No. 2 most significant internal roadblock!*

Base : Full/ Partial Office of CDO, Excluding Unsure, n=152  
O8A. Now, what do you see as the internal roadblocks to the success of the Office of the CDO? Rank of top 3

# The Case for Change: We Don't Speak a Common Language

## Diverse backgrounds:

- Veterans vs. rookies
- Data vs. analytics backgrounds
- Industry vertical experience
- Business domain experience
- Scope of experience:
  - Local vs. global
  - Business unit vs. enterprise



**While diversity  
is desired and  
healthy,  
it naturally creates  
communication  
challenges.**

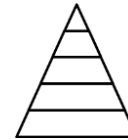
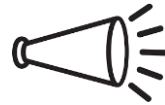
**Creating a  
shared  
language is  
fundamental.**

# Describing Information as a Second Language (ISL): Approaching Data Literacy as Language Development

ISL

Information as a Second Language (ISL):  
Enabling Data Literacy for Digital Society

ABC



## A Base Vocabulary:

- Managing Information
- Analyzing Information
- Applying Information and Leading Change



## A Set of Dialects:

- Industry Vertical Domains
- Business Process Domains
- Technical Domains



## Levels of Proficiency:

- Conversational
- Literacy
- Competency
- Fluency
- Multilingual



## Language Development:

- Getting Started
- Assessing Data Literacy
- Proof of Concept
- Training, Development and Certification
- Leading by Example

# Key Issues

1. What is data literacy, and why is it critical to becoming a data-driven business?
- 2. How do you explain data literacy? An example.**
3. When and how to get started?



# Getting Started: Base Level of Proficiency

## Do You "Speak Data"?

- Mortgage financing?
- Personal finance?
- Insurance rate comparison?
- Evaluating colleges?
- Connected home monitoring?
- Personal fitness?
- Counting your steps?
- Driving — Using your dashboard, GPS and maintenance alerts?

**Make this personal.**

**What are some "real world" examples of "speaking data" in your personal life?**

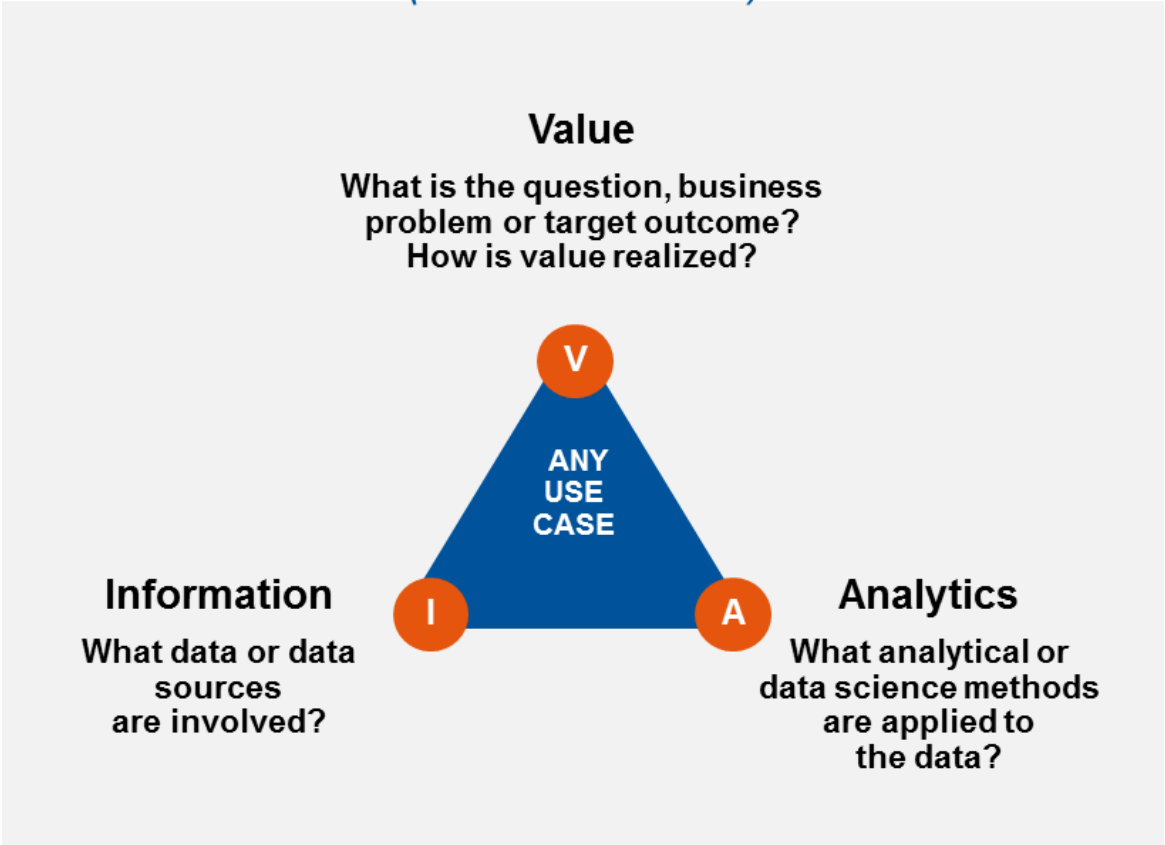
- Online shopping?
- Medical records/history?
- Fantasy football league?
- Weather forecasts?
- Travel planning and logistics?
- On-time flight arrival stats.?
- Monitoring your credit score?
- Buying/Selling your home?
- Nutrition labels?
- Reading and deciphering the news?
- Etc.

# Getting Started: Base Level of Proficiency

## Do You "Speak Data"?

### The Base Vocabulary of ISL

*(the "VIA" Model)*

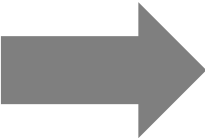
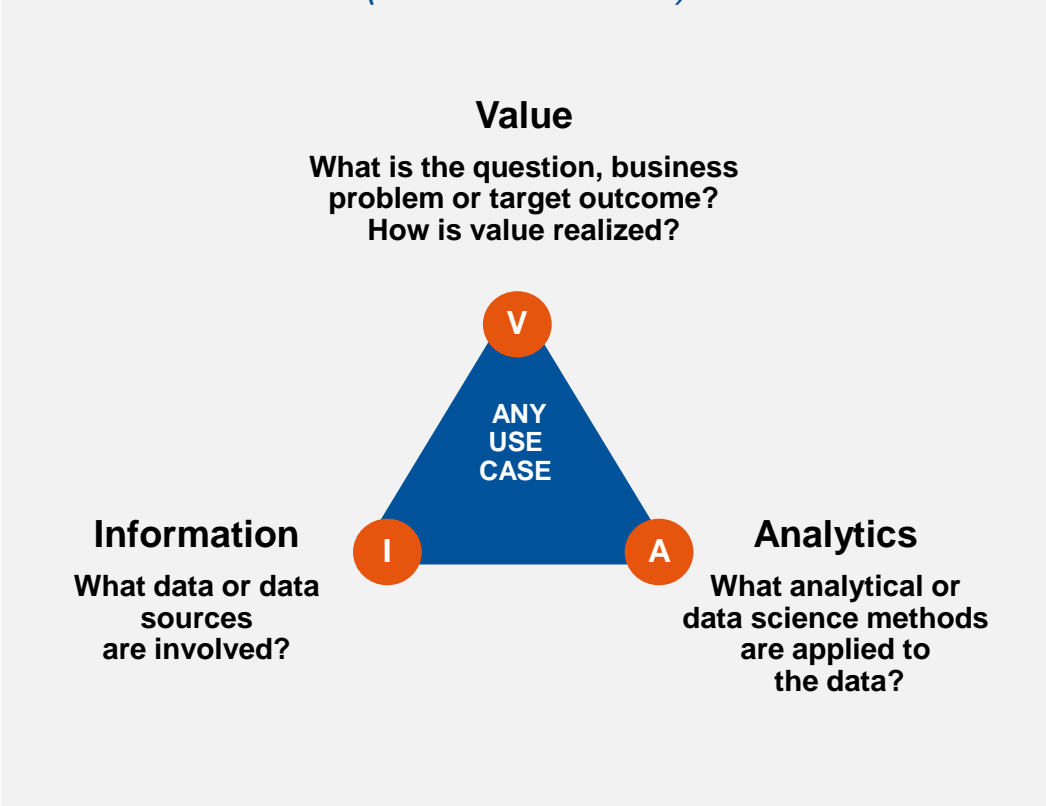


# Getting Started: Base Level of Proficiency

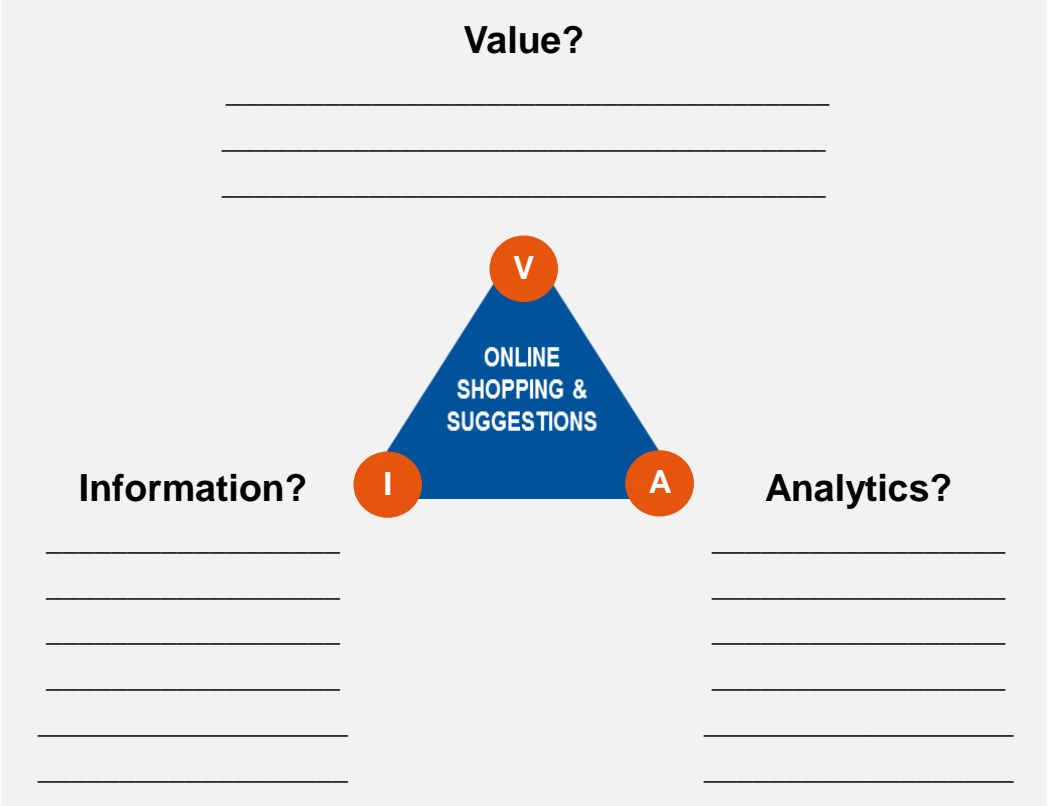
## Example: Online Shopping and Suggestions

### The Base Vocabulary of ISL

*(the "VIA" Model)*



### Try to Describe This "Real-Life" Example

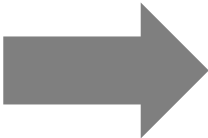
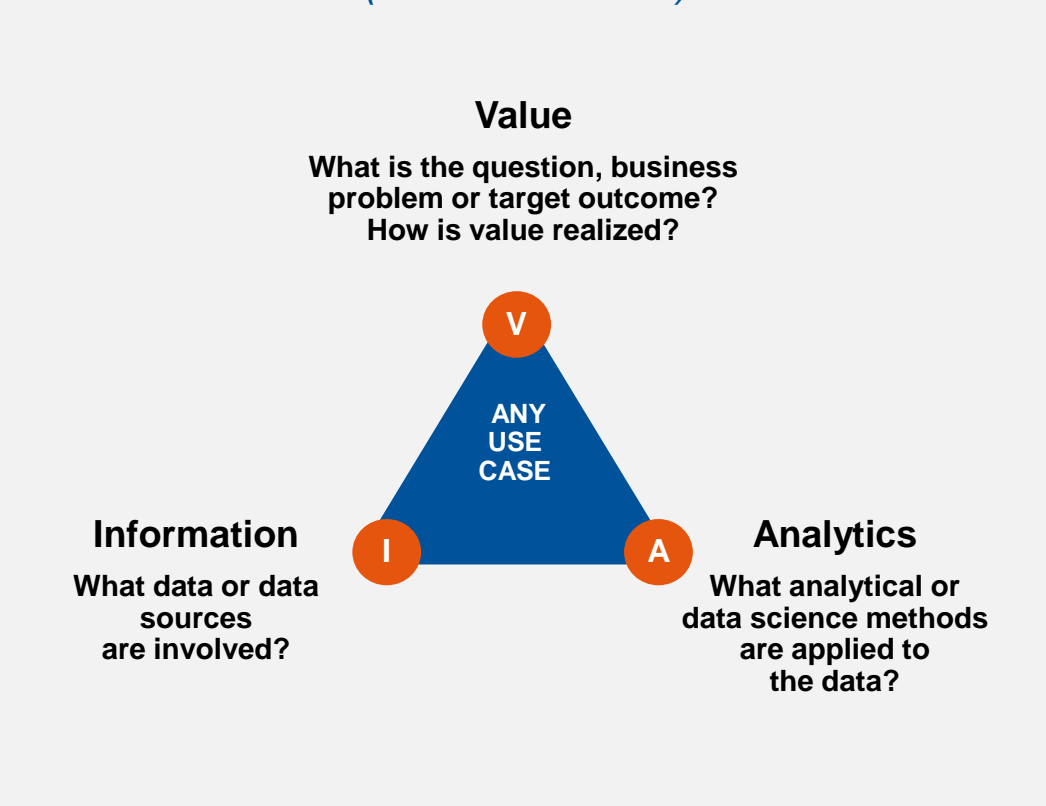


# Getting Started: Base Level of Proficiency

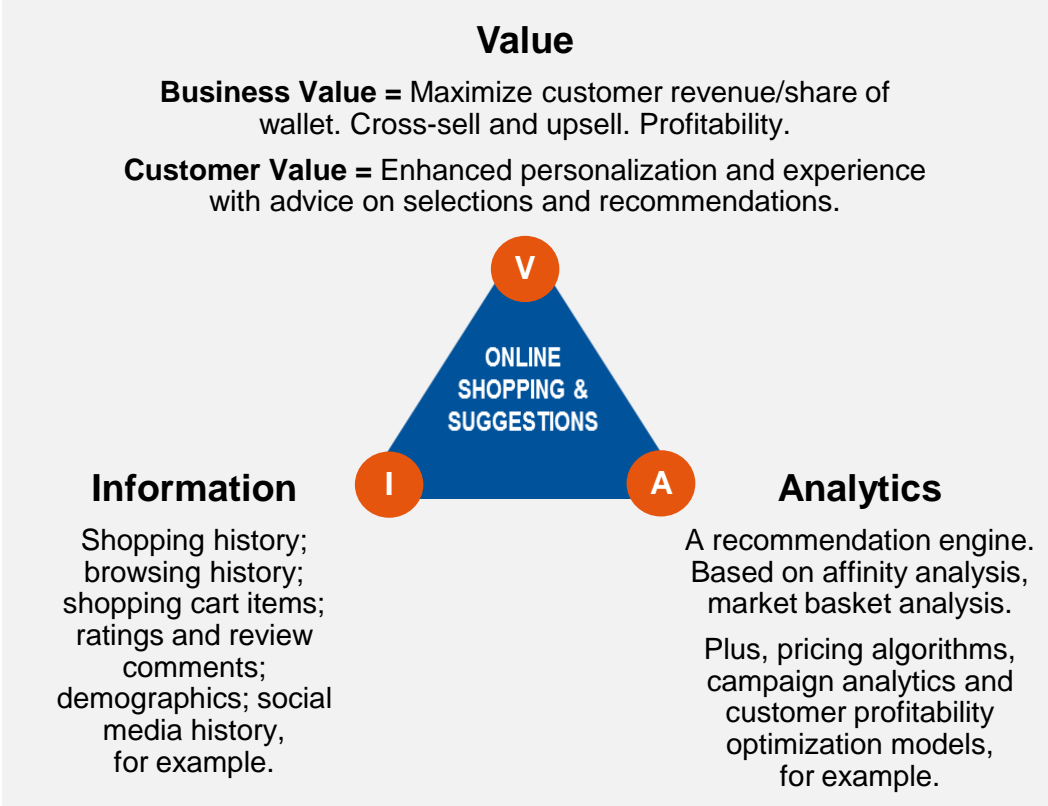
## Example: Online Shopping and Suggestions

### The Base Vocabulary of ISL

(the "VIA" Model)



### Answer: A "Real-Life" Example

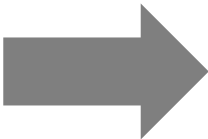
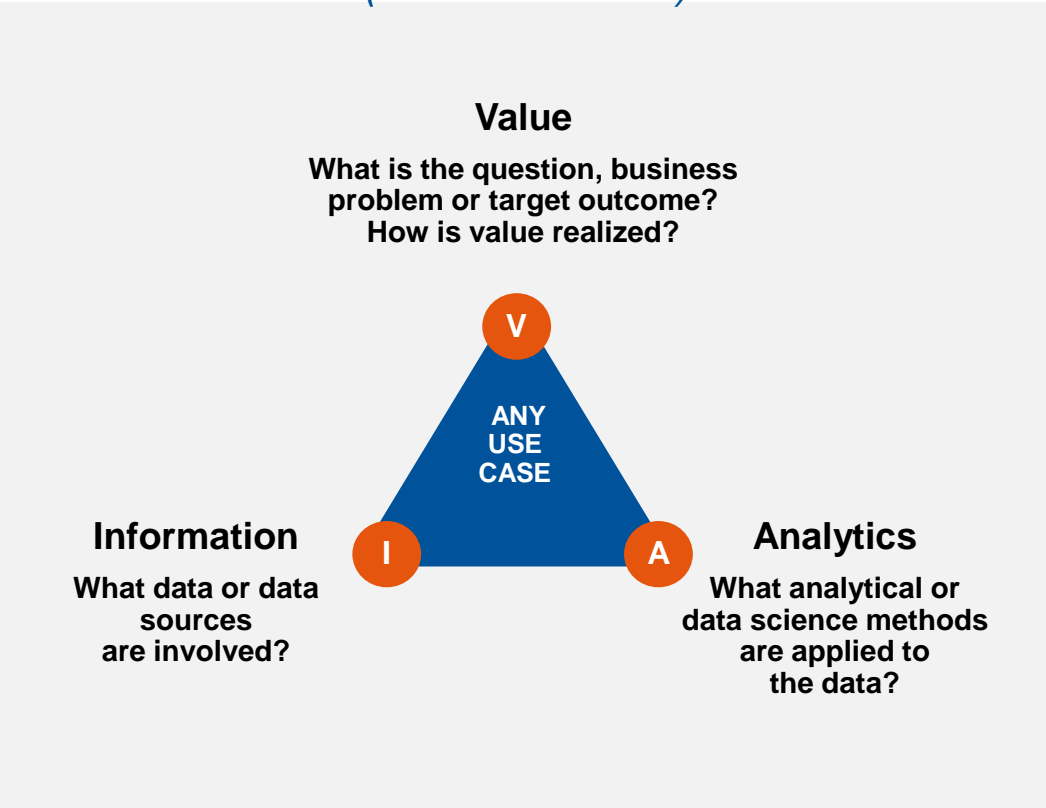


# Getting Started: Base Level of Proficiency

## Do You "Speak Data?"

### The Base Vocabulary of ISL

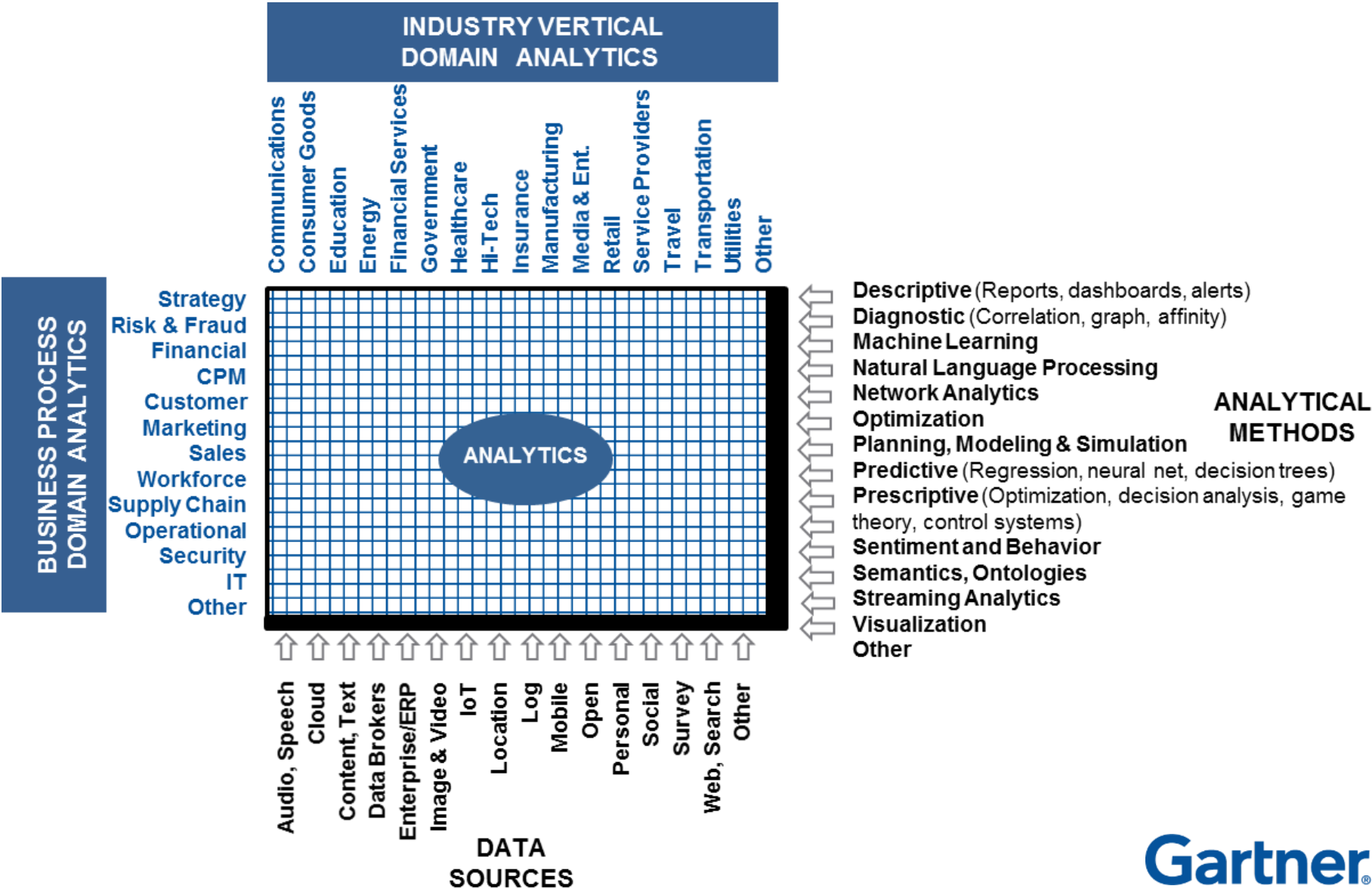
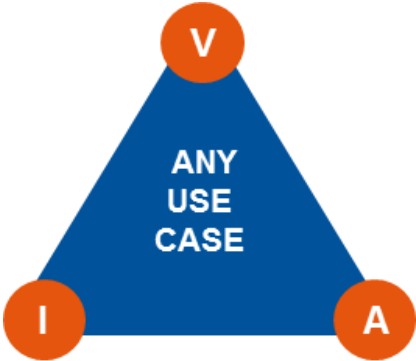
*(the "VIA" Model)*



### Pick a Business Use Case From Your Company and Describe It!

The form is designed for a user to describe a business use case. It features the VIA Model triangle in the center, with a large white circle in the middle for a drawing or diagram. Above the triangle is a section for **Value** with three horizontal lines for text. To the left of the triangle is a section for **Information** with five horizontal lines. To the right of the triangle is a section for **Analytics** with five horizontal lines.

# Getting Started: Base Vocabulary



# QUESTION: Where is your personal strength in the vocabulary of “speaking data”, based on the VIA Model?

1. **Value.** My strength is in the business value aspect of the language. I come from a business or operations background, and business acumen is natural for me. I speak in terms of outcomes, KPIs, data-driven decisions, and value drivers.
2. **Information.** I bring strength in the data side- the understanding of data sources, data management, data quality, metadata, etc.
3. **Analytics.** Given my background, I bring strength in analytics, BI, data science, AI, and related areas. Some might call me a quant, and I’m fine with that!
4. **All Three.** I am equally balanced in all three aspects of the language. I am often called upon to translate between business and IT, and am known as a strong data storyteller.
5. **None of the Above.** I don’t relate to being strong in any one of these, but I am eager to learn and grow.

# Key Issues

1. What is data literacy, and why is it critical to becoming a data-driven business?
2. How do you explain data literacy? An example.
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# Developing Data Literacy

## Initiate a Data Literacy/ISL Proof of Concept



- **Select an area or outcome** where clear language gaps have surfaced and you have willing, diverse participants.
- **Conduct a data literacy/ISL workshop** where each participant describes in their own language:
  1. A real-life, common use case, and
  2. A use case within your organization.
- **Collectively identify observed similarities and differences.** Capture lessons learned.
- **Repeat the exercise**, benefiting from hearing and incorporating others' language. Note improvements.
- **Broadcast the story** to raise awareness and understanding of the data literacy gap.

# Developing Data Literacy

## Assess Data Literacy and Identify Development Needs



- Drive and sustain improvements in your organization's data literacy by **identifying areas where data is spoken fluently and where language gaps exist**:
  - Who are your translators?
  - Who is fluent?
- **Conduct data literacy assessments** across various teams and organizations. Identify and summarize gaps. Use as a baseline.
- **Make it fun!** Be creative. You can do games, quizzes and team sports. Have teams video record their experiences and share them. Remove any stigmas associated with what they may not know by creating a fun, safe environment for learning from each other.
- **Leverage available resources (internal and external)** to address development needs.

# Developing Data Literacy Lead by Example



- **Change the way you interact** with your peers, stakeholders and leaders by **"speaking data" in context** in everyday interactions, board meetings and as a basis for outcome-oriented business cases.
- **Actively leverage the "VIA" model**, remembering to highlight the outcome/value, related data sources and applied analytical methods.
- Actively **champion data literacy** with ongoing assessment of literacy levels and aggressive support of training and development plans.

# Recommendations

- ✓ **Champion and evangelize data literacy.** Name it, claim it and give it an identity. Partner with your company CDO (or equivalent senior leader), and other executives who get it. Create the narrative.
- ✓ **Assess and baseline levels of data literacy** in the organization and match these to the competencies, skills and talents required. Conduct initial data literacy workshops, assess levels and socialize findings.
- ✓ **Evaluate overall maturity of your data and analytics capabilities** using Gartner's ITScore models, where the people/organization dimensions provide context for data literacy.
- ✓ **Build data literacy into your data and analytics program plan** to address key skill gaps and development needs.
- ✓ Working with HR, develop a **pilot data literacy training program**.
- ✓ **Track progress** and evolve the program: Regularly conduct data literacy assessments in key roles and across the organization.
- ✓ **Stay connected to emerging developments** in the data literacy area!

## Data Literacy: Organizational Assessment

Assessment Question	Response	Totals
1. We have identified data literacy as a core skill set across all business, data and analytics professionals, and have associated training in place.	0 1 2 3 4 5	
2. Our leaders and managers "speak data," regularly citing examples of data-driven decisions.	0 1 2 3 4 5	
3. Our data scientists, data engineers and business analysts meet and interact frequently and productively.	0 1 2 3 4 5	
4. We have a healthy balance of specialists (in data management, data science, information governance and business domains) and generalists (who can translate and work across the specialties).	0 1 2 3 4 5	
5. We assess new talent based on data literacy criteria, including specific skills assessments and case study scenarios.	0 1 2 3 4 5	
6. We understand how data adds value to business decisions and can each cite three examples of outcomes powered by data and analytics.	0 1 2 3 4 5	
7. Our data management professionals have strong business acumen and can articulate the organization's strategy, business process areas, key metrics and a sample of business analytics.	0 1 2 3 4 5	
8. Our meetings are highly effective in how we commonly share and discuss data, metrics, analytics and the decisions they support, and processes and outcomes they improve.	0 1 2 3 4 5	
9. We innovate with data, designing new data-enabled products and processes and explore new business models, including monetization (e.g., selling of data).	0 1 2 3 4 5	
10. We can each describe how our company fits within a business ecosystem, naming examples of our partners, customers and providers.	0 1 2 3 4 5	
11. We understand that information is a strategic asset, and can each explain three examples of how it is, or is not, treated or accounted for as such.	0 1 2 3 4 5	
12. Our data scientists and analytics professionals can explain the conceptual differences of data warehouse, data mart, data lake and data hub.	0 1 2 3 4 5	
13. We have a shared understanding of data quality, master data management, application data management, information governance/stewardship and metadata management principles, and can each explain the basic value of each to a board member with examples in terms that matter.	0 1 2 3 4 5	
14. We can each name five data sources (either external or internal) that are relevant to our business now but were not prevalent 10 years ago.	0 1 2 3 4 5	
15. We commonly leverage data to drive business outcomes.	0 1 2 3 4 5	
16. We understand the value of data visualization.	0 1 2 3 4 5	
17. Data visualization is used to drive business outcomes.	0 1 2 3 4 5	
18. Each of us can explain the basic value of each to a board member with examples in terms that matter.	0 1 2 3 4 5	
19. We understand the value of data visualization.	0 1 2 3 4 5	
20. We understand the value of data visualization.	0 1 2 3 4 5	
1 = Strongly Disagree		

### Fostering Data Literacy and Information as a Second Language: A Gartner Trend Insight Report

Published: 23 February 2018 ID: G00342240

Analyst(s): Valerie A. Logan

The prevalence of data and analytics capabilities, including artificial intelligence, requires creators and consumers to "speak data" as a common language. Data and analytics leaders must champion workforce data literacy as an enabler of digital business and treat information as a second language.

#### Opportunities and Challenges

- "Poor data literacy" is the second biggest internal roadblock to success, as ranked by respondents to Gartner's third annual chief data officer (CDO) survey.
- In the same survey, CDOs cite culture and lack of talent and skills as the top impediments to business growth.
- An information language barrier exists between organizations, rooted in ineffective communication across a wide range of diverse stakeholders. As a result, data and analytics leaders struggle to get their message across and information assets are underutilized.

#### What You Need to Know

To foster data literacy across the enterprise, leaders of data and analytics programs should:

- Serve as an active and visible champion for data literacy as an explicit, leading goal of a broader workforce digital dexterity program.
- Cultivate information as a second language (ISL) across business and IT stakeholders by first establishing the base vocabulary, clarifying industry and business domain "dialects," and developing levels of proficiency.
- Drive and sustain improvements to the organization's data literacy by identifying areas where data is spoken fluently and where language gaps exist. Establish an ISL proof of concept for language development.

***Thank you! Let's connect!***

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