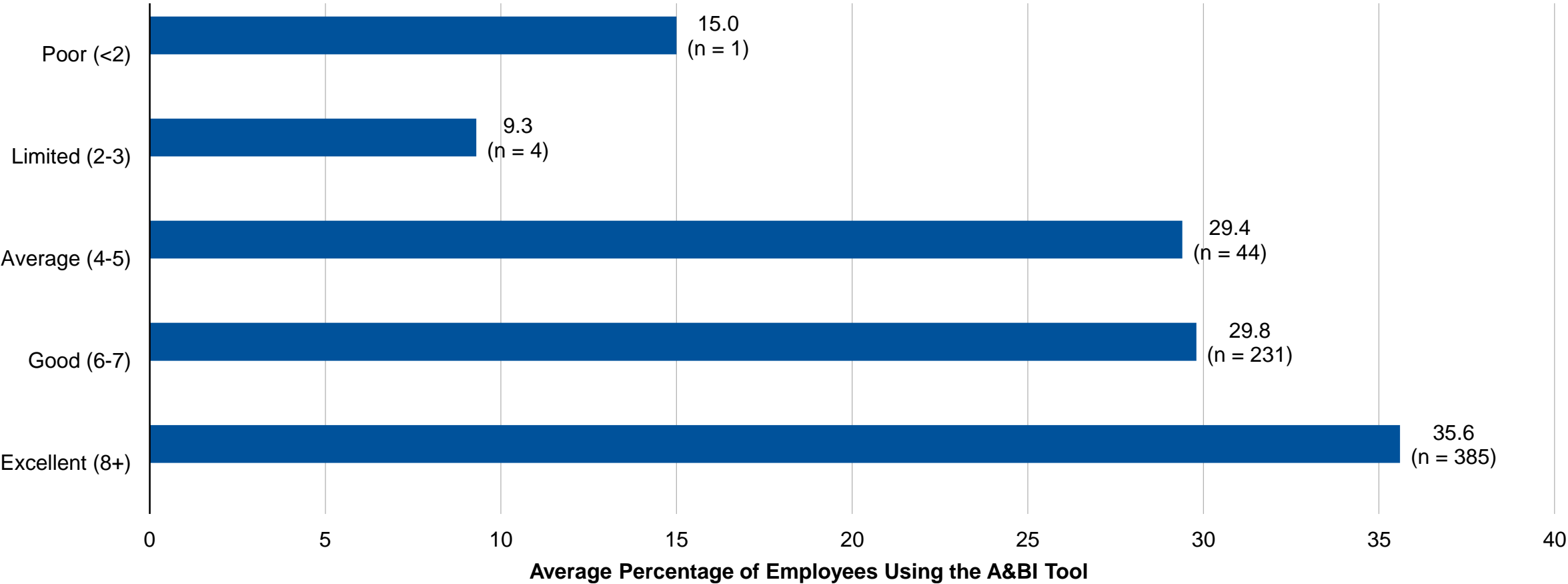


Exclusive Forum for Midsize Enterprise: How Midsized Enterprises Can Use Data and Analytics to Survive and Thrive

Alan D. Duncan
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MSEs Get Better Business Outcomes by Increasing Analytics and BI Adoption

Business Benefit



2017 survey for "[Magic Quadrant for Business Intelligence and Analytics Platforms](#)" (G00301340) responses from MSEs
Questions: Please indicate how well each of the following business benefits were achieved for the implementation initiative.
Please estimate the total number of individual users using the product in your organization.

But ... Pace of Change in MSEs Is Patchy

				Mobile	Cloud	Big Data Storage					Big Data Analytics			Advanced Analytics Techniques										
Company Size Segment	Employee Range	Number of References, 2016	Number of References, 2017	Mobile BI Deployment	Cloud BI Deployment	Cloud Data Warehouse	Columnar/In-Memory Database	High-Capacity Data Warehouse	NoSQL Data Store	Hadoop/Spark	Search-Based Indexes	Streaming Analytics	Advanced Analytics in Hadoop/Spark	Data Mining/Predictive Analysis	Log Data Analytics	Geospatial and Location Intelligence	Simulation/Optimization	Machine or Sensor Analytics	Link/Network/Graph Analytics	Text Analytics	Social Media Monitoring	Sentiment Analysis	Video Analytics	Speech Analytics
Small Business	1 to 99 employees	264	244	0%	7%	18%	8%	11%	-1%	11%	13%	-6%	5%	0%	0%	-1%	3%	0%	3%	3%	3%	-2%	-1%	0%
Midsize Business	100 to 249 employees	183	164	5%	6%	13%	5%	14%	-4%	7%	8%	10%	7%	-3%	2%	3%	2%	0%	2%	-7%	0%	-3%	1%	2%
	250 to 499 employees	156	165	2%	5%	18%	13%	6%	5%	4%	14%	-3%	-2%	-11%	2%	4%	1%	0%	2%	1%	8%	5%	1%	1%
	500 to 999 employees	173	176	-5%	-1%	8%	0%	11%	3%	4%	7%	7%	-3%	-2%	9%	5%	4%	-5%	0%	-3%	5%	3%	0%	-1%
Large Business	1,000 to 2,499 employees	243	226	1%	2%	8%	15%	12%	7%	1%	10%	4%	2%	-2%	3%	6%	-1%	4%	6%	3%	4%	5%	0%	3%
	2,500 to 4,999 employees	189	199	1%	8%	9%	11%	16%	1%	6%	15%	11%	-1%	5%	-1%	15%	4%	6%	0%	2%	7%	7%	2%	1%
	5,000 to 9,999 employees	175	186	0%	-3%	-1%	6%	19%	0%	11%	4%	1%	6%	4%	6%	-8%	-5%	-2%	-4%	-1%	-4%	-3%	0%	-2%
	10,000 to 24,999 employees	231	207	-4%	4%	4%	11%	22%	0%	5%	4%	-5%	-2%	-1%	2%	10%	5%	7%	1%	-4%	10%	7%	0%	-1%
	25,000 to 49,999 employees	120	142	9%	7%	15%	19%	4%	8%	12%	6%	12%	21%	-5%	-3%	-14%	4%	1%	-2%	-5%	4%	0%	-3%	1%
	50,000 or more employees	276	182	7%	9%	15%	23%	34%	13%	14%	18%	6%	7%	3%	6%	8%	2%	14%	3%	16%	11%	7%	-3%	0%
Overall Survey		2,244	1,891	1%	3%	10%	12%	15%	3%	7%	10%	3%	3%	0%	2%	3%	2%	2%	1%	0%	5%	2%	0%	1%

"Survey Analysis: BI and Analytics Spending Intentions, 2017" (G00329809)
Change in active use of capabilities by company size, 2016-2017

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MSE Spending Intentions Vary From -11% to +18% — With Cloud Storage and Compute Being Main Investment Areas

				Mobile	Cloud	Big Data		Storage		Big Data Analytics		Advanced Analytics Techniques												
Company Size Segment	Employee Range	Number of References, 2016	Number of References, 2017	Mobile BI Deployment	Cloud BI Deployment	Cloud Data Warehouse	Columnar/In-Memory Database	High-Capacity Data Warehouse	No SQL Data Store	Hadoop/Spark	Search-Based Indexes	Streaming Analytics	Advanced Analytics in Hadoop/Spark	Data Mining/Predictive Analysis	Log Data Analytics	Geospatial and Location Intelligence	Simulation/Optimization	Machine or Sensor Analytics	Link/Network/Graph Analytics	Text Analytics	Social Media Monitoring	Sentiment Analysis	Video Analytics	Speech Analytics
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	500 to 999 employees	173	176	-5%	-1%	8%	0%	11%	3%	4%	7%	7%	-3%	-2%	0%	5%	4%	-5%	0%	-3%	5%	3%	0%	-1%

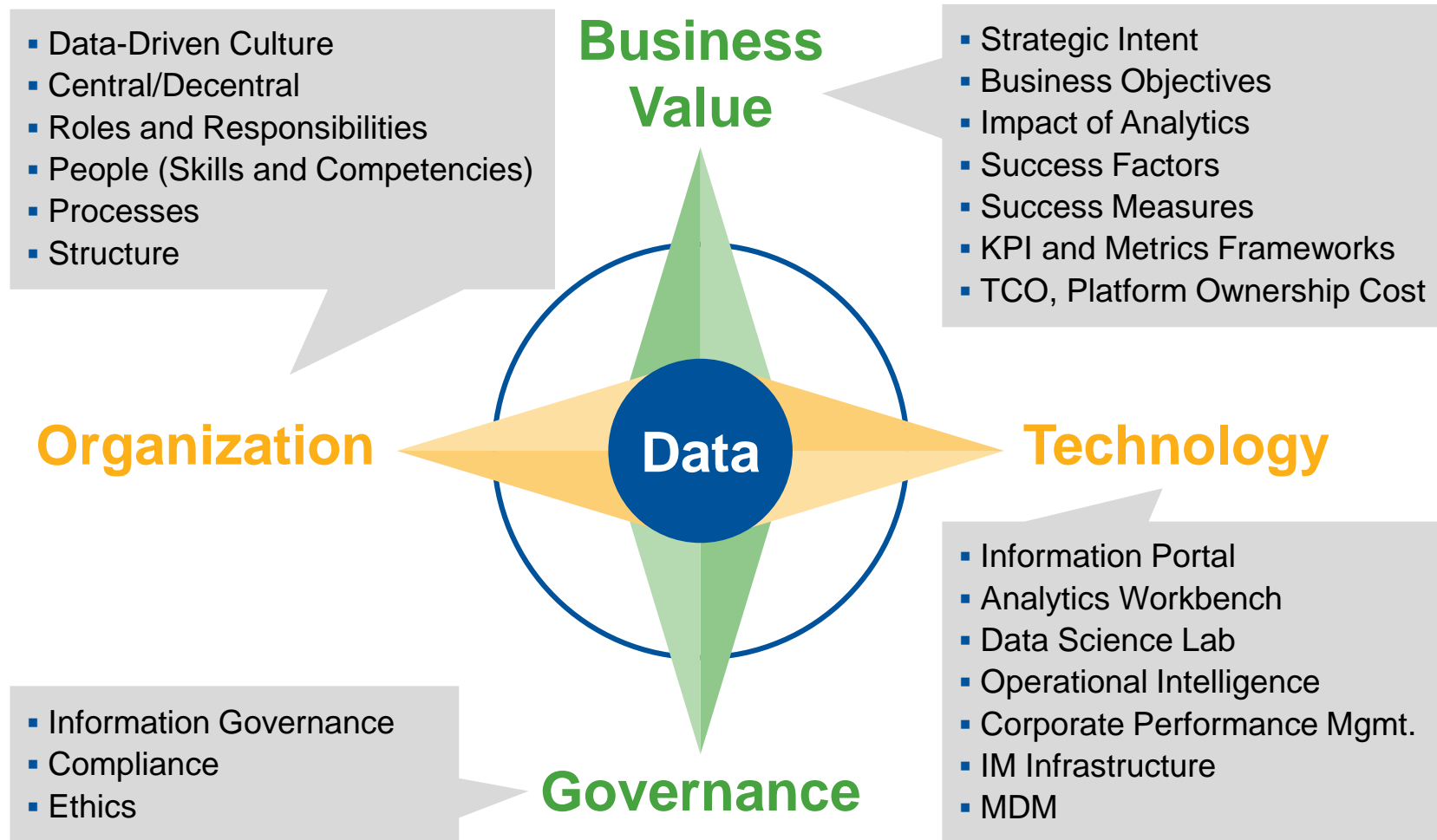
How can MSEs take full advantage of their data?

"While money can't buy you happiness, it certainly lets you choose your own form of misery."

— Groucho Marx

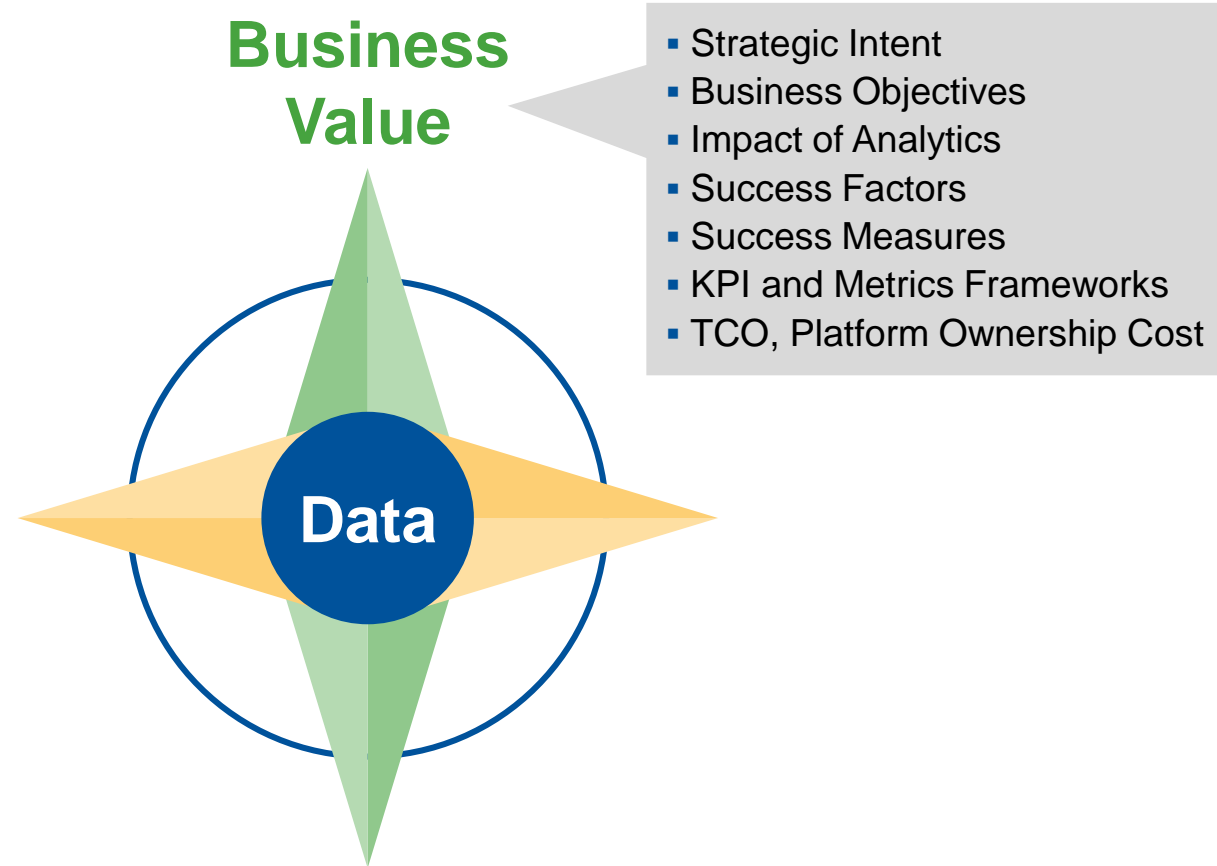
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Apply Gartner's Business Analytics Strategy Compass

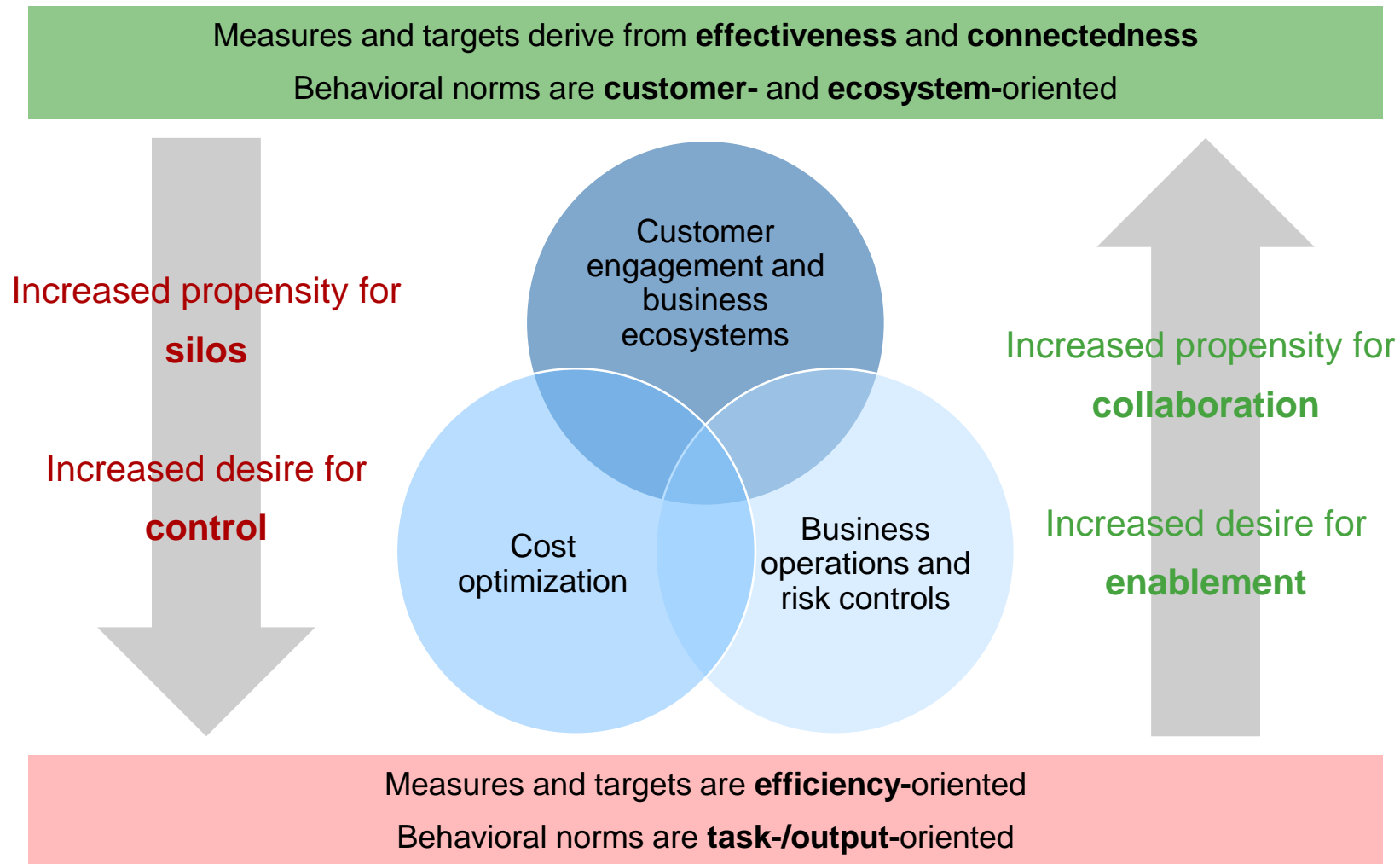


TCO = Total cost of ownership

Apply Gartner's Business Analytics Strategy Compass



Value: Efficiency, Effectiveness or Engagement?



"It's Not Easy to Articulate Hard Benefits ..."

"We'll make better decisions ..."

"Operations staff will be more autonomous ..."

"Executives will be more informed ..."

**Thou shalt never use the words
"better," "more" or "improved"!**

"Information will be treated as an asset ..."

"We can automate business process steps ..."

"We want to move from descriptive reporting to predictive models ..."

Can't Find "Hard" Benefits? You're Not Trying Hard Enough!

"Cancel the three loss-making services ..."

"Call center agents can approve a courtesy payment automatically ..."

"We will not run the new brand campaign until Q3 ..."

Must try harder!

"The impact of this data on operations is clear ..."

"Send the customer the next three items on their wish list ..."

"We know the criteria that determine student success ..."

Apply Different Approaches for Different Problems



Innovation



Exploration



Prototyping



Refinement



Firefighting

Challenging Status Quo	100%	80%	60%	20%	0%
Data Scientists Work as	Innovators or inventors	Investigators or detectives	Engineers	Engineers	Investigators
Main Objectives	<ul style="list-style-type: none"> Disruptive ideas Discover new business moments Deductive thinking 	<ul style="list-style-type: none"> Transformative ideas Explore unknown issues Look for discontinuities Inductive thinking 	<ul style="list-style-type: none"> Evolutionary ideas New problem solving Improve existing solutions by 20% to 300% 	<ul style="list-style-type: none"> Effective ideas Improve existing solutions by 1% to 10% 	<ul style="list-style-type: none"> Remediating ideas Diagnosis Hypothesis validation
Plan	<ul style="list-style-type: none"> Look for cross-industry insights Research disruptive indicators Data scientists must participate in innovation 	<ul style="list-style-type: none"> Fund nondirected exploration Leverage deep data science skills Exploit existing market inefficiencies 	<ul style="list-style-type: none"> Require ROI justification Ideal for data science lab involvement Close the business monitoring loop 	<ul style="list-style-type: none"> Go deep in LOB activity Look for efficiency levers Focus on critical variables 	<ul style="list-style-type: none"> Tackle cross-function tactical projects Build versatile skills Promote SWAT analytics
Use of Data	Audacious	Massive	Selective	Selective	Selective
Data Supply Model	None	Data lake	Data lake	Data warehouse	Data lake

Innovation: Betting the Farm on Information

- Opportunity:
 - Improved farming productivity, growth and margins
- Data and analytics:
 - Soil tested with electrical charges and mapped for precise fertilizer dosages applied automatically
 - Drones equipped with infrared cameras survey for flood, irrigation and crop stress
 - Combines take continuous readings, analyzing data in real-time data on moisture, yields, etc. via iPads
- Results:
 - Ability to farm 20,000 acres, up from 700 acres in the 1970s, with only 25 employees
 - ROI growth from 14% to 21%, despite 8x increase in cost of sensor-loaded combines
 - Eliminated need for crop diversification to hedge against weather, disease and market conditions



Exploration: Dark Data Shedding Light on Retail Space Optimization

- Opportunity:
 - Improve in-store customer experience
- Data and analytics:
 - Historical video feeds from existing security cameras
 - Video analytics and visualizations from Prism Skylabs to understand shopper profiles (e.g., sex and estimated age) and shopping traffic patterns
- Results:
 - Heat maps identified customer wait times, enabling the businesses to improve store flow
 - Optimized relative product placement
 - Improved employee assignments and scheduling improve customer service levels



Prototyping: Immonet Optimizes Its Product Portfolio With Analytics

- Opportunity:
 - Target the most valuable real estate agents, who are likely to list most or all of their properties on its real estate business platform and reduce churn.
- Data and analytics:
 - Use Oracle Exalytics In-Memory Machine to analyze customer buying patterns, such as increasing mobile applications usage and studying real estate agent behavior to optimize the company's property portfolio.
 - Was able to segment customers into key accounts, regular agents and private customers to target the most valuable customers in each segment.
- Results:
 - Increased customer requests by 300% through better search engine advertising.
 - Improved the company's sales by 200% bringing it to the number "two" position among Germany's real estate platforms.
 - Reduced agent churn rate by over 50%.

immonet.de
Wir sind Immobilien



Refinement: Driving Fleet Safety and Performance

- Opportunity
 - Improving driver competence and retention
- Data and Analytics
 - Telematics from drivers gathered into a data warehouse and combined with employee data from other systems
 - Sophisticated analytics using IBM SPSS assess drivers for risk factors such as miles driven, sleep opportunities and pay levels, compared to company averages
 - Analyzing drivers' pay compared versus peers and industry averages, in combination with other stress factors and employment history
- Results
 - 20% overall reduction in accidents; 80% reduction in severe accidents (e.g., roll-overs)
 - 30% reduction in employee turnover leading to savings on recruiting and training

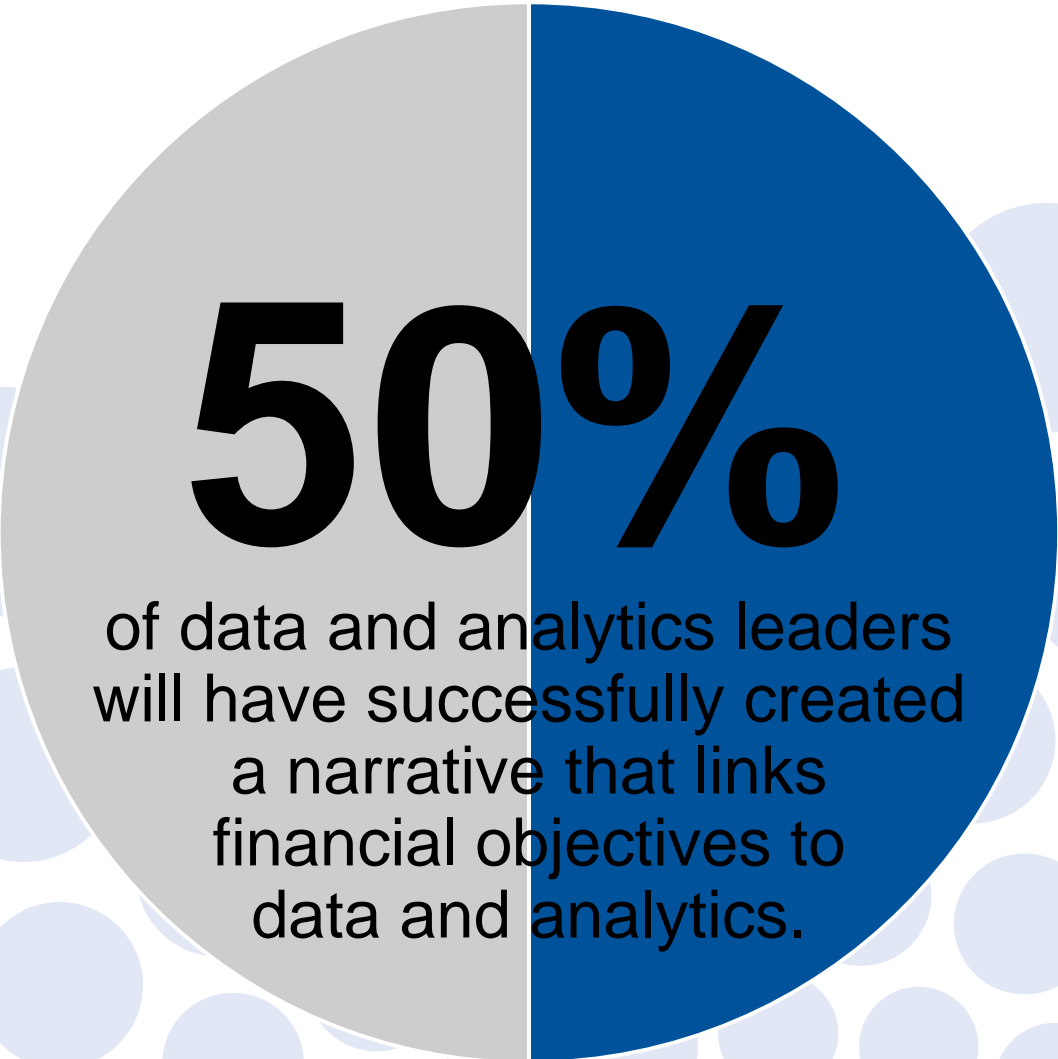


Firefighting: Big Data Helps Vitens Detect and Remedy Costly Pipe Leaks

- Opportunity:
 - Vitens water supply company needed to simplify the maintenance of 96 water production facilities and 49,000 kilometers of pipes.
- Data and analytics:
 - CGI developed a proof of concept solution. It gathered and analyzed data on variables such as pressure, flow, temperature and physical location.
 - Using predictive analytics and visualization software, it searched for data patterns that could be used to detect or predict incidents.
- Results:
 - It was able to detect leaks within a 2.5 kilometer radius in 50% of cases demonstrating that, by using big data and predictive analytics, leaks can be detected and repaired faster.



Gartner Predicts **by 2020**



50%

of data and analytics leaders
will have successfully created
a narrative that links
financial objectives to
data and analytics.

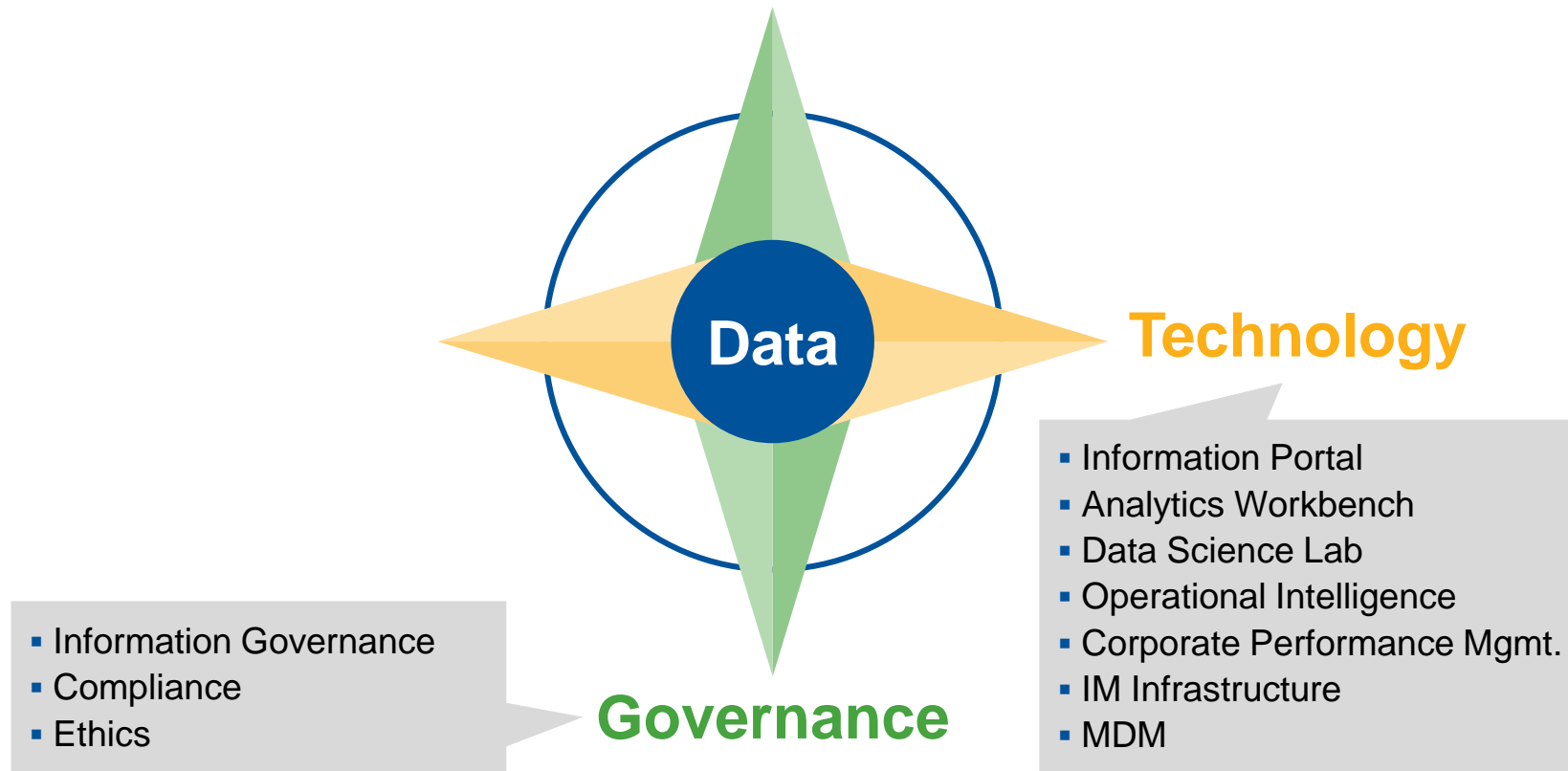
How do you establish the necessary capabilities for data and analytics?

"It is tempting, if the only tool you have is a hammer, to treat everything as if it were a nail."

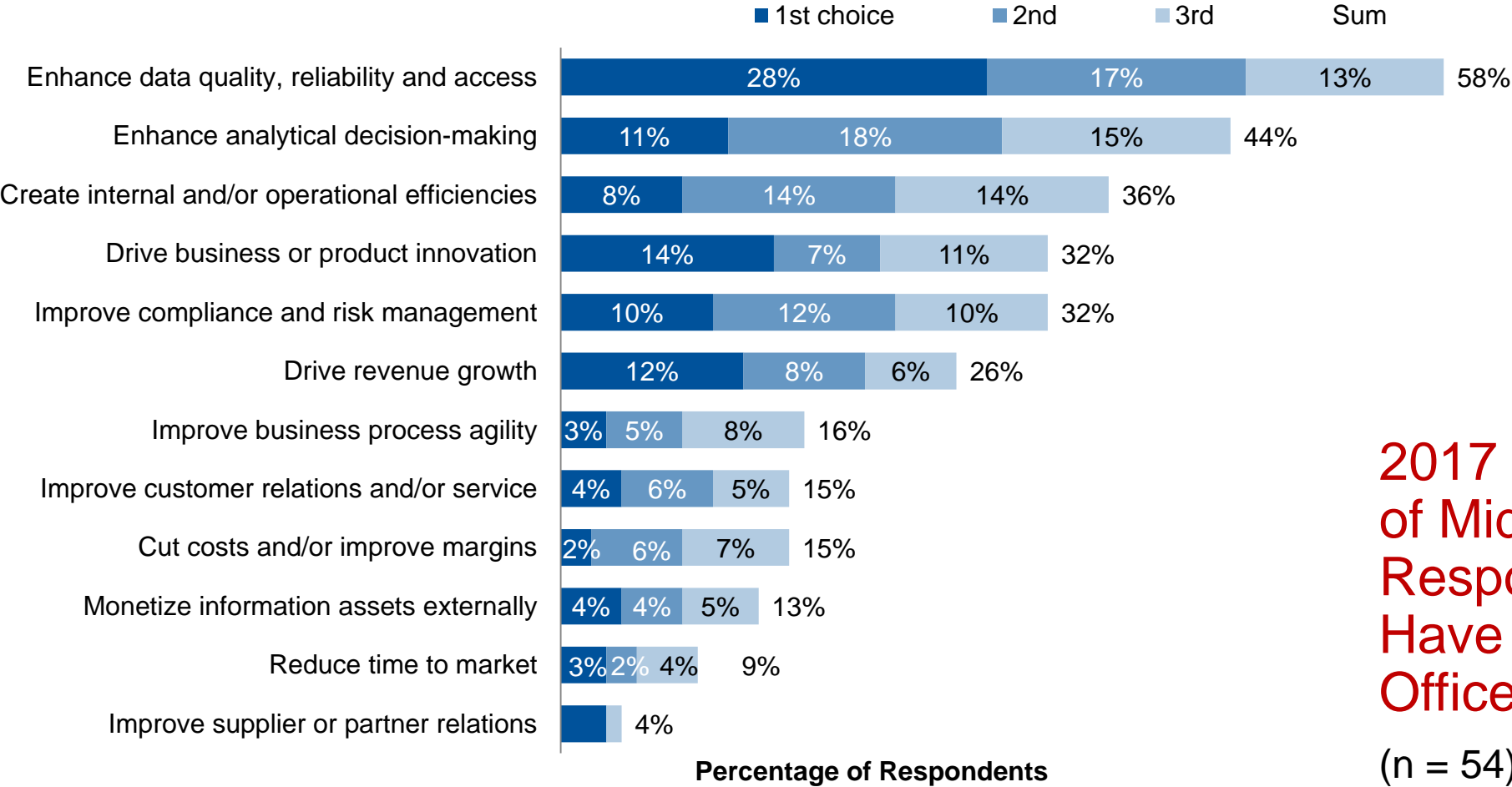
— Abraham Maslow

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Apply Gartner's Business Analytics Strategy Compass



Top Business Expectations of Office of the CDO



2017 CDO Survey: 53%
of Midsize Enterprise
Respondents Already
Have a Chief Data
Officer in Place
(n = 54)

2017 Chief Data Officer Survey. Base: Full/Partial Office of CDO, Excluding Unsure, n = 155
What are the key business expectations of the Office of the CDO? Rank top 5.

Governance: Treat Your Information as an Asset



Curate Inventory of
Information Assets



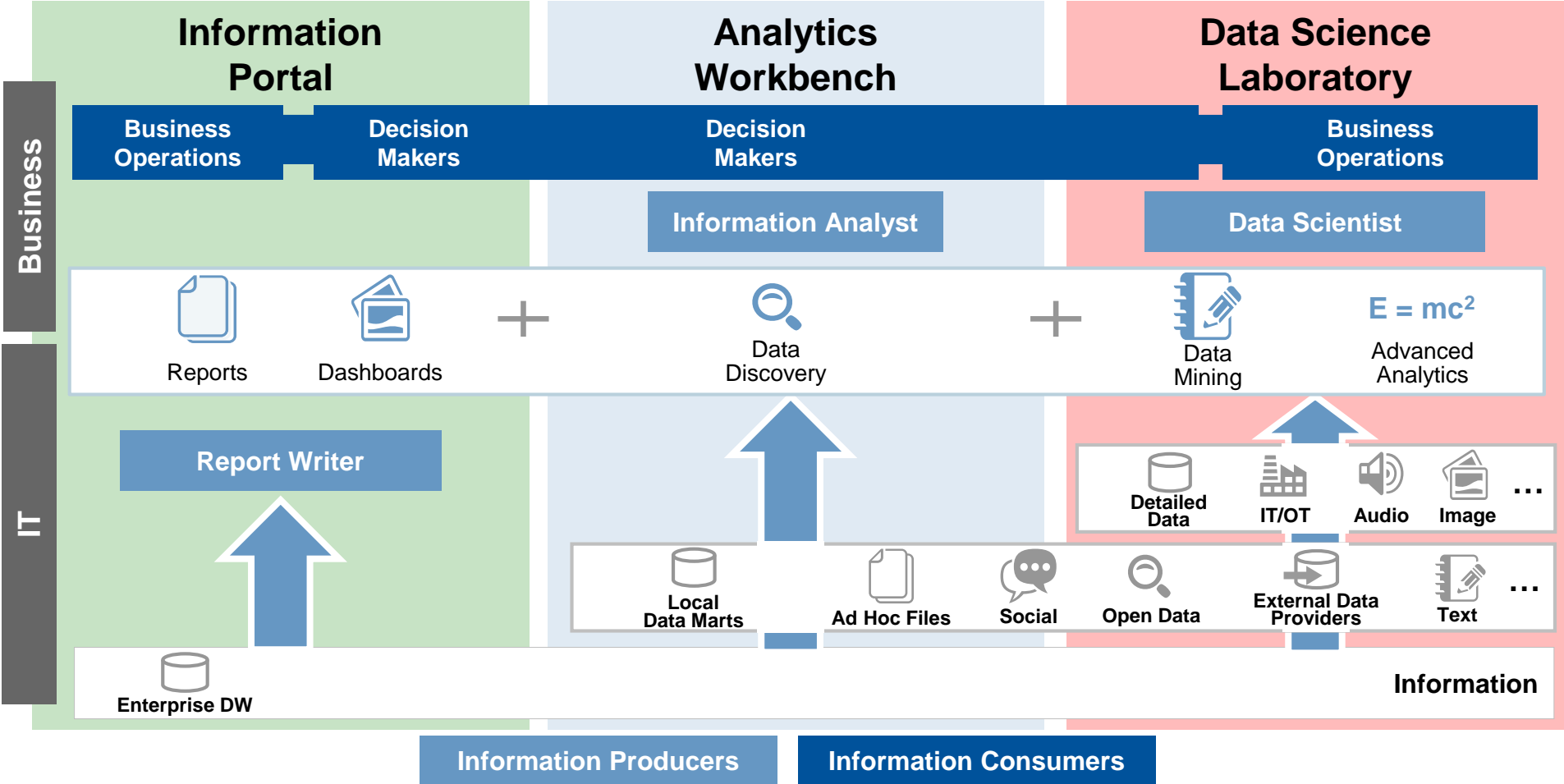
Collaborate for
Accountability and
Governance



Communicate
Shared Semantic
Meaning

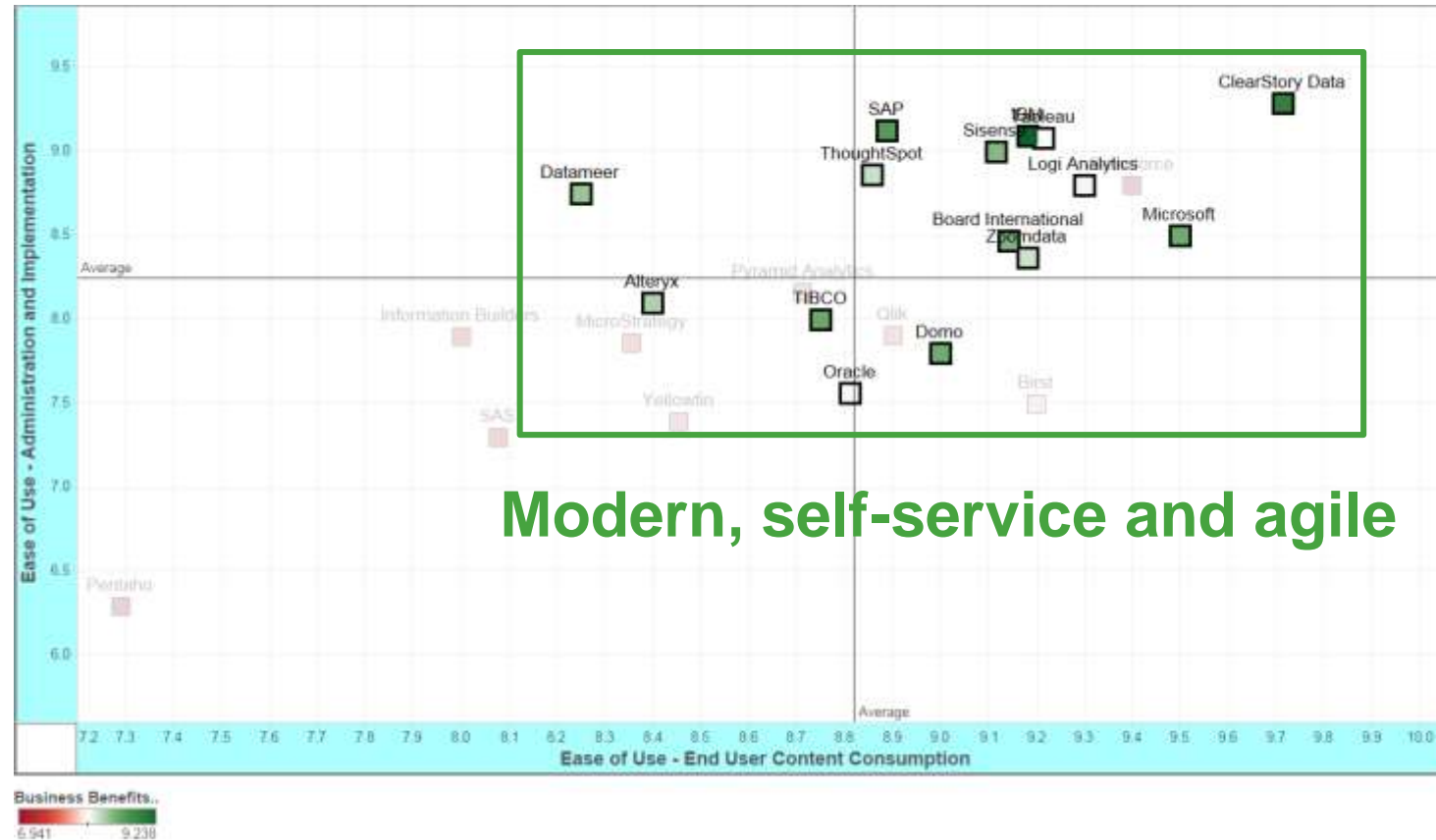
Facilitate, Broker, Enable, Share, Orchestrate

Technology: Tiered Data and Analytics Capability



What Types of Analytics and Business Intelligence Are Right for MSEs?

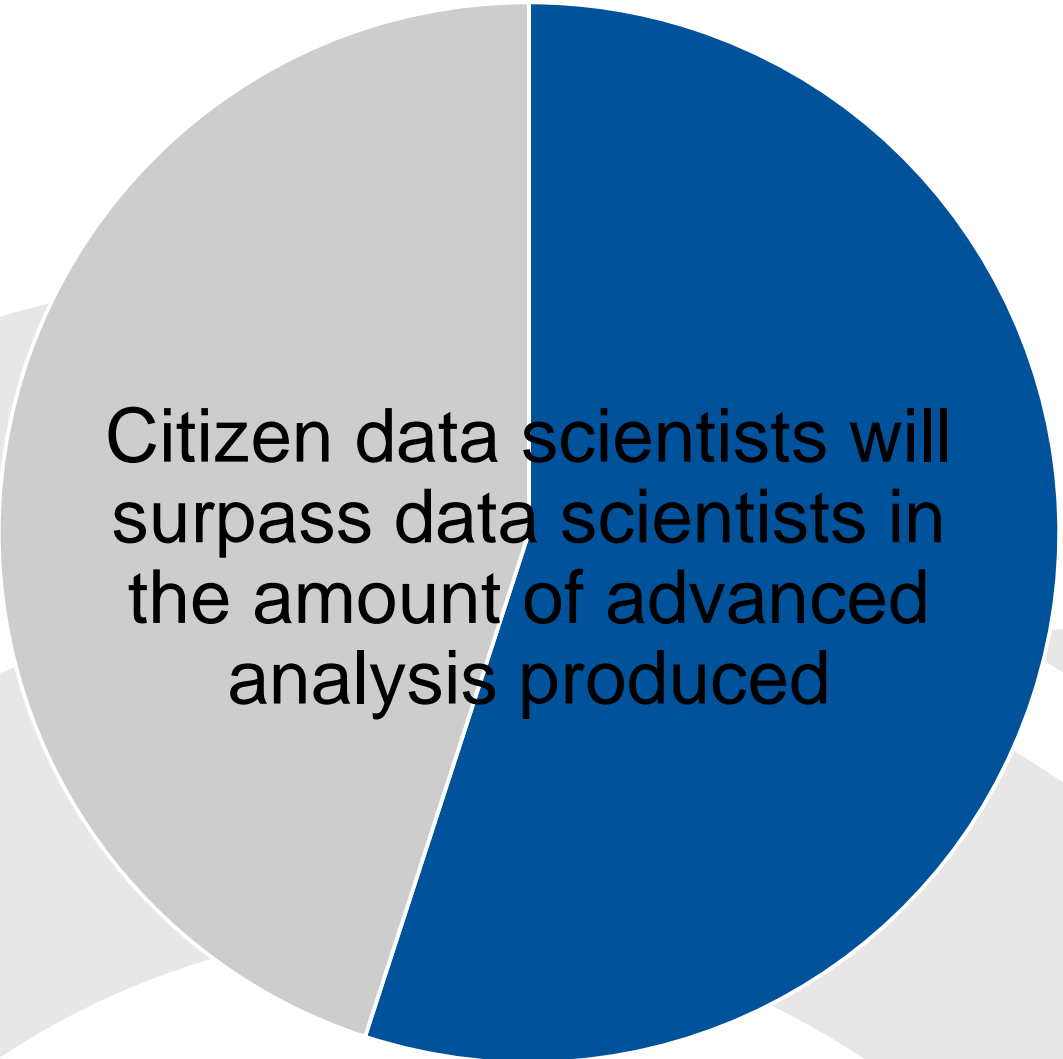
By Business Ease of Use, Developer and Administrator Ease of Use and Business Benefits



Modern, self-service and agile

2017 survey for "[Magic Quadrant for Business Intelligence and Analytics Platforms](#)" (G00301340)
— responses from MSEs
2017 survey "[Magic Quadrant for Business Intelligence and Analytics Platforms](#)" (G00301340)

Gartner Predicts **by 2019**



Citizen data scientists will surpass data scientists in the amount of advanced analysis produced

Cultivating a data-driven mindset

"Maybe stories are just data with a soul."

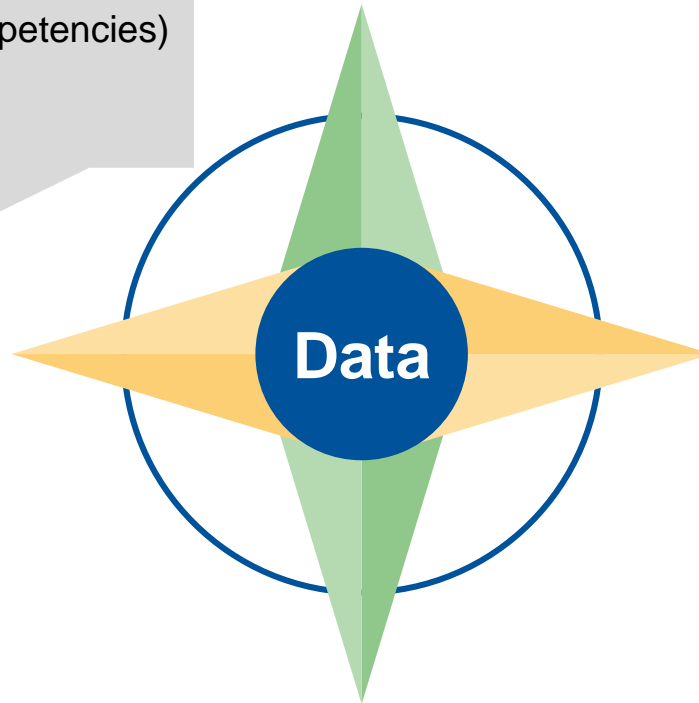
— Brené Brown

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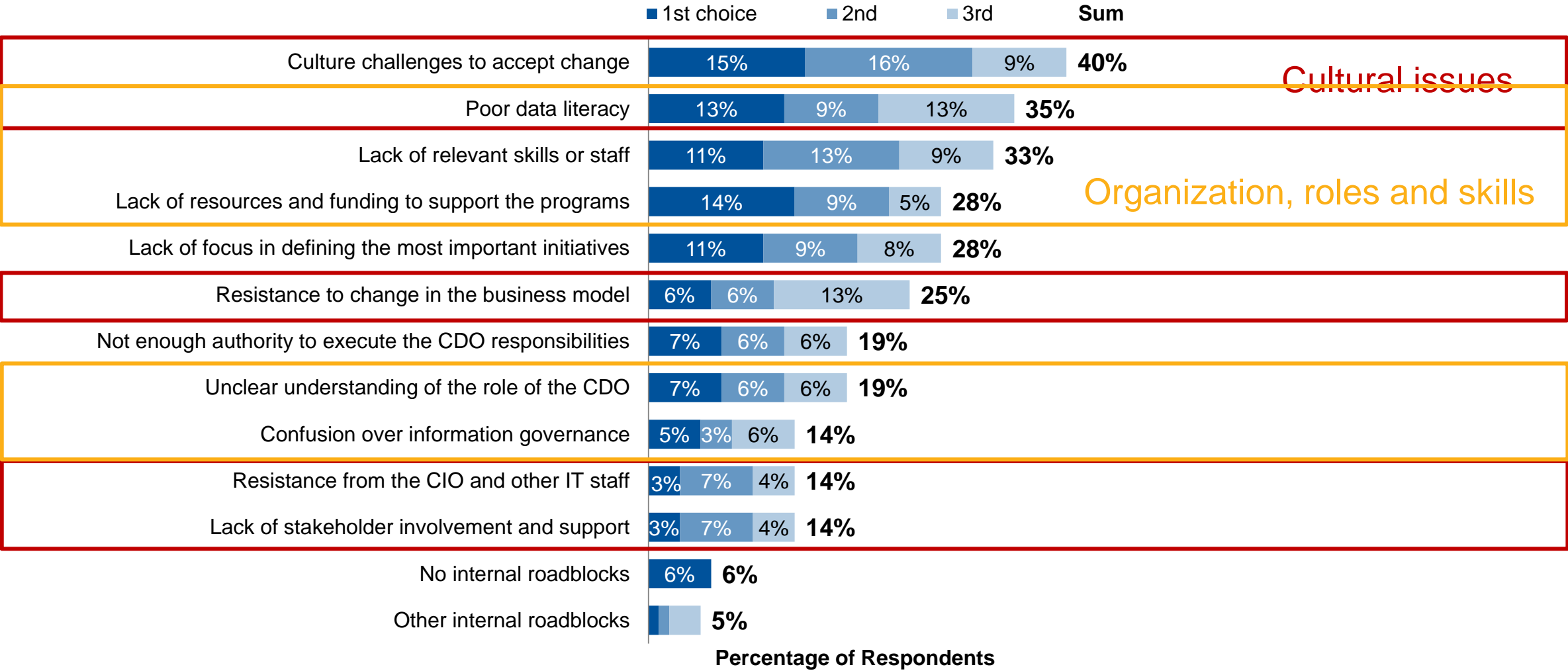
Apply Gartner's Business Analytics Strategy Compass

- Data-Driven Culture
- Central/Decentral
- Roles and Responsibilities
- People (Skills and Competencies)
- Processes
- Structure

Organization

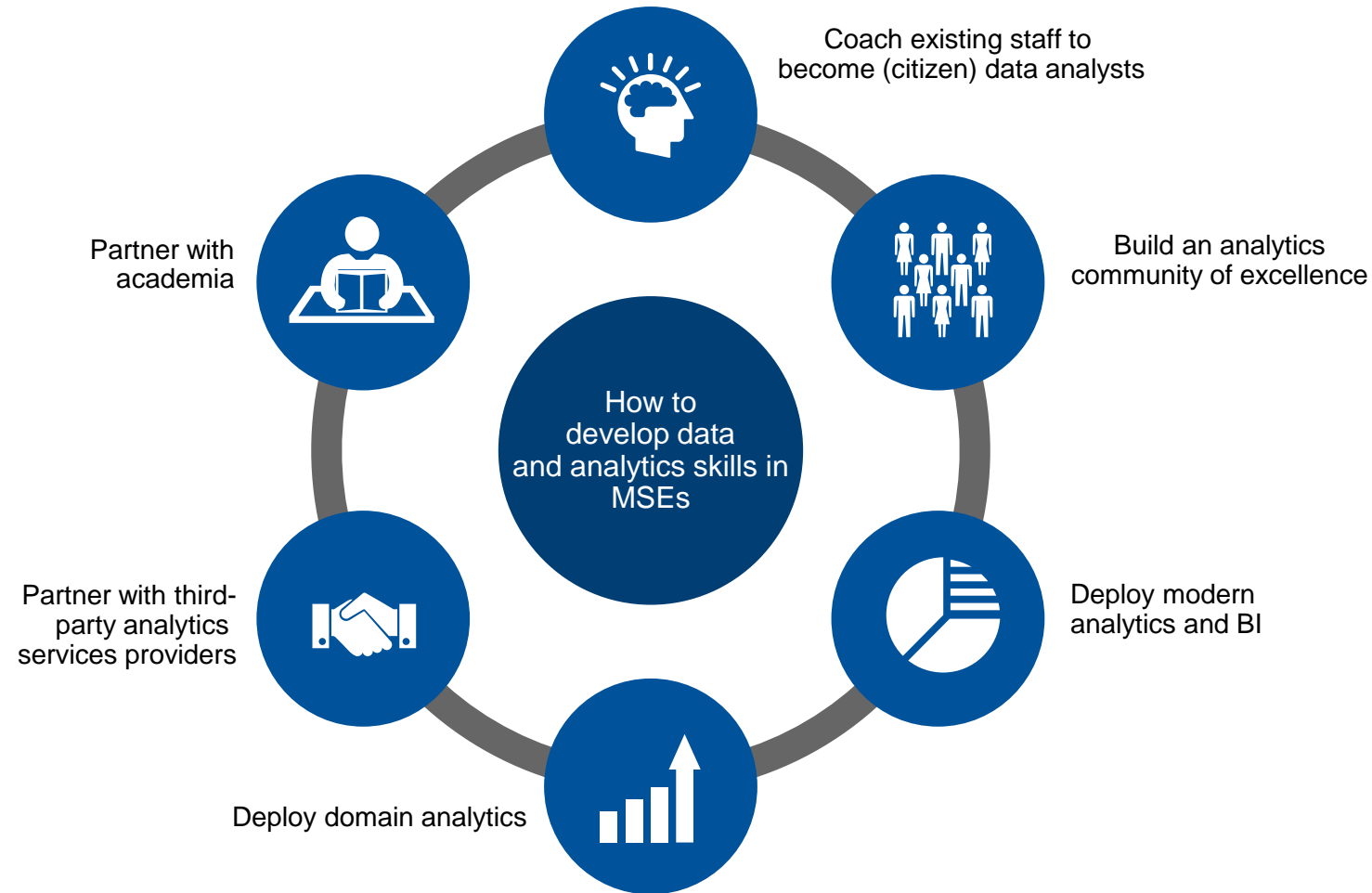


Internal Roadblocks to Success

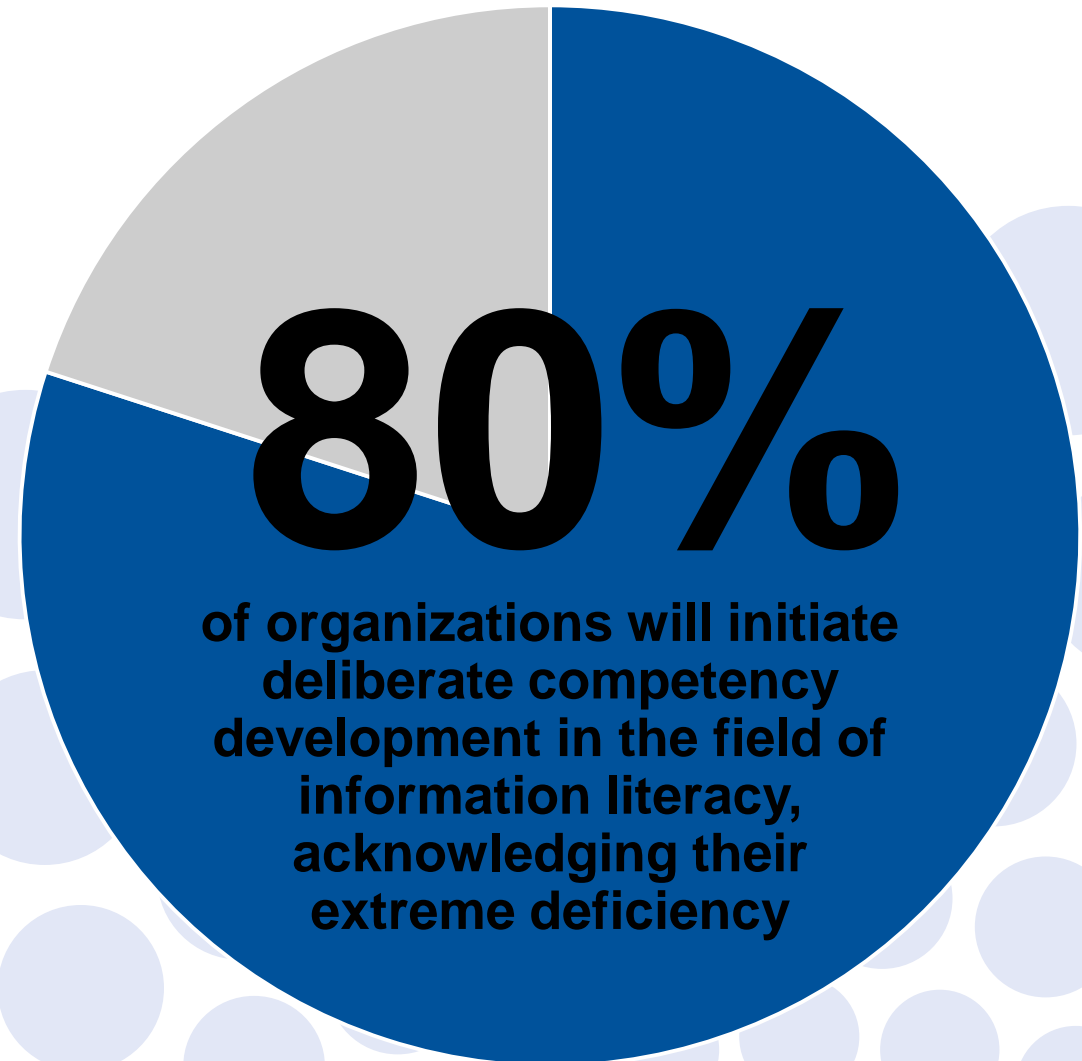


2017 CDO Survey: Base: Full/Partial Office of CDO, Excluding Unsure, n = 152
What do you see as the internal roadblocks to the success of the Office of the CDO? Rank top 3.

Foster and Develop the Data and Analytics Skills You Need — And Get Help!



Gartner Predicts **by 2020**



Final thoughts and next steps

"When it is obvious that the goals cannot be reached, don't adjust the goals, adjust the action steps."

— Confucius

Apply Gartner's Business Analytics Strategy Compass

- ✓ Find specific business scenarios and pilot opportunities for measurable business value
- ✓ Do not rely solely on the "softer" concepts of user satisfaction and a perception of broad access to data



Organization

- ✓ Focus where there is appetite to challenge existing assumptions, practices and silos. Build momentum for a broader approach
- ✓ Shift the role of IT staff from exclusive authoring of reports to enabling and educating



Business Value

Governance

- ✓ Adopt a portfolio approach for analytics and BI solutions in order to support different analytics roles
- ✓ Focus on vendors that offer self-service and agile analytics



Technology

- ✓ Champion a data-driven culture by treating information as an asset
- ✓ Make data-oriented behaviors pervasive in people's roles



Recommended Gartner Research

- ▶ [Practical Business Analytics Strategy for Midsize Enterprises](#)
Alan D. Duncan and Thomas W. Oestreich (G00331627)
- ▶ [Survey Analysis: CIOs in Midsize Enterprises Can Get Better Business Outcomes by Increasing Analytics and BI Adoption](#)
Alan D. Duncan, Cindi Howson and Nigel Shen (G00337711)
- ▶ [Survey Analysis: Cloud and Agile Analytics and Business Intelligence Hold Tremendous Potential for Midsize Enterprises](#)
Alan D. Duncan, Rita L. Sallam and Nigel Shen (G00337712)
- ▶ [For Midsize Enterprises, the Value of Data and Analytics Goes Beyond Cost Optimization](#)
Alan D. Duncan (G00331631)

For information, please contact your Gartner representative.

Recommended Gartner Research

- ▶ [A Data-Driven Culture Is Vital to Digital Business Success for Midsize Enterprises](#)
Alan D. Duncan and Lydia Clougherty Jones (G00331632)
- ▶ [How Midsize Enterprises Can Get the Data and Analytics Skills They Need](#)
Alan D. Duncan and Cindi Howson (G00331629)