

Analytics Maturity: Industry Trends and Financial Impacts

Bill Franks
Chief Analytics Officer, International Institute For Analytics
June 2018



Agenda



- 1** Defining Analytics Maturity
- 2** Research Results: How Do Industries Compare?
- 3** Research Results: Industry Drill Downs?
- 4** Is Analytics Maturity Associated With Company Performance?
- 5** Conclusions / Question & Answer

How Can Analytics Capability Be Measured?



How are we
doing?

Compared to
what?

What should we
do to improve?

How do we
measure how
we are doing?

Where should we focus
our time, energy and
investment for the
greatest return?

The Analytics Challenge

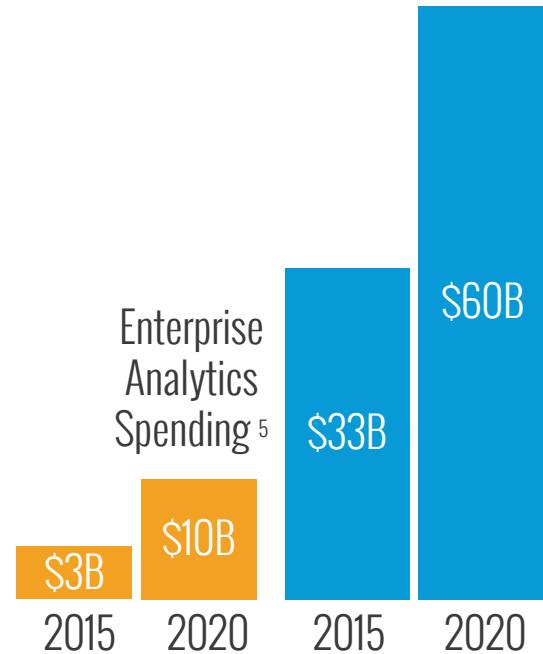


Up to 70% of analytics projects fail to meet objectives ^{1,2}

Enterprise
Big Data
Spending ⁶

Why? It's NOT the technology:^{3,4}

- ✓ Disagreement on or lack of enterprise strategy
- ✓ Corporate cultures that aren't built around data
- ✓ Insufficient domain knowledge
- ✓ Organizational resistance
- ✓ Lacking the right skills



1 - Capgemini

2 - InformationWeek

3 - readwrite

4 - Gartner

5 - HEAVY READING



Disruption Comes Quickly



“Neither RedBox nor Netflix are even on the radar screen in terms of competition”
Blockbuster CEO Jim Keyes (2008)

<https://www.fool.com/investing/general/2008/12/10/blockbuster-ceo-has-answers.aspx>

Disruption Comes Quickly



Blockbuster filed for bankruptcy
less than 24 months later....

Developing Enterprise Analytics Capability



How?

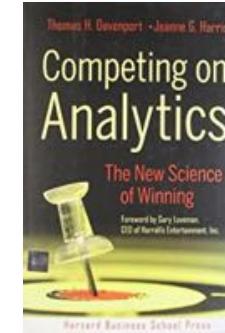
- Adopt an unbiased framework for determining how groups within an organization rate and prioritize analytics capabilities

IIA Analytics Maturity Methodology

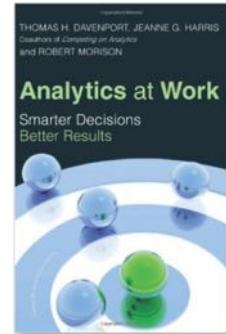
- Uses **5-Stage Analytics Maturity Model** and **DELTA Framework** for assessing enterprise analytics capabilities

Methodology Goals

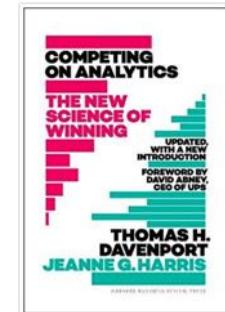
- Assess enterprise analytics maturity against frameworks
- Assess enterprise analytics maturity against other industries
- Provide actionable insight for improving analytics capability



2007

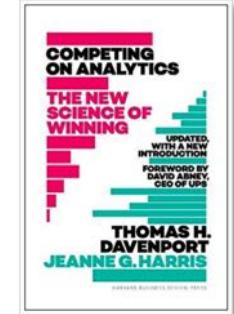
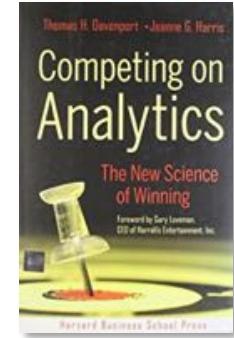
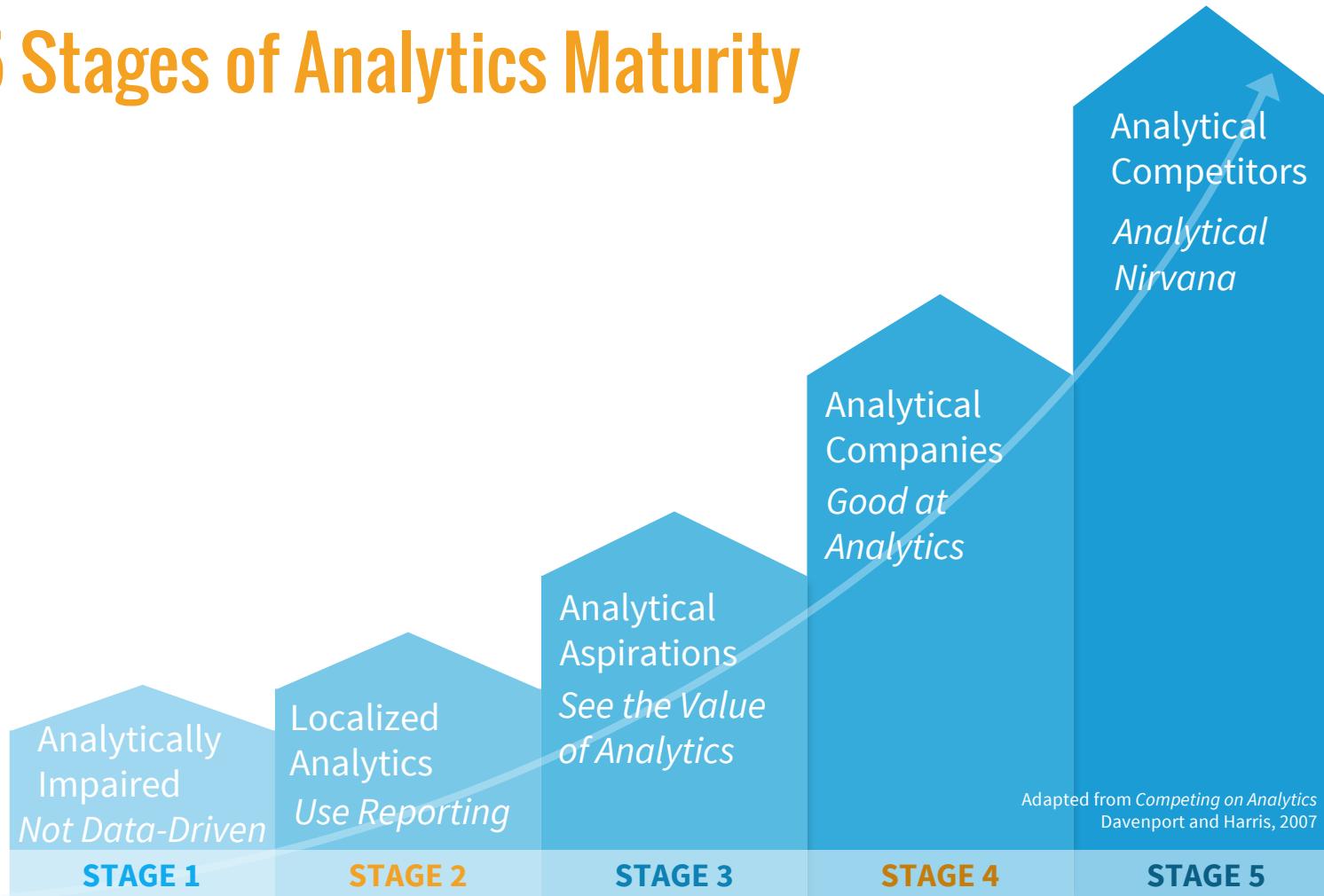


2010



2017

5 Stages of Analytics Maturity



5 Stages of Analytics Maturity

STAGE 5: ANALYTICAL COMPETITORS:

“Analytical Nirvana.” Use analytics across the enterprise as a competitive differentiator and in strategy

STAGE 4: ANALYTICAL COMPANIES:

“Good at Analytics.” Highly data oriented, have analytical tools, and make wide use of analytics. Lack commitment to fully compete or use strategically

STAGE 3: ANALYTICAL ASPIRATIONS:

“See the value of analytics.” Struggle to mobilize the organization and become more analytical

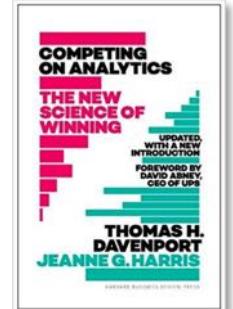
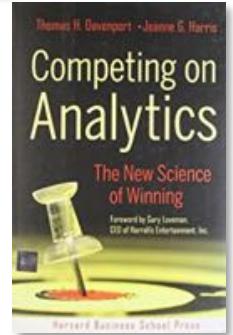
STAGE 2: LOCALIZED ANALYTICS:

“Use reporting.” Use of analytics or reporting is in functional or business silos

STAGE 1: ANALYTICAL IMPAIRED:

“Not data-driven.” Rely on gut feel and plan to keep doing so. Not asking analytics questions and/or lack the data to answer them

Adapted from *Competing on Analytics*
Davenport and Harris, 2007



STAGE 1

STAGE 2

STAGE 3

STAGE 4

STAGE 5

IIA's analytics maturity methodology measures an organization's performance using the DELTA model framework



DELTA = CHANGE

D

DATA

BREADTH, INTEGRATION, QUALITY

E

ENTERPRISE

APPROACH TO MANAGING ANALYTICS

L

LEADERSHIP

PASSION AND COMMITMENT

T

TARGETS

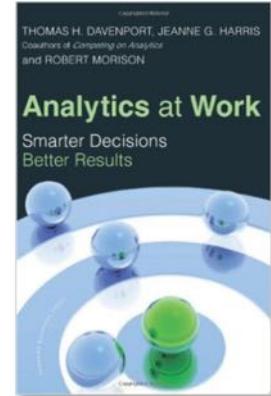
FIRST DEEP THEN BROAD

A

ANALYSTS

PROFESSIONALS AND AMATEURS

Adapted from *Analytics at Work*, Davenport, Morrison and Harris, 2010



DELTA Competencies

D DATA

- ✓ Data capture
- ✓ Data quality
- ✓ Data integration
- ✓ Use of external data
- ✓ Data consistency
- ✓ Data trustworthiness
- ✓ Analytical tools
- ✓ “Big Data” utilization

E ENTERPRISE

- ✓ Enterprise tech management
- ✓ Organization of talent
- ✓ Funding adequacy
- ✓ Non-management utilization
- ✓ Data scalability
- ✓ External reporting

L LEADERSHIP

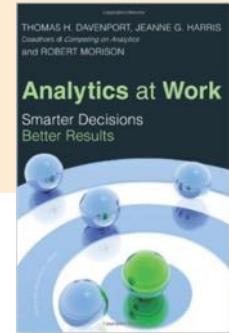
- ✓ Strategic input
- ✓ Executive advocacy
- ✓ Executive utilization
- ✓ Management utilization
- ✓ Enterprise collaboration

T TARGETS

- ✓ Predictive modeling
- ✓ Goal setting
- ✓ Prioritization
- ✓ Iterative approach
- ✓ Opportunity identification
- ✓ Experimentation

A ANALYSTS

- ✓ Staffing level
- ✓ Consultative approach
- ✓ Business skills
- ✓ Data science skills
- ✓ Career paths



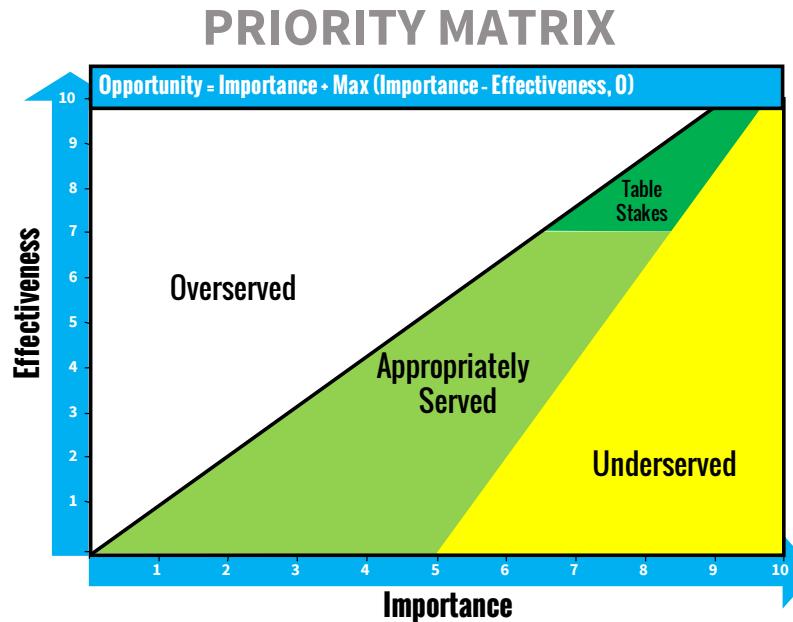
Why Measuring Effectiveness Is Critical

The dimensions of importance and effectiveness are both evaluated



Maturity Priority Matrix

Shows which competencies have the greatest gaps between effectiveness and importance



Analytics Maturity Research Results: How Do Industries Compare?



IIA Analytics Maturity Research Timeline



Original Study
Q2 2016

Digital Natives
Q3 2016

Retail
Q1 2017

Healthcare
Q3 2017

Company
Performance
Q3 2017

Financial Services
Q4 2017

Ranking Analytics Maturity by Industry

BY DAVID ALLES AND JOHN BLUSHER

Chart 1. Ranking Analytics Maturity by Industry Segments

Industry Segment	Maturity Rank
Manufacturing	1
Consumer Goods	2
Automotive	3
Retail	4
Pharmaceuticals	5
Food & Beverage	6
Telecommunications	7
Energy	8
Chemical	9
Banking	10
Finance	11
Healthcare	12
Aerospace & Defense	13
Plastics	14
Metals	15
Textiles	16
Leather	17
Leisure Goods	18
Pharmaceuticals	19
Automotive	20
Consumer Goods	21
Manufacturing	22

Figure 1. Digital Native Priority Matrix

Figure 2. Driving Corporate Performance in Retail Through Analytics

New research shows investment in analytics and data is separating winners from losers in retail.

Figure 3. Driving Clinical and Operational Performance Through Analytics

New research shows that investment in data and analytics technologies is separating winners from losers among healthcare providers.

Figure 4. Analytics Maturity Powers Company Performance

Figure 5. How Analytics is Transforming Financial Services

Figure 6. The Evolution of Transforming Financial Services

Analytical Excellence Among Digital Natives

How Google, Facebook, Netflix, Amazon, and Apple are Winning with Data and Analytics

Figure 1. Analytical Excellence Among Digital Natives

Figure 2. Driving Corporate Performance in Retail Through Analytics

Figure 3. Driving Clinical and Operational Performance Through Analytics

Figure 4. Analytics Maturity Powers Company Performance

Figure 5. How Analytics is Transforming Financial Services

Driving Corporate Performance in Retail Through Analytics

New research shows investment in analytics and data is separating winners from losers in retail.

Figure 1. Driving Corporate Performance in Retail Through Analytics

Figure 2. Driving Clinical and Operational Performance Through Analytics

Figure 3. Analytics Maturity Powers Company Performance

Figure 4. How Analytics is Transforming Financial Services

Driving Clinical and Operational Performance Through Analytics

New research shows that investment in data and analytics technologies is separating winners from losers among healthcare providers.

Figure 1. Driving Clinical and Operational Performance Through Analytics

Figure 2. Analytics Maturity Powers Company Performance

Figure 3. How Analytics is Transforming Financial Services

Analytics Maturity Powers Company Performance

Figure 1. Analytics Maturity Powers Company Performance

Figure 2. How Analytics is Transforming Financial Services

How Analytics is Transforming Financial Services

Figure 1. The Evolution of Transforming Financial Services

Figure 2. How Analytics is Transforming Financial Services

UPCOMING

- Summer 2018 - Cross Industry Update
- Summer 2018 - Company Performance Update

IIA Full Assessment Methodology

Assessment Goals

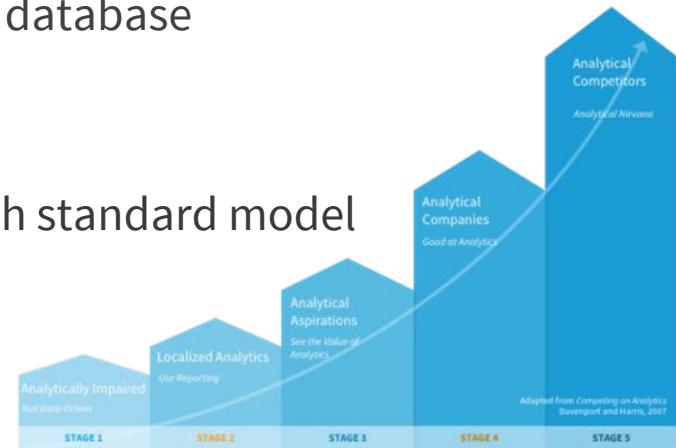
- Measure analytics maturity of individual companies in-depth
- Provide deep dive results across enterprise stakeholders & business units
- Provide ***actionable insights*** by comparing to the full database

Assessment Methodology

- Full Analytics Maturity Assessment questionnaire with standard model
- Hundreds of respondents across each enterprise

IIA full assessment cohort

- Sample Size: **20,000+** responses across **80+** companies
- Functional Areas: All analytics stakeholders



IIA Market Leaders Goals and Methodology



Study Goals

- Measure analytics maturity across **20+ different industry segments**
- Measure analytics maturity of **digitally native** companies
- Provide **actionable comparisons** for IIA's full Analytics Maturity Assessment database

Study Methodology

- Modified Analytics Maturity Assessment model
- Respondents screened and selected from research panels

Targeted Market Leaders in 20+ industries

- Sample Size: **900+** Responses across **120+** companies
- Functional Areas: IT/Systems/Analytics, Finance, and Sales/Marketing
- Minimum Data Requirements: At least 5 respondents from each company, with 1 from each functional area

Online B2B Panelists

Employed at
Participant Company

In Required
Position

With Required
Responsibility

Producer,
Enabler or User
of Data
Analytics

Respondent

Market Leader Cohort: Example Companies

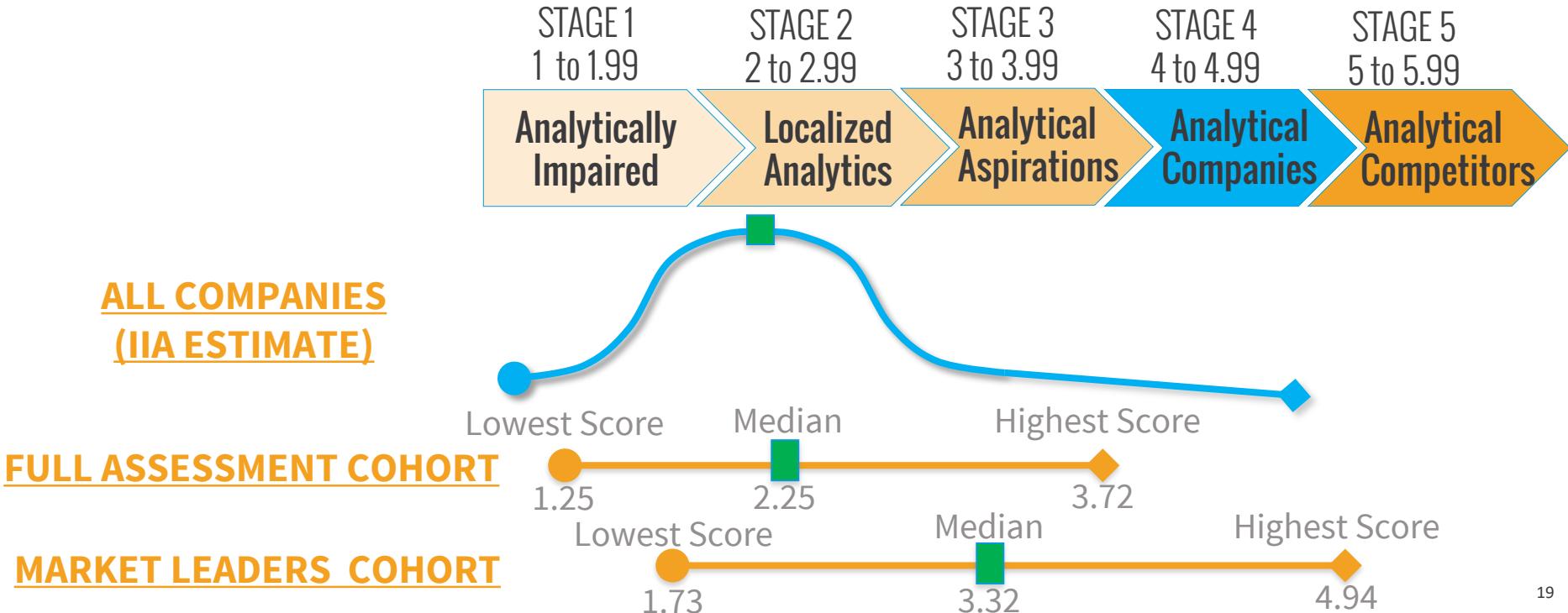


JPMORGAN CHASE & CO.



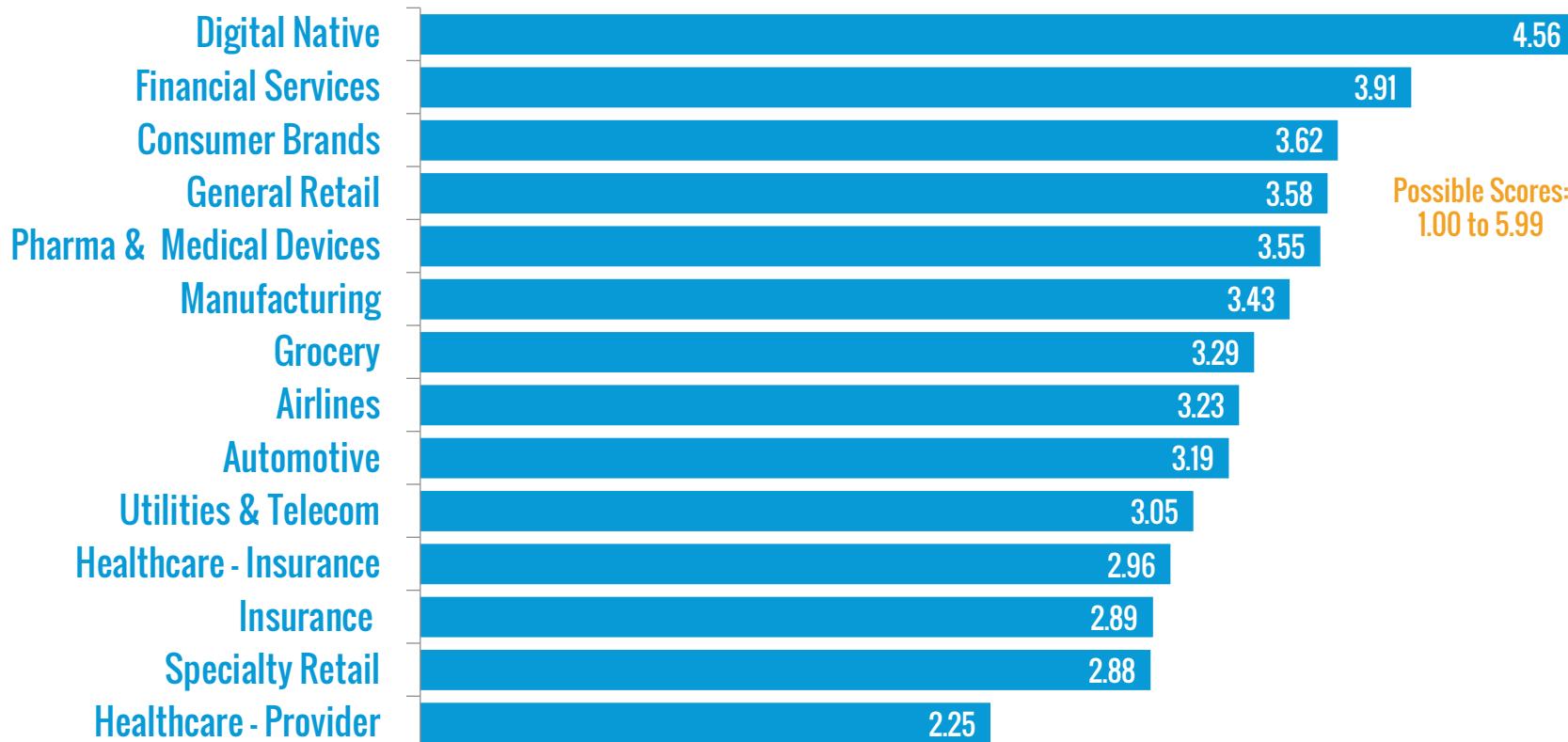
Analytics Maturity Across Different Populations

IIA included some full assessment cohort members in the market leader cohort to validate that both methods have consistent results



Market Leader Industry/Segment Rankings

There is wide variation in analytics maturity across industries



Market Leader Industry/Segment Rankings

	HIGHEST SCORE	LOWEST SCORE	OVERALL	DATA	ENTERPRISE	LEADERSHIP	TARGETS	ANALYSTS
Digital Native	4.56				L	H		
Financial Services	3.91	H	L					
Consumer Brands	3.62	H	L					
Retail	3.56	H	L					
Pharma & Medical Devices	3.56	H			L			
Manufacturing	3.43		L		H			
Airlines	3.23	H	L					
Automotive	3.19	H				L		
Utilities & Telecom	3.05	H				L		
Healthcare - Insurance	2.96		L		H			
Insurance	2.89		L				H	

Market Leader Industry/Segment Distributions

Stage 5

Competitor
(5-5.99)

Stage 4

Company
(4-4.99)

Stage 3

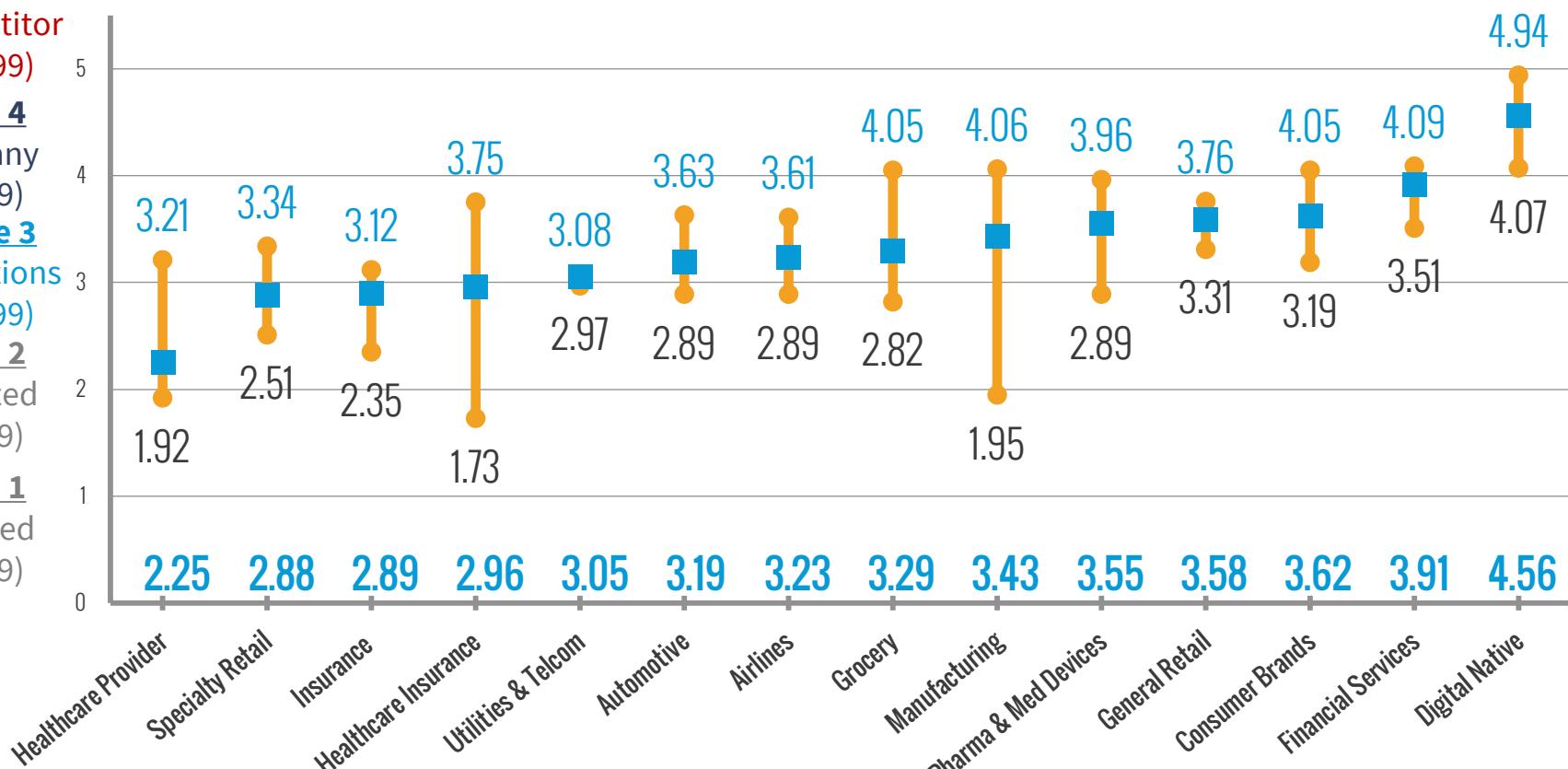
Aspirations
(3-3.99)

Stage 2

Localized
(2-2.99)

Stage 1

Impaired
(1-1.99)



Analytics Maturity Research Results: Industry Drill Downs



Digital Natives

The companies below comprised the digital native group



NETFLIX

Google



facebook

Apple was included in this group because a) of its relatively high score compared to other companies, b) the majority of its revenues and profits (85%+) are derived from products and services launched since 2007 (e.g., iPhones, iTunes, App Store), and c) its overall leadership position in the digital economy.

Digital Natives

- ***Must Maintain Competitive Advantage***

- Do employees believe a company must maintain a competitive advantage in analytics?

- ***Competitive Rating***

- Do employees believe their company maintains a competitive advantage in analytics?

- ***Satisfaction Rating***

- Are employees satisfied with their company's commitment level to analytics?



50-59 Good, 60-69 Very Good, 70+ Excellent

Digital Natives

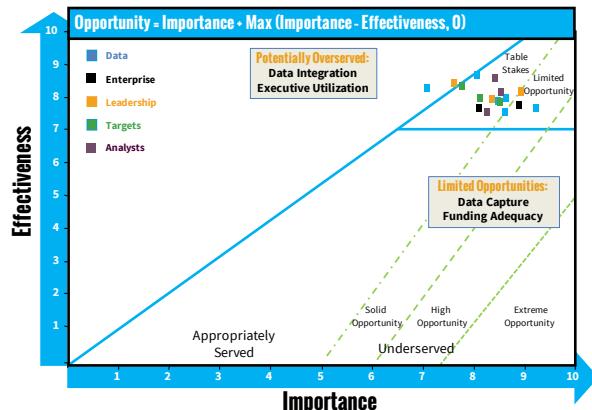


50-59 Good, 60-69 Very Good, 70+ Excellent

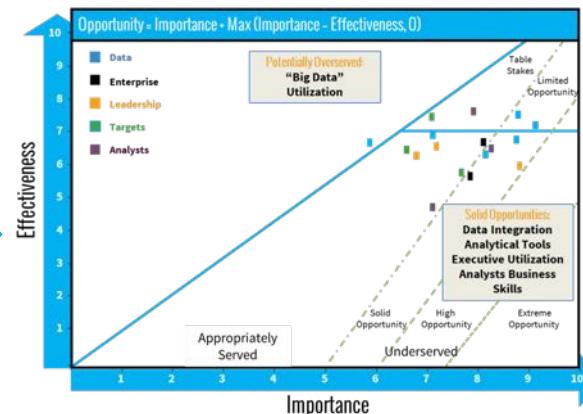
Insurance

AMA Priority Matrix

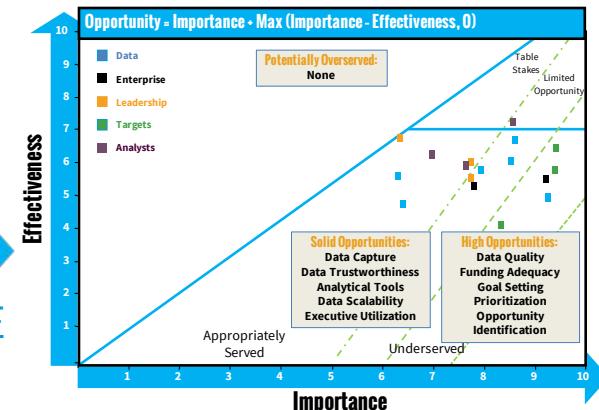
Digital Natives are unique in both the consistency of ratings and the fact that most competencies are table stakes



DIGITAL NATIVE



PHARMA & MEDICAL DEVICE



INSURANCE

Silicon Valley is Coming . . .

JPMORGAN CHASE & Co.

Silicon Valley is coming. There are hundreds of startups with a lot of brains and money working on various alternatives to traditional banking. The ones you read about most are in the lending business, whereby the firms can lend to individuals and small businesses very quickly and – these entities believe – effectively by using Big Data to enhance credit underwriting. They are very good at reducing the “pain points” in that they can make loans in minutes, which might take banks weeks. We are going to work hard to make our services as seamless and competitive as theirs. And we also are completely comfortable with partnering where it makes sense.

Dear Fellow Shareholders,



Jamie Dimon,
Chairman and
Chief Executive Officer

Seven years ago, the world was shaken by the global financial crisis. And since then, our company has been dealing with extraordinary challenges as a result of that crisis. We have endured an unprecedented economic, political and social storm – the impact of which will continue to be felt for years and possibly decades to come. What is most striking to me, in spite of all the turmoil, is that our company became safer and stronger – and it never stopped supporting clients, communities and the growth of economies around the world.

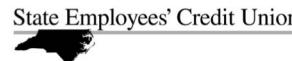
Financial Services Companies



charles SCHWAB



JPMORGAN CHASE & CO.



Financial Services Segments

Wealth Management (4)



charles SCHWAB

**Goldman
Sachs**



JPMORGAN CHASE & CO.



CC & Payments (3)



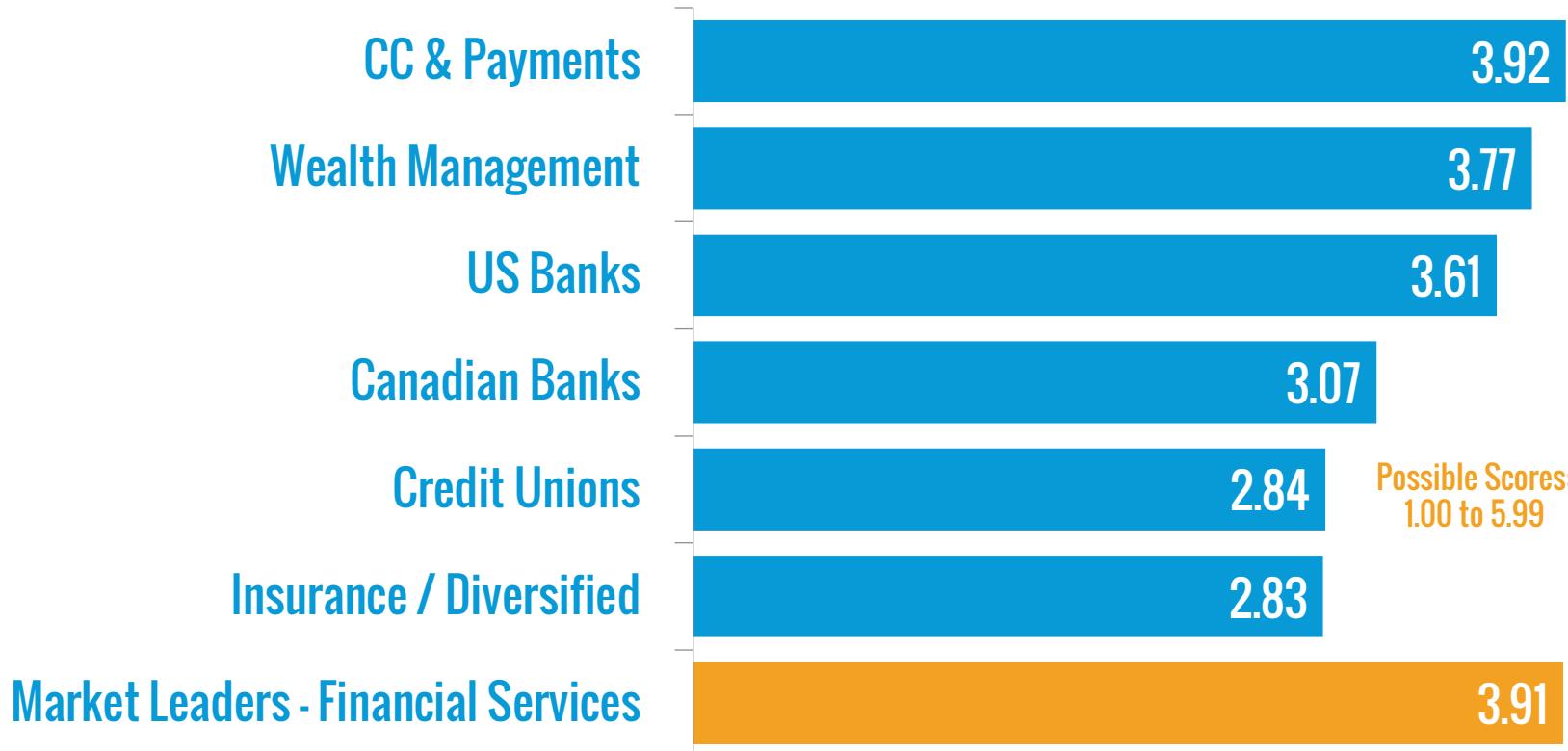
Insurance / Diversified (5)



Credit Unions (3)



Financial Services Segment Rankings



Financial Services Segment Distributions

Stage 5
Competitor
(5-5.99)

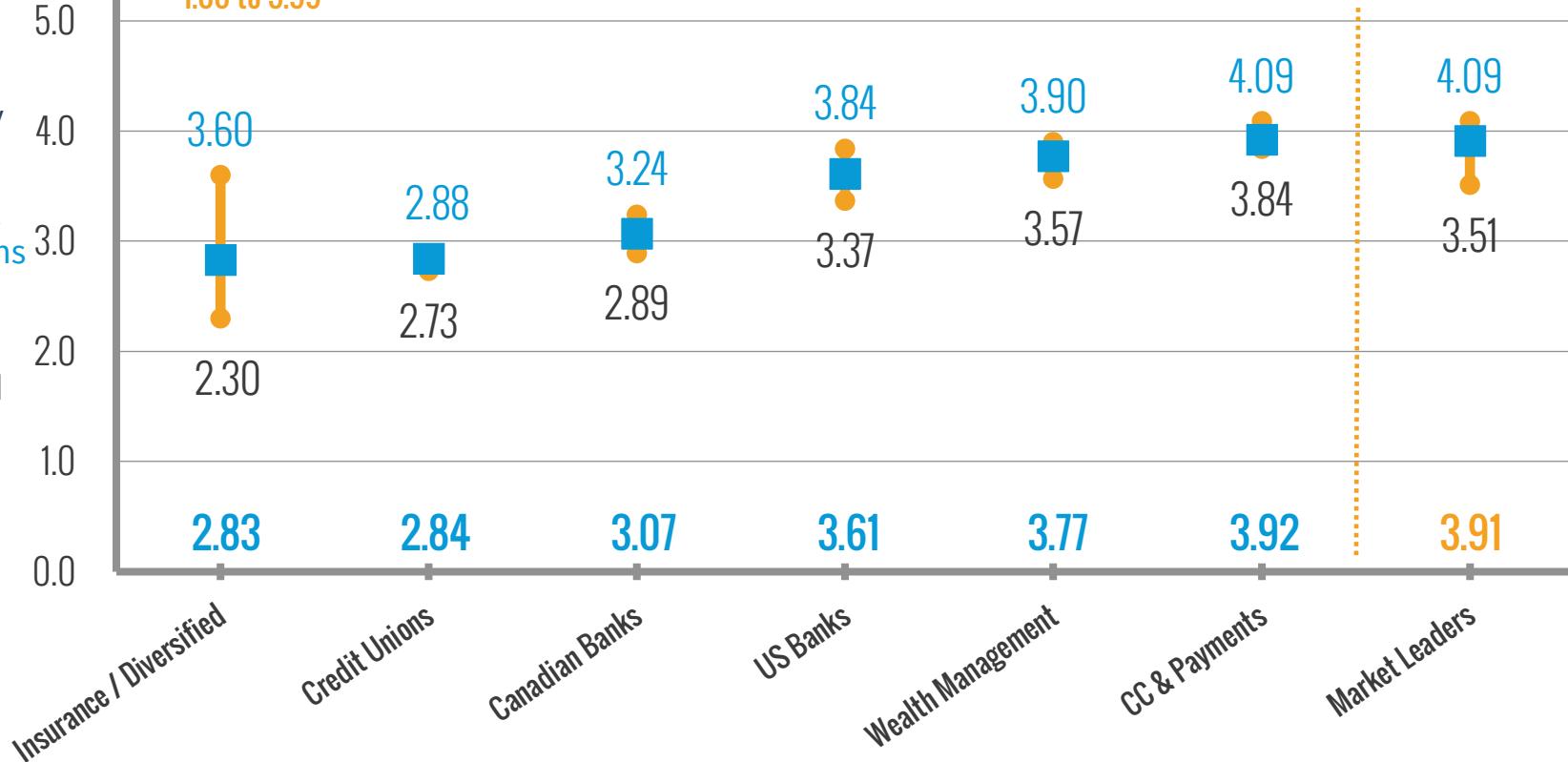
Stage 4
Company
(4-4.99)

Stage 3
Aspirations
(3-3.99)

Stage 2
Localized
(2-2.99)

Stage 1
Impaired
(1-1.99)

Possible Scores:
1.00 to 5.99



Retail Companies



J.CREW



JCPenney



ZARA



Lbrands



Office DEPOT
OfficeMax

Retail Segments

Digital Native - Online (2)



Big Box - General (4)



Grocery (5)



Big Box - Specialty (3)



Specialty Clothing - Apparel (5)



Home Improvement (3)



Department Stores (4)



Pharmacy & Health (3)

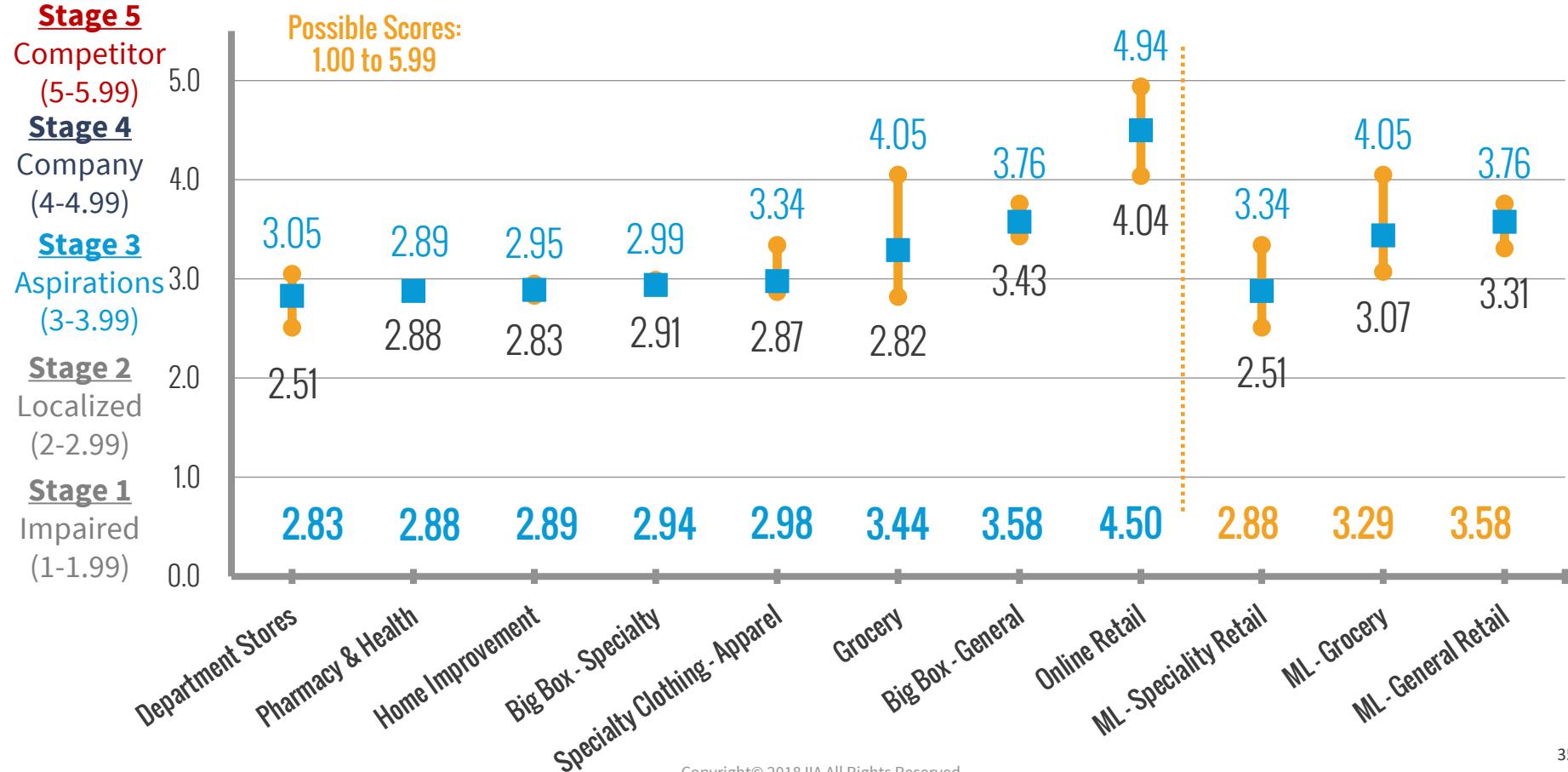


Retail Segment Rankings



Possible Scores:
1.00 to 5.99

Retail Segment Distributions



Is Analytics Maturity Associated With Company Performance?



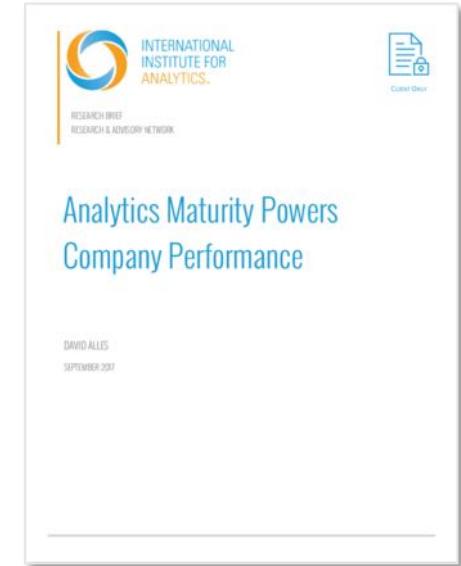
Analytics Maturity And Company Performance



Does improving enterprise analytics capabilities correlate with superior company performance?

This premise is at the center of IIA's founding and mission ...

... but is this belief supported by actual data?



We decided to put the theory to the test with some formal research to explore the relationship!

Analytics Maturity And Company Performance



Is analytics maturity associated with company performance and shareholder value?

Explored relationship between analytics maturity and 72 operating and financial metrics . . .

Perceived Performance

- Inclusion in Top Company Lists



Financial Performance

- Revenue Growth, Net Income Growth

Investment Return

- Market Capitalization, Forward P/E
- Stock Performance (Absolute + Relative to Peer Group)



Brand Finance®

BCG

Analytics Maturity And Company Performance

Below are the companies include in the performance study

Digital Natives      				Consumer Brands        				Healthcare Insurance    					
Financial Services    JPMORGAN CHASE & Co.				Pharmaceuticals & Medical Devices     				Telecom & Utilities   					
Automotive   				Manufacturing      				Airlines   					
Big Box - General    				Grocery     				Drug Stores   				Insurance   	
Brands Lbrands Abercrombie & Fitch   				Home Improvement   				Department Stores    				Big Box - Specialty    	

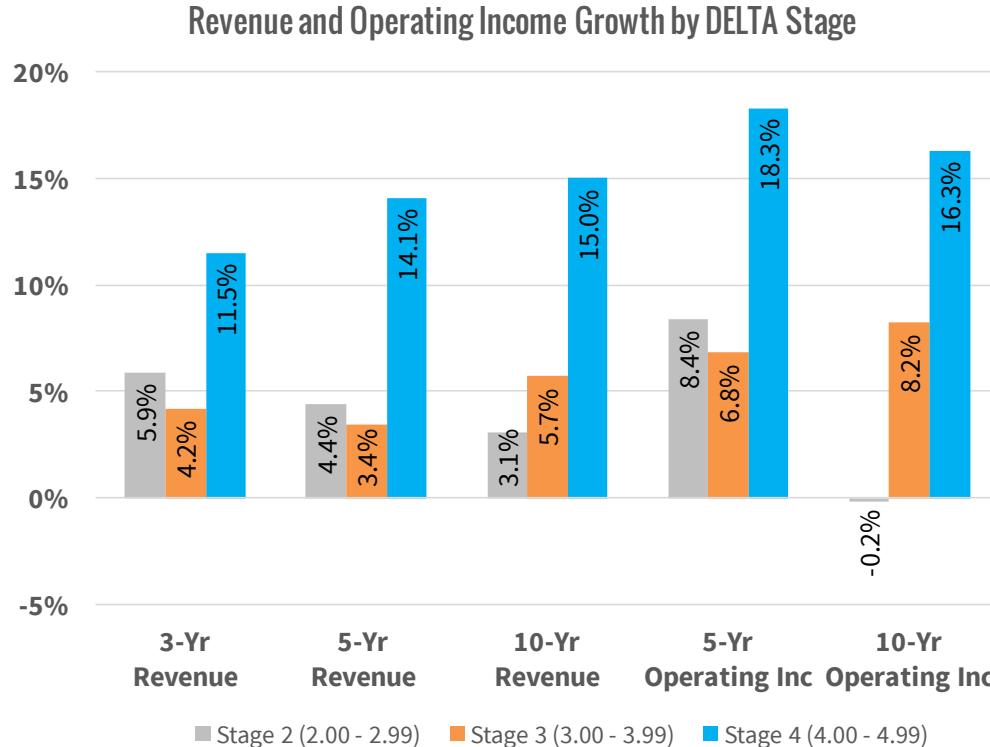
Analytics Maturity And Company Performance



<i>Investment Return</i>	<i>Financial Performance</i>	<i>Perceived Performance</i>
<ul style="list-style-type: none">• Market Capitalization (\$Billions)• Forward Price to Earnings Ratio (Forward P/E Ratio)• 5-Year Shareholder Return• 5-Year Shareholder Return vs S&P Segment• 10-Year Shareholder Return• 10-Year Shareholder Return vs S&P Segment• Return on Equity	<ul style="list-style-type: none">• 3-Year Revenue Growth• 5-Year Revenue Growth• 10-Year Revenue Growth• 5-Year Operating Income Growth• 10-Year Operating Income Growth• Return on Assets	<ul style="list-style-type: none">• Brand Value – Top 500 Brands (\$Billions)• Change in Brand Value (1-year & 2-year)• Fortune Most Admired Companies Rank• Fortune Most Admired Companies Score• Forbes Most Powerful Brands Rank• Forbes Most Innovative Companies Rank• BCG Most Innovative Companies Rank• BCG Most Innovative Companies Frequency

Financial Performance

The higher performance of stage 4 companies is both visible and statistically significant



Correlations:

Revenue & Operating Income Growth

- 5 Year Revenue Growth**
- 5 Year Operating Inc Growth**
- 10 Year Revenue Growth***
- 10 Year Operating Inc Growth***

0.26
0.26
0.43
0.42

Statistical significance of correlations:

** - $P < .05$

*** - $P < .01$

Investment Performance

The gap between stages is significant in the 10 year time frame

Correlations:

Stock Performance

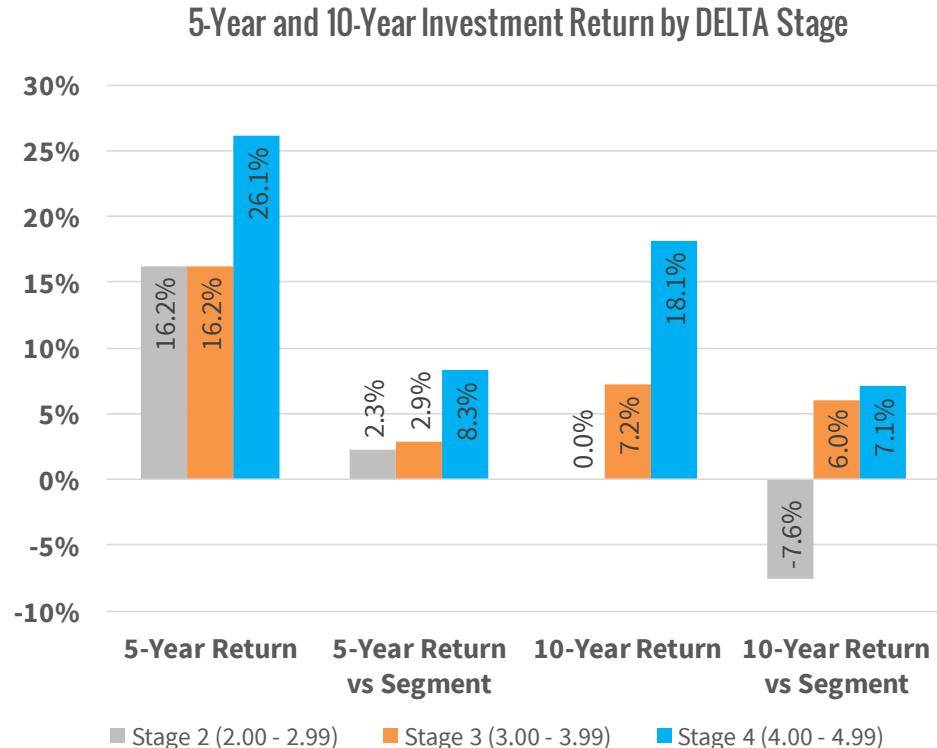
- 5 Year
- 5 Year vs. S&P Segment
- 10 Year***
- 10 Year vs. S&P Segment***

0.12
0.06
0.46
0.41

Statistical significance of correlations:

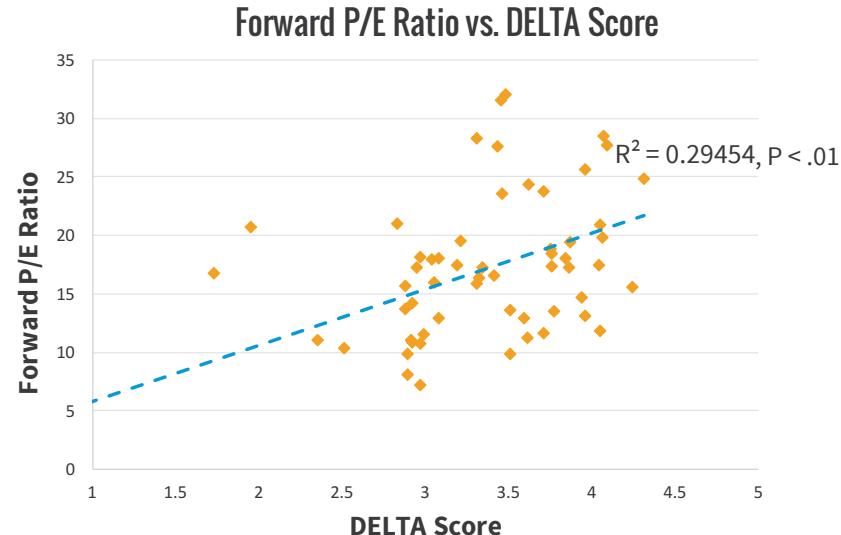
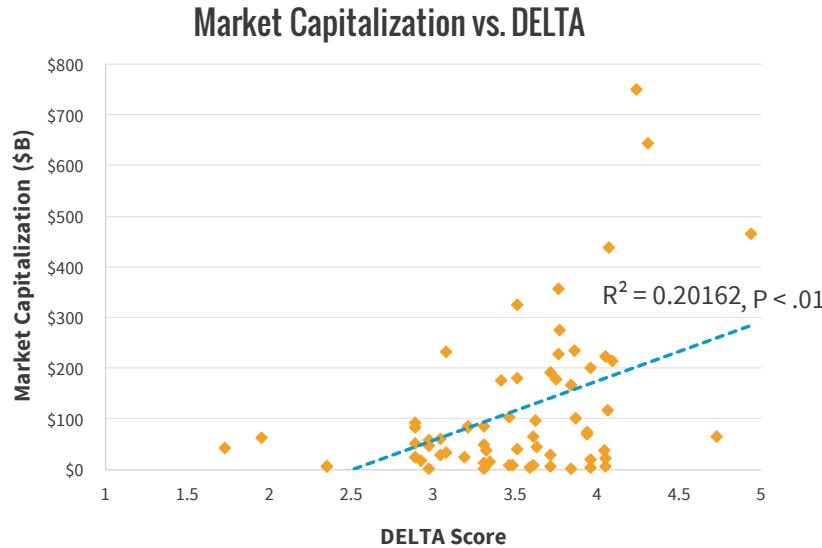
** - $P < .05$

*** - $P < .01$



Investment Performance

Market cap and forward P/E ratio were two of the metrics most strongly correlated with analytics maturity



Perceived Performance

Performance lists are associated with maturity based

Top Company Lists - Average DELTA						
	Fortune		Forbes		Forbes	
	Most Admired		Most Powerful Brands		Most Innovative	
	With Digital Native	Without Digital Native	With Digital Native	Without Digital Native	With Digital Native	Without Digital Native
On List	3.67	3.51	3.59	3.42	3.98	3.64
Not On List	3.20	3.18	3.20	3.20	3.31	3.26



Correlations:

Top Lists - DELTA and Ranking

Fortune Most Admired**
Fortune Most Admired Score*
Forbes Most Powerful Brands*
Brand Finance Valuable Brands*
Forbes Most Innovative*
BCG Most Innovative 2005-16***

0.45
0.28
0.34
0.45
0.31
0.57

Statistical significance of correlations:

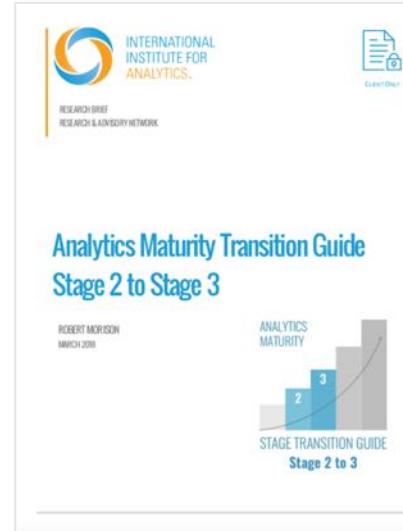
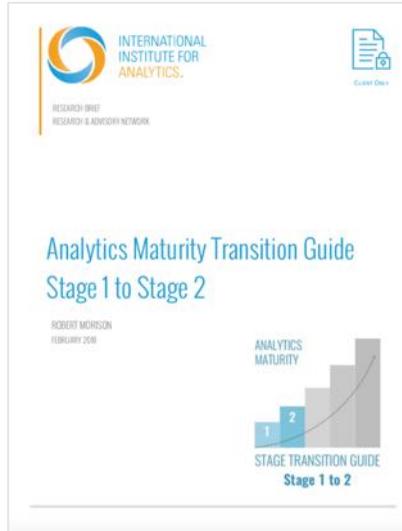
- * - $P < .10$
- ** - $P < .05$
- *** - $P < .01$

Brand Finance®

BCG

Moving Between Levels Of Maturity

IIA has also done research to identify the actions required to move between maturity levels



We don't have time to cover these details during today's session

Analytics Maturity And Company Performance



Yes, Analytics Maturity IS Associated With Company Performance!

A white rectangular card representing a research brief. In the top left corner is the IIA logo. To its right is a small document icon labeled "Download". The main title "Analytics Maturity Powers Company Performance" is centered in large blue font. Below it, the author's name "DAVID ALLES" and the date "SEPTEMBER 2017" are in smaller black font.

- **59 of 72 metrics showed a positive association** between analytics maturity and company performance, while 13 were neutral!
- Financial performance, investment return, and perceived performance are all associated with analytics maturity
- Continuing to invest in analytics capabilities may help companies remain competitive

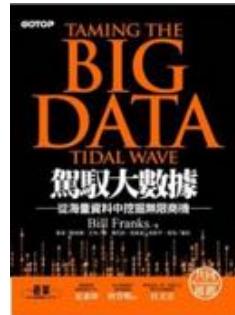
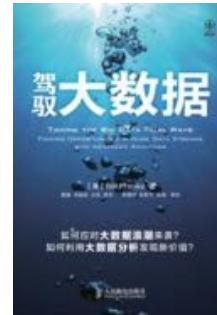
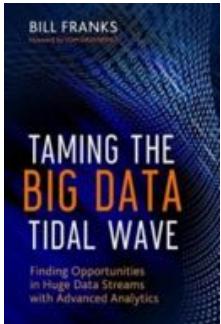
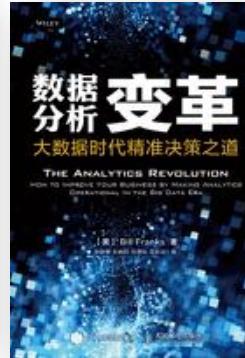
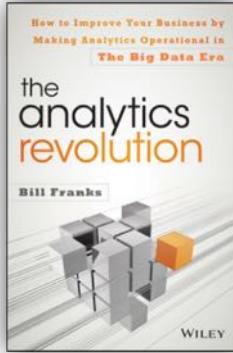
Conclusions

- 1 Analytics maturity should be measured in a standard, proven way
- 2 As might be expected, companies vary greatly in maturity level
- 3 There are also large differences in average maturity across industries
- 4 Analytics maturity correlates with many measures of company performance
- 5 Research shows that investing in analytics may increase corporate success

Further Questions Or Comments?



 BFranks@iianalytics.com
 www.Bill-Franks.com
 Twitter: @BillFranksGA

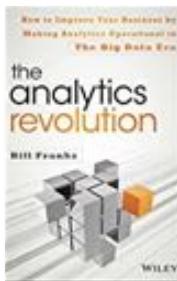
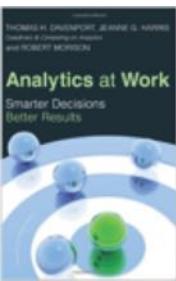
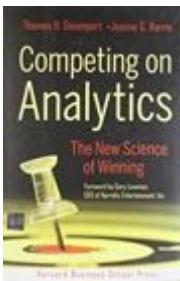


ABOUT IIA

COMPETING ON ANALYTICS FROM THE BEGINNING

Founded in 2010 by Jack Phillips and Tom Davenport with the belief that ...

- **Competing on analytics** is the future
- Success will be a **strategic** imperative, but **difficult** to achieve
- Success will require specialized and leveraged **expertise**



*Industry recognized
foundational research
from
IIA's Tom Davenport,
Robert Morison & Bill
Franks*

Jack Phillips

CHIEF EXECUTIVE OFFICER
Editor of *Enterprise Analytics*



Tom Davenport

Co-FOUNDER, BOARD MEMBER, FACULTY
Author of *Competing on Analytics*



Bill Franks

CHIEF ANALYTICS OFFICER
Previous CAO Teradata
Author *The Analytics Revolution*



Robert Morison

LEAD FACULTY
Co-Author of *Analytics at Work*



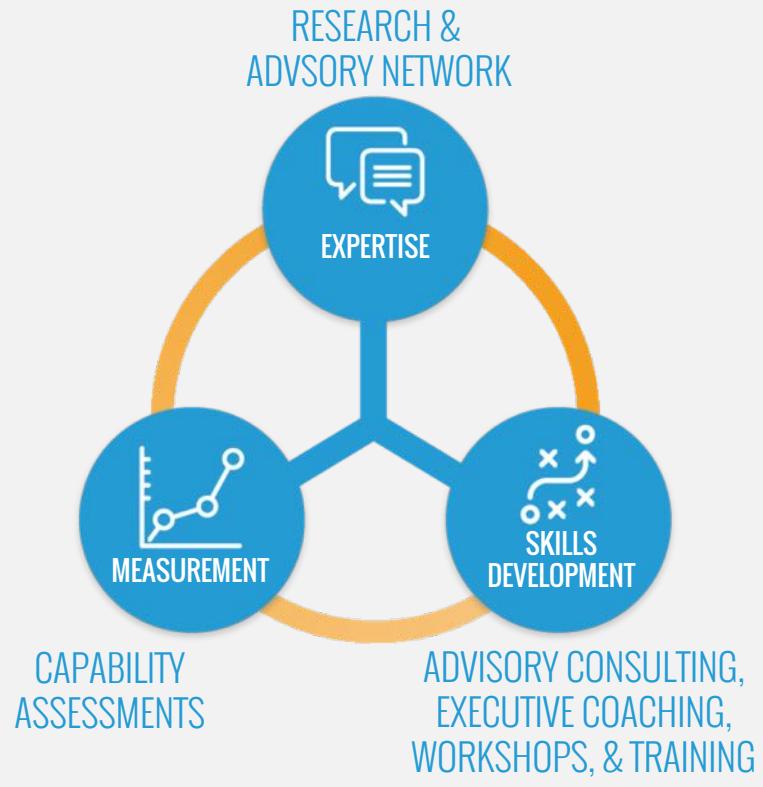
WHY IIA? SOLUTIONS FOR ANALYTICS SUCCESS

IIA helps **develop** and **sustain** enterprise analytics capabilities that drive performance and create competitive advantage

IIA focuses on the key levers of success and maximum return:

- ✓ Access to *Expertise*
- ✓ *Skills Development*
- ✓ *Measurement*

The IIA Analytics Performance Suite





INTERNATIONAL
INSTITUTE FOR
ANALYTICS.



STRENGTH IN NUMBERS

www.iianalytics.com

503-467-0210

