



THE **BIG I**
INVESTOR & ISSUER INVITATIONAL FORUM™
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The Influence of Technology in Asset Management

Jonathan Neitzell, Anduril Partners



OUR ROADMAP TODAY:

1. Personal Evolution Over 20 Years in Tech & Financial Services
2. Hurdles for Integration of Data into Workflow
3. Blending Business Models and Key Performance Indicators
4. Use Cases: Web Traffic, ESG, Factors, Valuation
5. Importance of Process
6. Tableau Investment Thesis: Use Case
7. Summary

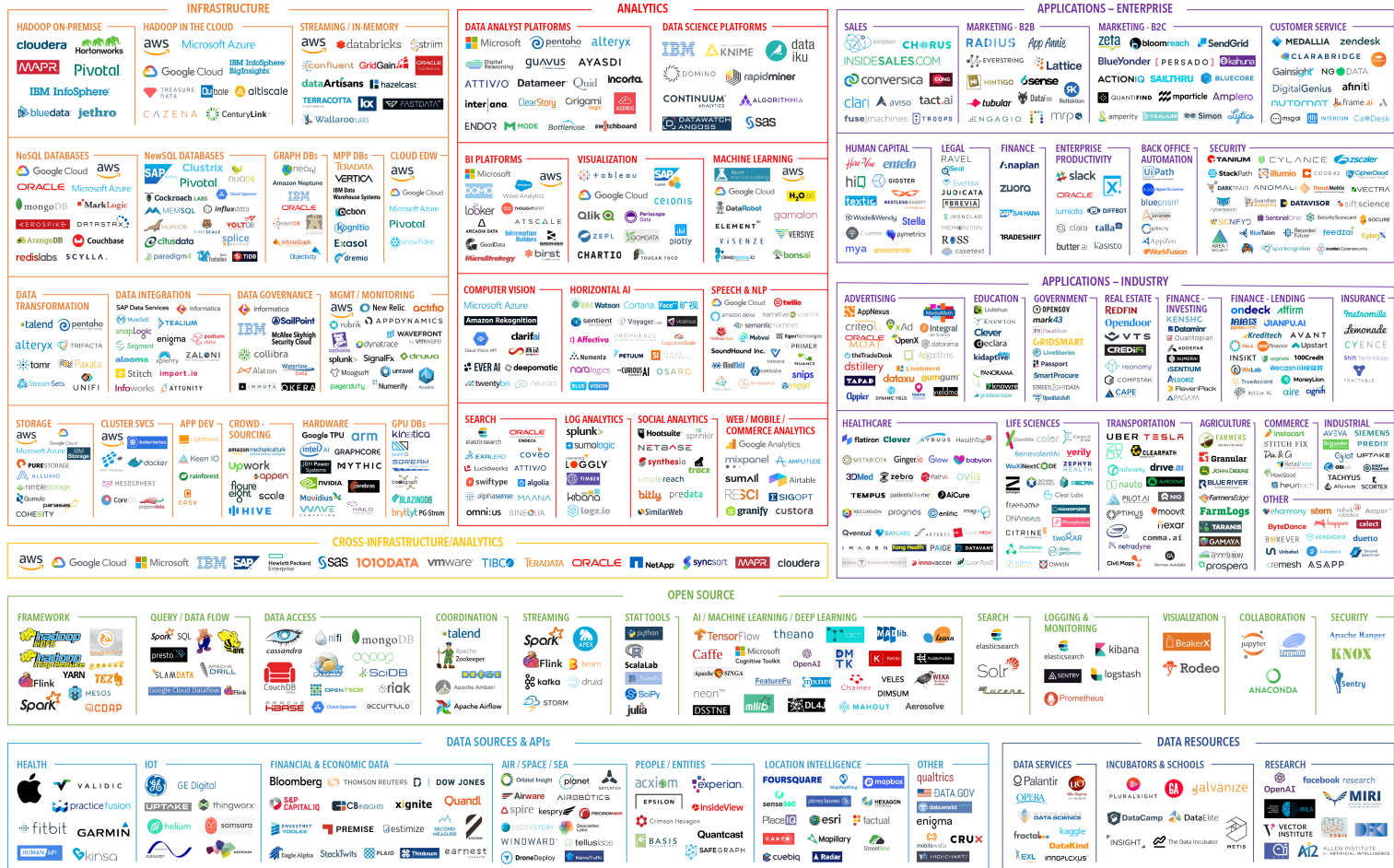
HURDLES FOR INTEGRATION OF DATA INTO WORKFLOW

“No one ever made a decision because of a number. They need a story.”

Nobel Prize winner Danny Kahneman, author of *Thinking, Fast and Slow*, as quoted in *The Undoing Project*

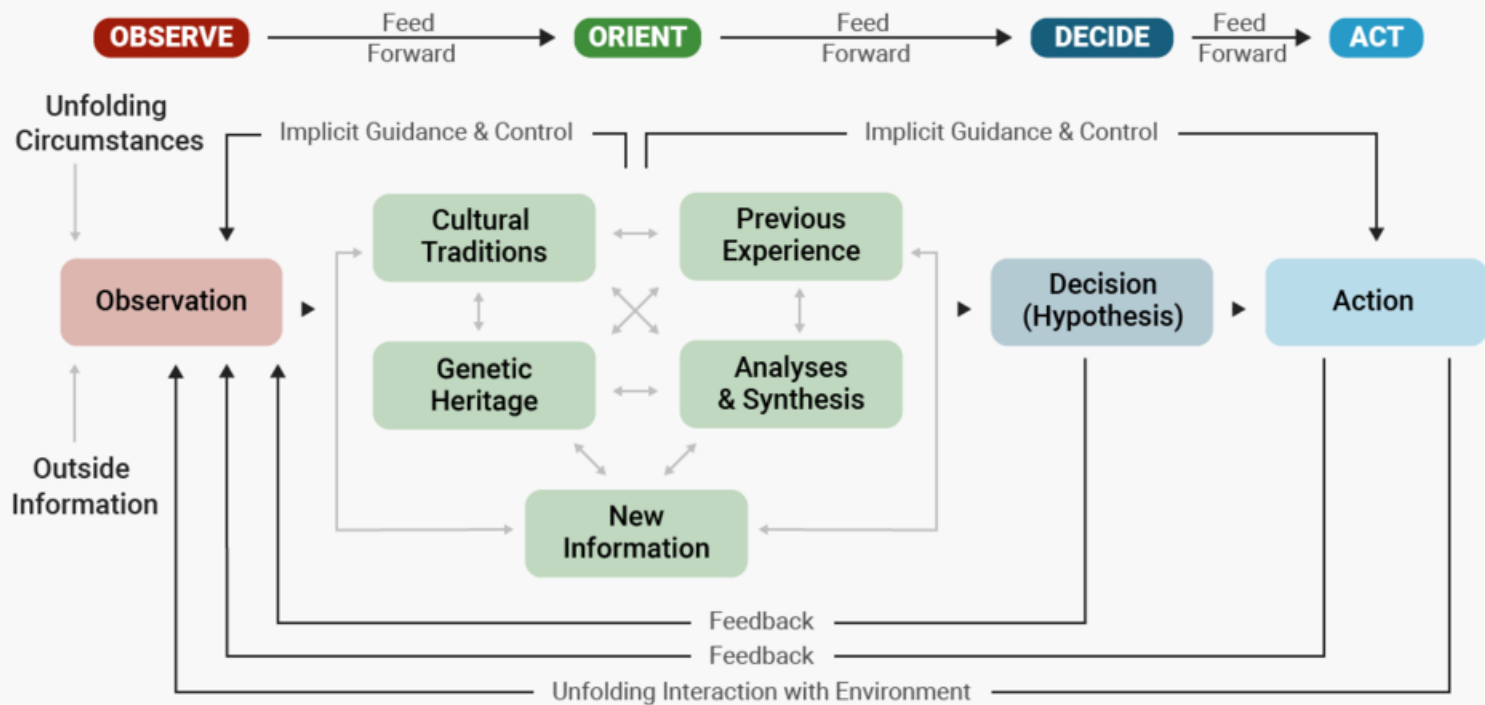
WATER WATER EVERYWHERE...BUT NOT A DROP TO DRINK...

BIG DATA & AI LANDSCAPE 2018



CONSISTENT EXECUTION IN AN EVER CHANGING ENVIRONMENT

THE OODA LOOP



SOURCE: John Boyd's OODA Loop

BUSINESS INSIDER



HOW DO WE KNOW A THESIS TO BE TRUE....FUSION OF DISCIPLINE AND TECHNOLOGY



BUSINESS KPIS (KEY PERFORMANCE INDICATORS): A UNIVERSAL LANGUAGE

Hypothesis (Burning Question) Formation	KPI	Data
<ul style="list-style-type: none"> - How can we move beyond static assumptions built on assumptions in fixed models, with few if any updates between public data releases? - How can we remove key variables from what is unknown in the stock price? - How can we put ourselves more in the operators seat, and ask more detailed specific questions based on data vs. generic uninformed "how's the quarter"? - What does management think of their own operational metrics, and the health of their business? - What names should be focused on...what would a data driven process surface as warranting attention for inflections? - What can be inferred from share shift, churn, and pricing changes? 	<ul style="list-style-type: none"> - Average spend p/transaction - Number of transactions - Same store sales - Churn - New customers - Repeat customers - Share of wallet - Market share - Cohort spend over time 	<ul style="list-style-type: none"> - Credit card transactions - Email receipts - Web Traffic/Scraping - Supply Chain data - Public municipal records - SEC filings - Natural Language Processing - Lat/Long Geo data

"Opinions Only Exist Due to Lack of Data" - Aptiviti



KPI EXAMPLE: MAKING RAW DATA USEFUL WITH CONTEXT AND RELEVANCE

US Web Traffic Data

Metric	Q1 2019
Page Views	1,933M
Time On Site	74,807M
Visits	161M

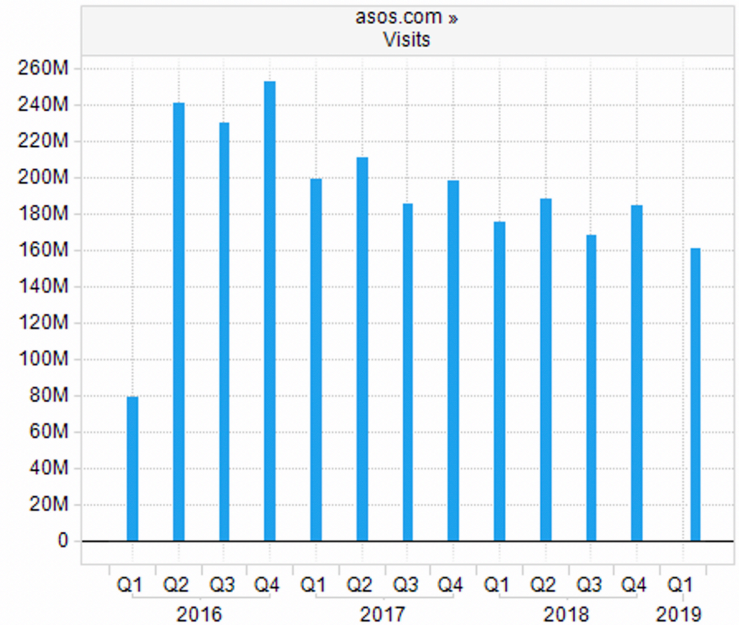
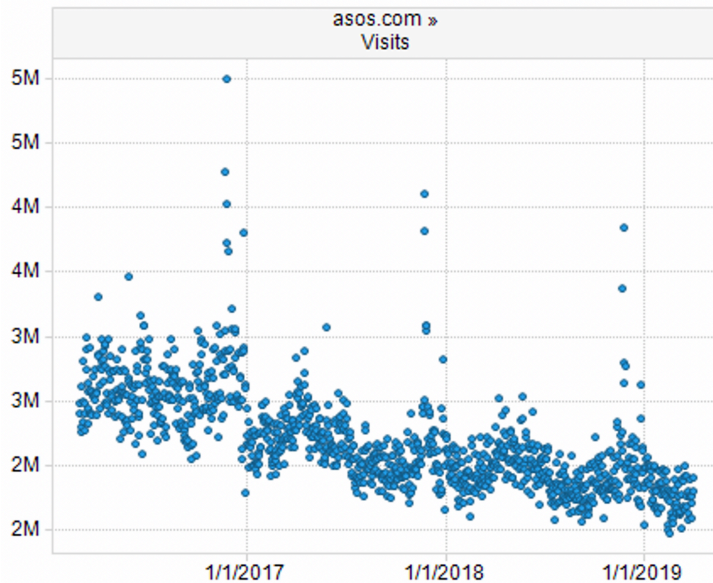
- 1) Problem: fundamental analysts have difficulty using the huge amount of data available
- 2) No context
- 3) Is this a good number?

Source: [SimilarWeb](#), Equity Data Science (EDS)



KPI EXAMPLE: APPLYING DATA IN TREND OR GRAPH HELPS, BUT...ITS BACKWARD LOOKING

ASOS Web Traffic Data

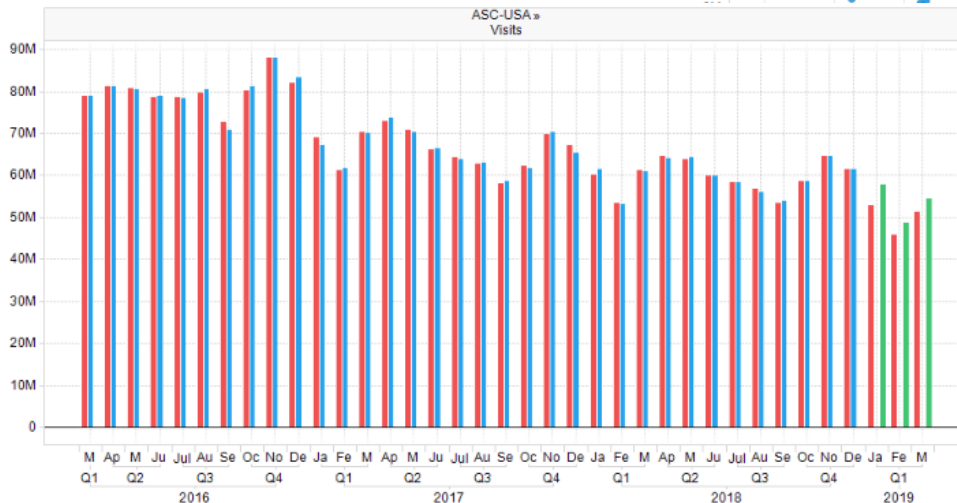
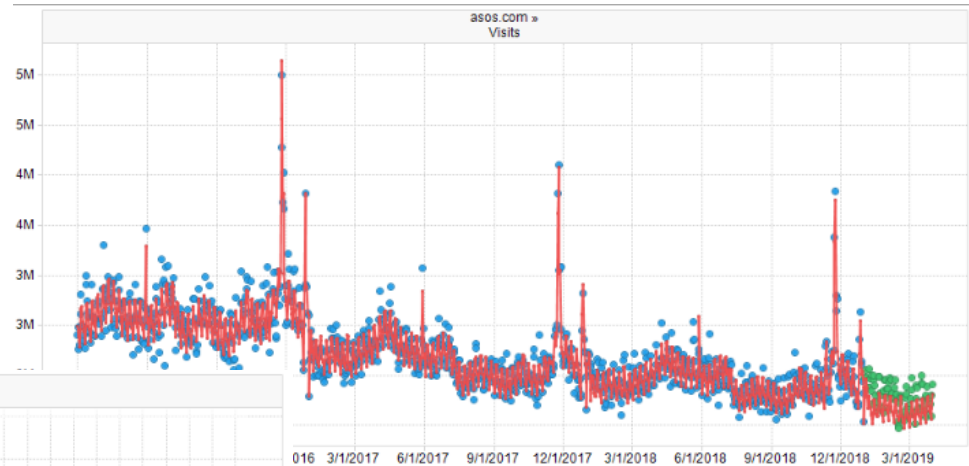


Source: SimilarWeb, Equity Data Science (EDS)

KPI EXAMPLE: APPLYING MODELS TO CREATE TREND AND EXPECTATIONS CONTEXT

ASOS US Web Traffic Data

Similarweb Web Traffic Signal				
ticker	category	Page Views	Time on Site	Visits
ASC-USA	Subtotal	1.8	1.9	5.0
	asos.com	1.8	1.9	5.1
	asosplc.com	-3.9	-0.1	-1.7



Metric	Q1 2019 Actual	Q1 2019 Consensus /Prediction
Visits	161M	150M

We have created an auto trend model to estimate next out of sample step for the data to create a baseline “next observation” estimate for any dataset. We are then able to create curbs, expectations, and alerts for disparate data.

Source: SimilarWeb, Equity Data Science (EDS)



KPI EXAMPLE: CONSISTENT PROCESS ADDS UNIVERSAL CONTEXT, HIGHLIGHTS DIVERGENCES



Source: SimilarWeb, Equity Data Science (EDS)

NEW LENS EXAMPLE: SHAREHOLDERS ARE MAKING DECISIONS WITH ESG - ARE YOU READY?

Country
 (All) 12 values
 UNITED STATES...
 BRAZIL
 CANADA
 CHILE
 CHINA

Sector
 (All) 11 values
 Communication S...
 Cons Disc
 Cons Stap
 Energy
 Financials

Industry Group
 (All) 4 values
 Automobiles & Com...
 Consumer Durables ...
 Consumer Services
 Retailing

Industry
 (All) 5 values
 Distributors
 Internet & Catalog R...
 Internet & Direct Mar...
 Multiline Retail
 Specialty Retail

Sub Industry
 (All) 11 values
 Apparel Retail
 Automotive Retail
 Computer & Elect...
 Department Stores
 Distributors

Ticker - 40 Edit
 (All) 40 values
 AAN-USA | Aarons, Inc.
 AAP-USA | Advance ...
 AMZN-USA | Amazon.c...
 AZO-USA | AutoZone,...
 BBY-USA | Best Buy Co., L...
 BKNG-USA | Booking ...
 BURL-USA | Burlington...

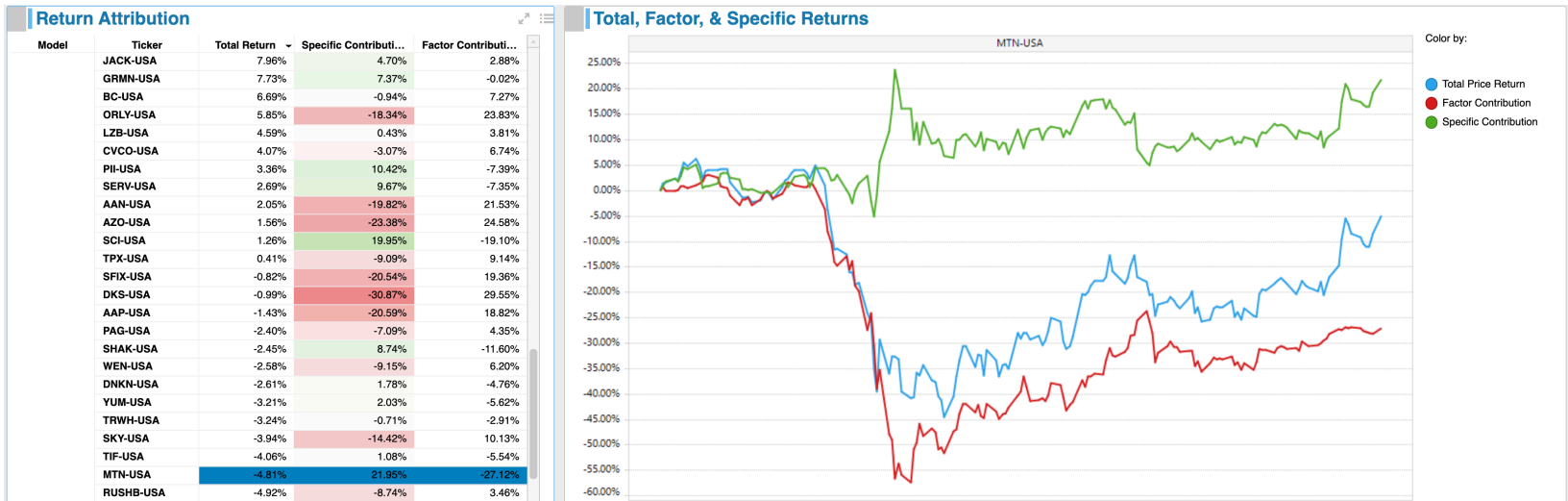
12/02/2019
Reset
Exclude
Unmark

MSCI ESG

Ticker	Industry Adjusted Score	Iva Company Rating	ESG SCORE	Environmenta I Pillar Score	Social Pillar Score	Governance Pillar Score	Human Capital Dev Score	Human Capital Dev Exp Score	Human Capital Dev Mgmt Score
EBAY-USA	5.60	BBB	6.90	10.00	3.60	7.00	1.50	9.30	3.80
TIF-USA	10.00	AAA	6.36	5.50	7.60	6.00	9.00	3.00	5.00
TGT-USA	6.40	A	5.80	6.20	4.70	6.50	9.60	2.50	5.10
BKNG-USA	4.60	BBB	5.14	5.40	3.10	6.90	3.80	4.10	0.90
KSS-USA	3.80	BB	5.00	4.90	3.20	6.90	7.80	2.50	3.30
POOL-USA	6.90	A	4.70	1.50	6.00	6.70	3.20	5.80	2.00
TSCO-USA	5.90	A	4.54	1.60	4.70	7.40	2.80	5.90	1.70
LKQ-USA	5.60	BBB	4.30	1.40	5.10	6.50	2.10	5.60	0.70
DG-USA	2.80	B	4.01	1.70	3.20	7.20	7.20	2.50	2.70
GPC-USA	4.40	BBB	3.97	1.40	3.60	7.00	1.20	5.80	0.00
GRUB-USA	4.10	BB	3.60	0.70	4.80	5.40	3.60	5.60	2.20
CVNA-USA	2.30	B	3.41	1.50	4.10	4.70	3.10	3.90	0.00
W-USA	4.90	BBB	3.41	0.70	5.60	4.00	4.10	4.60	1.70

Source: EDS, MSCI

FACTOR AND FUNDAMENTAL KPI EXAMPLE: WHAT IS DRIVING THE STOCK?



Security

Ticker : MTN-USA

Price (local): 225.7

Market Cap (USD): 8,723M

Enterprise Val (local): 11,112M

Last 5 Years

Stock Drivers			Macro	
Factors	Select Factor	Correl (to price)	Factors	Correl
Valuation	EV / EBITDA NTM		Oil	42%
Profitability	EBITDA Margin NTM	84%	Rates	49%
Growth	EBITDA Growth NTM	84%	Dollar	-2%
Quality	ROIC LTM	38%	Gold	-4%
Sentiment	Percent Buy Estimates	46%		



WHAT TO DO WITH ALL THE KPIS...

Internal Intelligence

Analyst Estimates

Price Targets / ROI

Conviction

Market Data

Estimates

Valuation

Analyst Changes

Corporate Fundamentals

Research Data

Factor Models

Accounting Flags

Shareholder Activity

ESG (ISS)

Alternative Data

Credit Transaction data

Web Traffic

Email Receipt

NLP Scores



**Idea
Generation**

**Portfolio
Construction**

**Risk
Management**

Source: Equity Data Science, EDS

HARNESSING THE POWER OF SCALE AND TRANSPARENCY FOR DECISION MANAGEMENT

V.S Street	Analyst	TICKER	Opt % Equity	% Equity	Conviction	ROI	Pricing Power	ESG	Business Model	Competitive Position	Balance Sheet	Regulatory / Macro Risk	MSCI Factor	Alt Data
1	Bob	MSFT	14.2%	11.3%	86%	38.5%	2 : 15%	1 : 15%	1 : 10%	1 : 10%	1 : 10%	1 : 0%	2 : 7.5%	3 : 5%
2	Sue	KMX	8.5%	8.0%	81%	20.5%	1 : 20%	1 : 15%	5 : 0%	4 : 2.5%	1 : 10%	1 : 0%	3 : 5% **	1 : 10%
4	Pat	FB	4.5%	2.7%	72%	25.5%	2 : 15%	1 : 15%	2 : 7.5%	2 : 7.5%	3 : 5%	1 : 0%	3 : 5% **	1 : 10%
5	Pat	SLB	4.2%	2.0%	71%	40.5%	1 : 20%	2 : 11.2%	1 : 10%	1 : 10%	4 : 2.5%	1 : 0%	1 : 10%	3 : 5%
3	Sue	LB	-2.2%	-2.6%	65%	25.5%	5 : 20%	5 : 15%	4 : 7.5%	5 : 10%	1 : 0%	5 : 0%	3 : 5% **	5 : 10%
2	Kim	SHOP	3.0%	6.0%	64%	15.5%	2 : 15%	3 : 7.5%	2 : 7.5%	2 : 7.5%	3 : 5%	2 : -5%	2 : 7.5%	3 : 5%
2	Ed	HD	5.5%	5.0%	64%	60.5%	2 : 15%	2 : 11.2%	3 : 5%	2 : 7.5%	2 : 7.5%	2 : -5%	1 : 10%	2 : 7.5%
1	Ed	GOOGL	4.0%	4.0%	57%	25.5%	2 : 15%	2 : 11.2%	2 : 7.5%	1 : 10%	4 : 2.5%	3 : -10%	3 : 5% **	3 : 5% **
1	Sue	CAT	2.5%	1.8%	55%	15.5%	5 : 0%	3 : 7.5%	1 : 10%	2 : 7.5%	1 : 10%	2 : -5%	5 : 0%	4 : 2.5%
1	Bob	CMG	2.5%	10.5%	55%	15.5%	2 : 15%	4 : 3.8%	2 : 7.5%	2 : 7.5%	1 : 10%	1 : 0%	5 : 0%	2 : 7.5%
2	Bob	JPM	3.2%	3.4%	50%	20.5%	3 : 10%	3 : 7.5%	3 : 5%	3 : 5%	3 : 5%	3 : -10%	1 : 10%	1 : 10%
5	Bob	DAL	5.5%	1.7%	49%	55.5%	2 : 15%	4 : 3.8%	1 : 10%	2 : 7.5%	4 : 2.5%	2 : -5%	4 : 2.5%	2 : 7.5%
5	Sue	WMT	5.0%	8.3%	47%	38.5%	1 : 20%	3 : 7.5%	3 : 5%	4 : 2.5%	5 : 0%	3 : -10%	5 : 0%	1 : 10%
2	Bob	CVSL USA	1.4%	1.7%	47%	20.5%	3 : 10%	3 : 7.5%	2 : 7.5%	3 : 5%	2 : 7.5%	5 : -20%	1 : 10%	2 : 7.5%

* Conviction Override, ** Default Conviction Value
Source: EDS

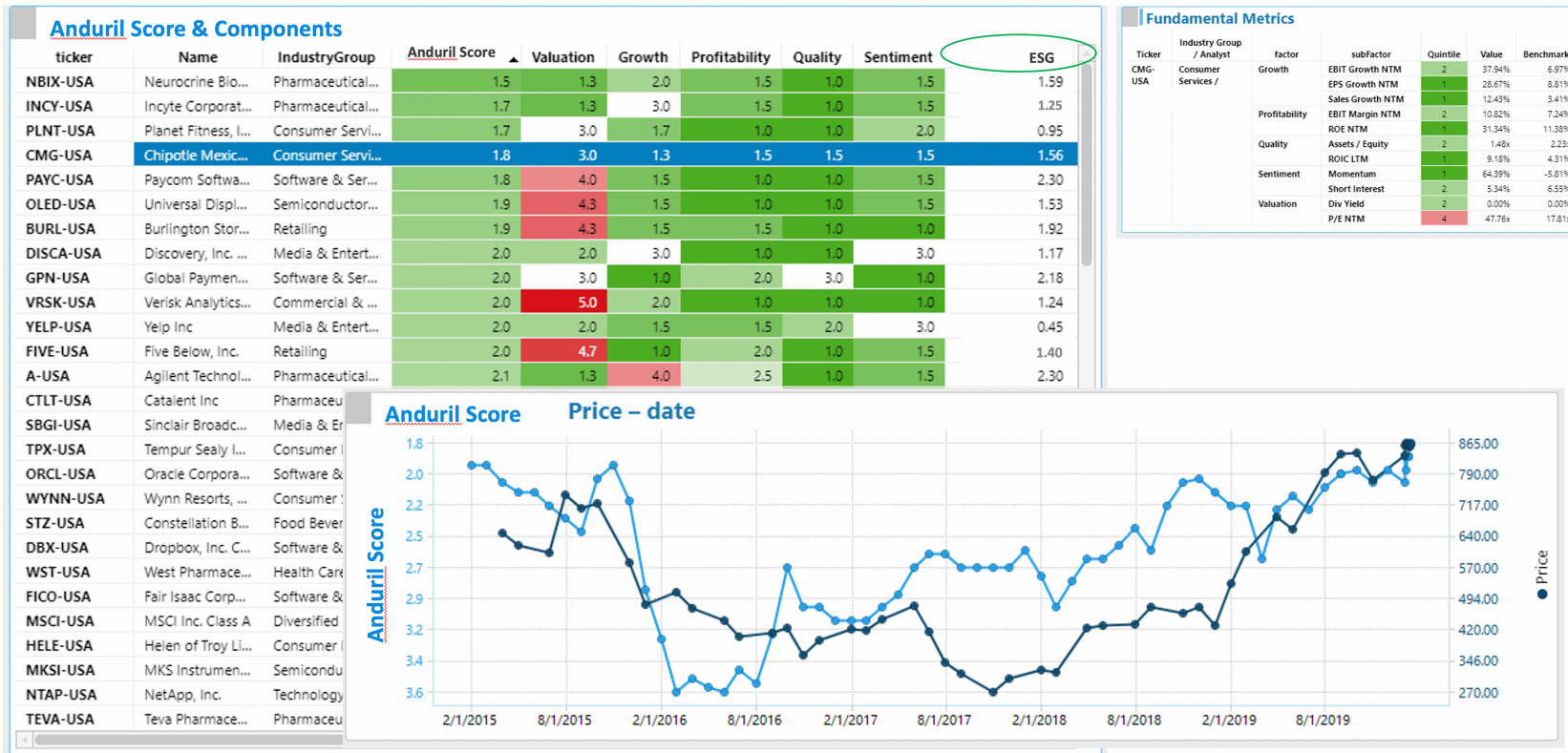
Time intensive tasks automated allowing focus on analytics instead of data entry – dashboards for sectors, peer comps, internal expectations, new data insights

Portfolio or Peer lists updated real time with latest changes in data and best opportunities

Feedback loops driving outcome attribution and relentless improvement via AI/ML



SINGLE PANE OF GLASS SCALING INPUTS...HOW ARE YOURS BEING SCORED?



Source: Anduril Partners, EDS



DATA IN THE INVESTMENT PROCESS

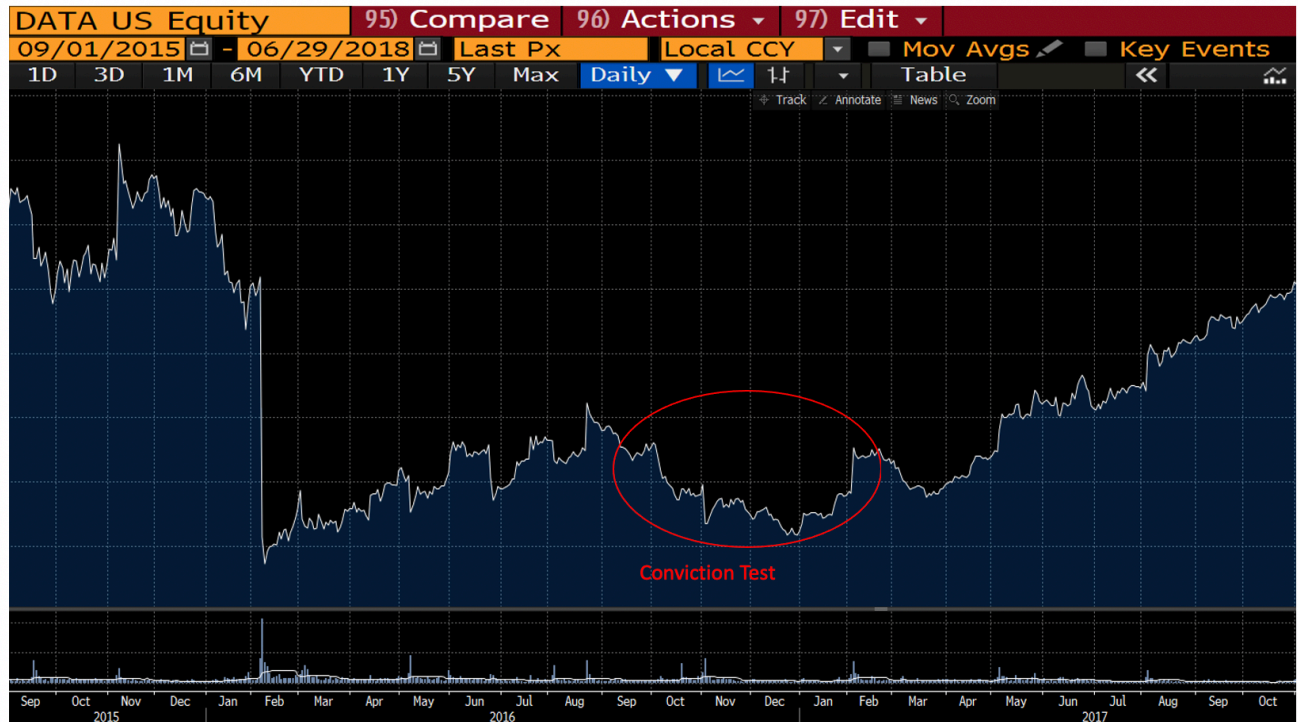
In 2016 Tableau was a fallen Angel.

We invested in a rebound under a new CEO.

Our proprietary Tableau demand Index built on web trends signaled material decline in volume by 4Q17.

However, data must be understood in context to business model...and 4Q for software is traditionally strong, so...

We used the flag to dig deep into the story. After staying with the position estimated spike in deal size, we were rewarded with material stock rebound.



SUMMARY

1. The language of decision making is changing.
2. All stakeholders should be aware of how those decisions are being weighed and executed. If software is eating the world, models may well run the world.
3. Forward thinking organizations are integrating qualitative relational inputs alongside probability driven data inputs for consistent and transparent attribution. These opportunities are available to disciplined investors, corporate intelligence, and investor relations groups.

BIOGRAPHY

Jonathan Neitzell, Investor and Board Advisor

jn@anduril-partners.com

Jon is the founder of Anduril Partners, an investment and advisory firm focused on the application of data driven processes. Jon has over 20 years of technology and financial services experience as a portfolio manager, chief data officer, while serving on several board and advisory roles including Aiera (advanced, self-learning models, augmented with human insight), Arbor Advisory Group (Investor Relations and Corporate Communications), Aptiviti (360-degree due diligence platform for leaders and decision makers), Crux Informatics (ETL delivery platform for normalized data ingestion), Equity Data Science (data analytics process platform as a service), and SESAMm (modular machine learning engine for signal and investment strategy creation). He recently served as a board advisor for Prattle (automates investment research by quantifying language) until its acquisition by Liquidnet, and for Kensho Technologies (artificial intelligence for financial services) until the largest acquisition of its kind by S&P Global.

Previously, Jon was the Chief Data Officer at Goldman Sachs Fundamental Equities, the first appointed role in the Asset Management division after demonstrating industry leading return on invested capital metrics as Portfolio Manager on the Technology Opportunities fund (AUM growth during firm tenure from ~\$600M to \$4B) through a data driven approach. Academic profile includes a BA in Business Administration from the University of St. Thomas, an MBA from the University of Chicago, and completion of the executive program in Artificial Intelligence: Implications for Business Strategy, from the MIT Sloan School of Management.

