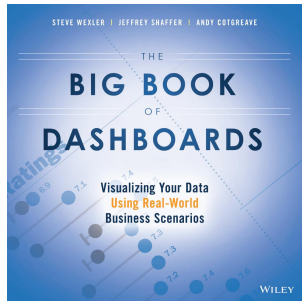
WHAT THE HECK IS A DASHBOARD, ANYWAY?



ANDY COTGREAVE

@acotgreave

Nov 16, 2007

9:30 AM

Search

Searched for tableau data analysis

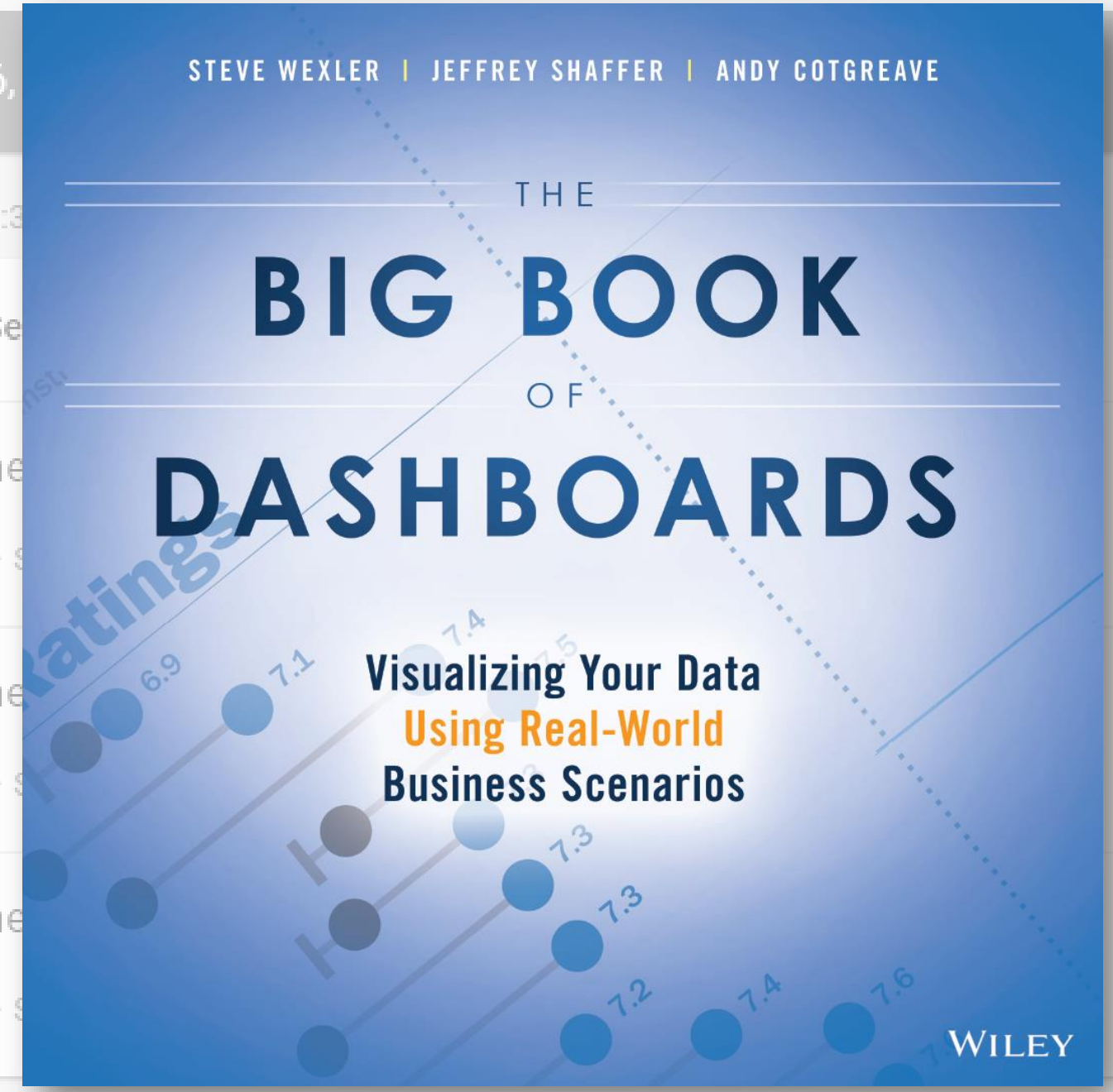
Details • Search

Searched for tableau

Details • Search

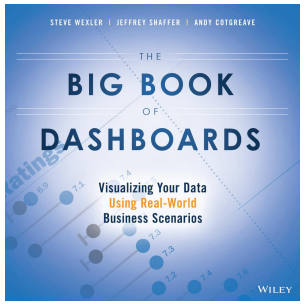
Searched for Tableau Desktop

Details • Search


STEVE WEXLER | JEFFREY SHAFFER | ANDY COTGREAVE
THE
BIG BOOK
OF
DASHBOARDS
Visualizing Your Data
Using Real-World
Business Scenarios
WILEY

This is my Dad's book.
And I thind its really
boring because it's -
about Dashboards!!!!!!

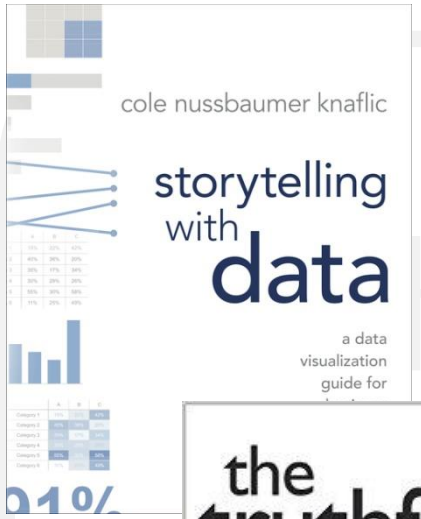
WHAT THE HECK IS A DASHBOARD, ANYWAY?

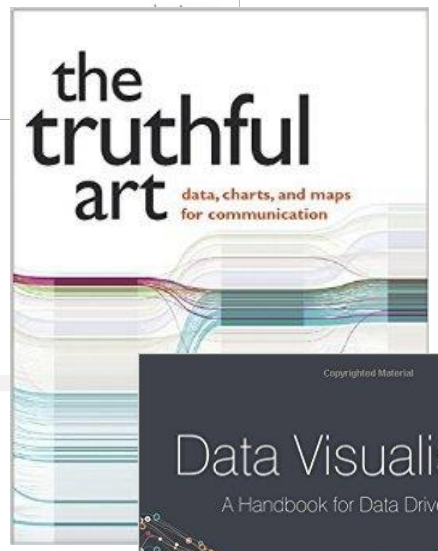


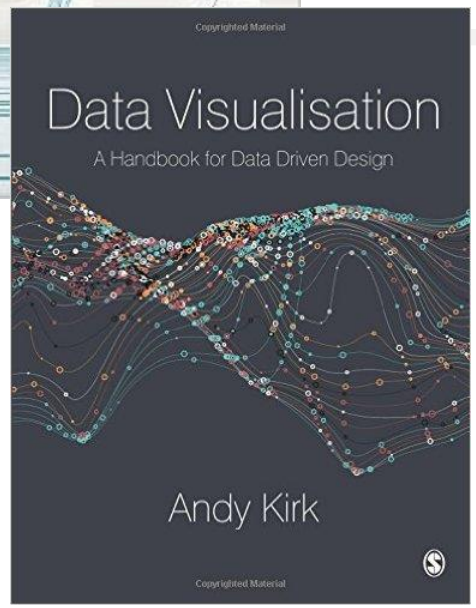
Andy Cotgreave

Tableau Evangelist

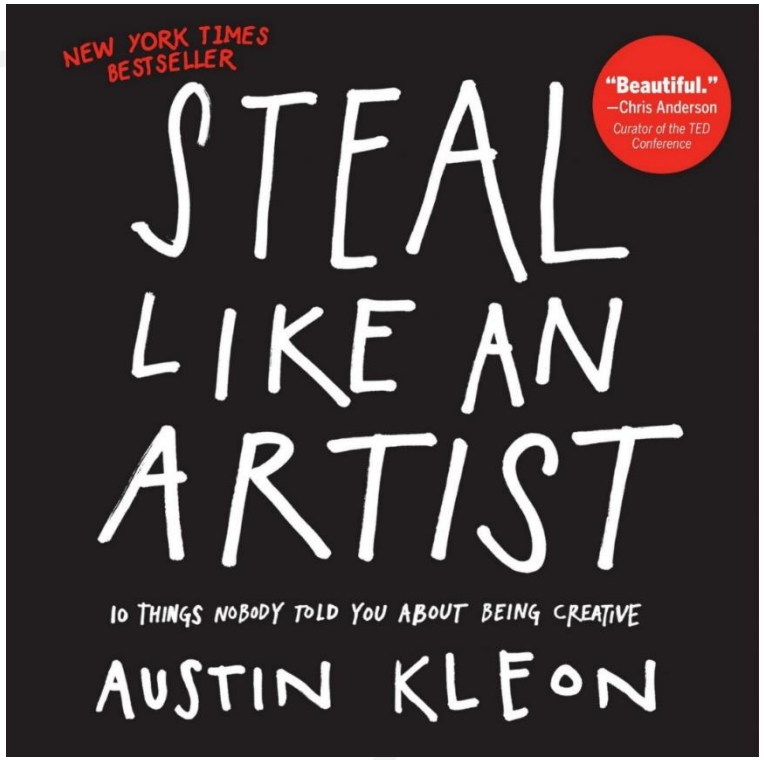
WHO NEEDS A BOOK ABOUT DASHBOARDS?


cole nussbaumer knaflic
storytelling with data
a data visualization guide for


the truthful art
data, charts, and maps for communication


Copyrighted Material
Data Visualisation
A Handbook for Data Driven Design
Andy Kirk
Copyrighted Material

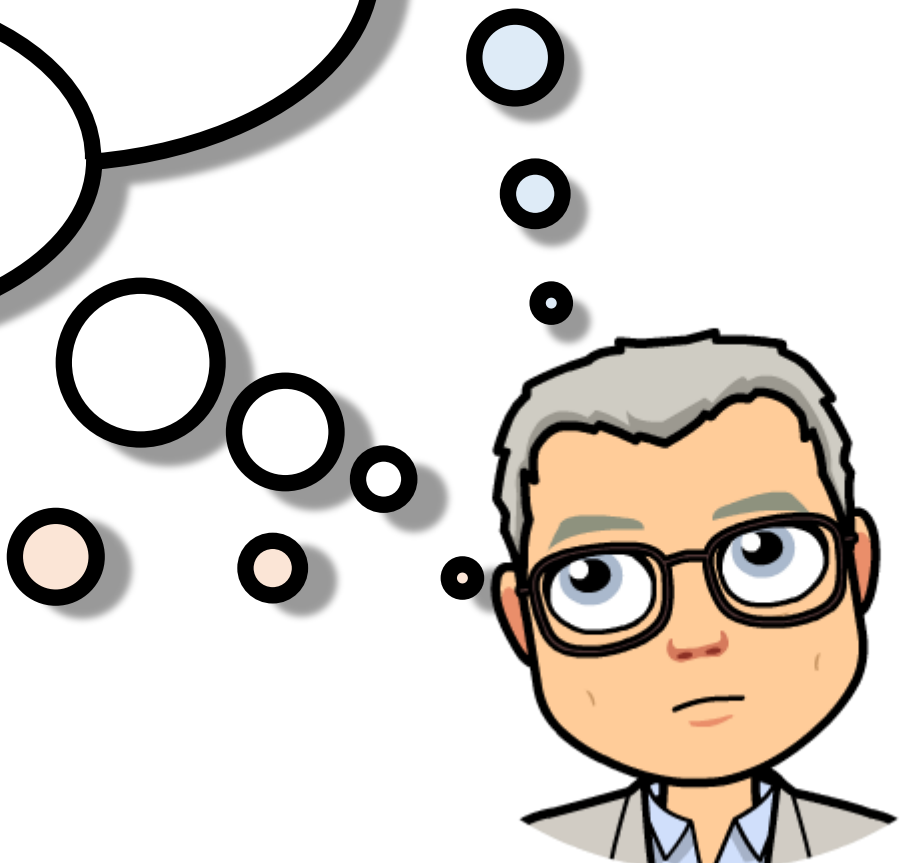

Copyrighted Material
Second Edition
Information Dashboard Design
Displaying data for at-a-glance monitoring
Stephen Few
Copyrighted Material


NEW YORK TIMES BESTSELLER
"Beautiful."
—Chris Anderson
Curator of the TED Conference
STEAL LIKE AN ARTIST
10 THINGS NOBODY TOLD YOU ABOUT BEING CREATIVE
AUSTIN KLEON

WHAT IS A DASHBOARD?

WHAT MAKES A GOOD ONE?

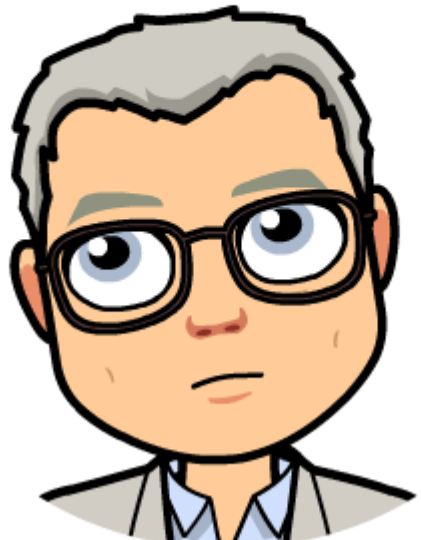
WHY DO WE NEED THEM?

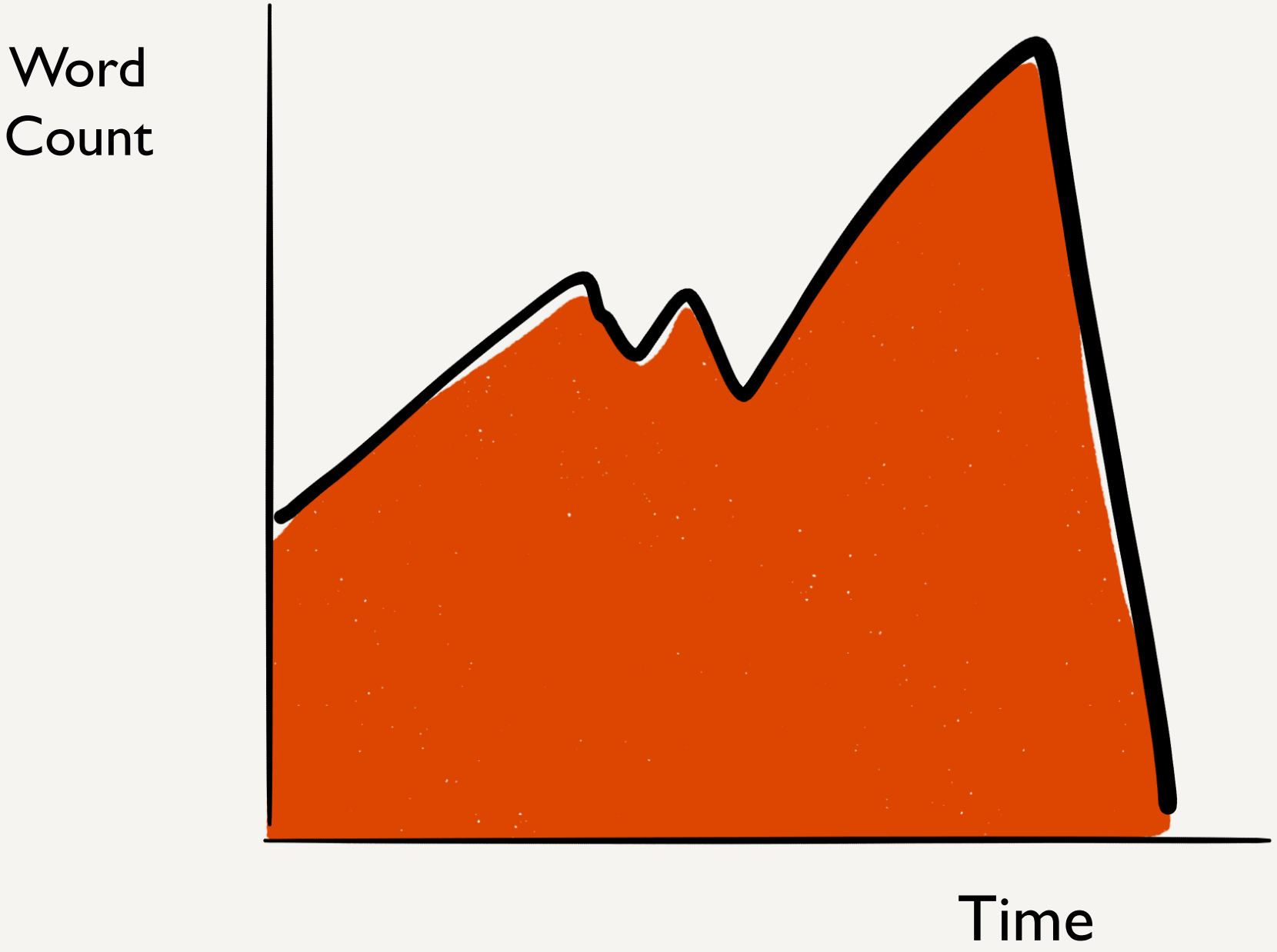


WHAT IS A DASHBOARD?

WHAT MAKES A GOOD ONE?

WHY DO WE NEED THEM?




Word
Count
Time

one definition of a dashboard

A dashboard is a visual display of the most important information needed to achieve one or more objectives; consolidated and arranged on a single screen so the information can be monitored at a glance.
- Stephen Few (2004)

From “Dashboard Confusion” in Intelligent Enterprise magazine, March 20, 2004

one definition of a dashboard

A dashboard is a visual display of the most important information needed to achieve one or more objectives; consolidated and arranged on a **single screen** so the information can be monitored at a glance.
- Stephen Few (2004)

From “Dashboard Confusion” in Intelligent Enterprise magazine, March 20, 2004

one definition of a dashboard

A dashboard is a visual display of the most important information needed to achieve one or more objectives; consolidated and arranged on a **single screen** so the information can be monitored **at a glance**.
- Stephen Few (2004)

From “Dashboard Confusion” in Intelligent Enterprise magazine, March 20, 2004

vs. a “faceted analytical display”

A “faceted analytical display” is a set of interactive charts (primarily graphs and tables) that simultaneously reside on a single screen, each of which presents a somewhat different view of a common dataset, and is used to analyze that information.
- Stephen Few (2007)

From “Dashboard Confusion Revisited” from PerceptualEdge.com, March 2007

vs. a “faceted analytical display”

A “faceted analytical display” is a set of **interactive** charts (primarily graphs and tables) that simultaneously reside on a single screen, each of which presents a somewhat different view of a common dataset, and is used to analyze that information.
- Stephen Few (2007)

From “Dashboard Confusion Revisited” from PerceptualEdge.com, March 2007

vs. a “faceted analytical display”

A “faceted analytical display” is a set of **interactive** charts (primarily graphs and tables) that simultaneously reside on a **single screen**, each of which presents a somewhat different view of a common dataset, and is used to analyze that information.
- Stephen Few (2007)

From “Dashboard Confusion Revisited” from PerceptualEdge.com, March 2007

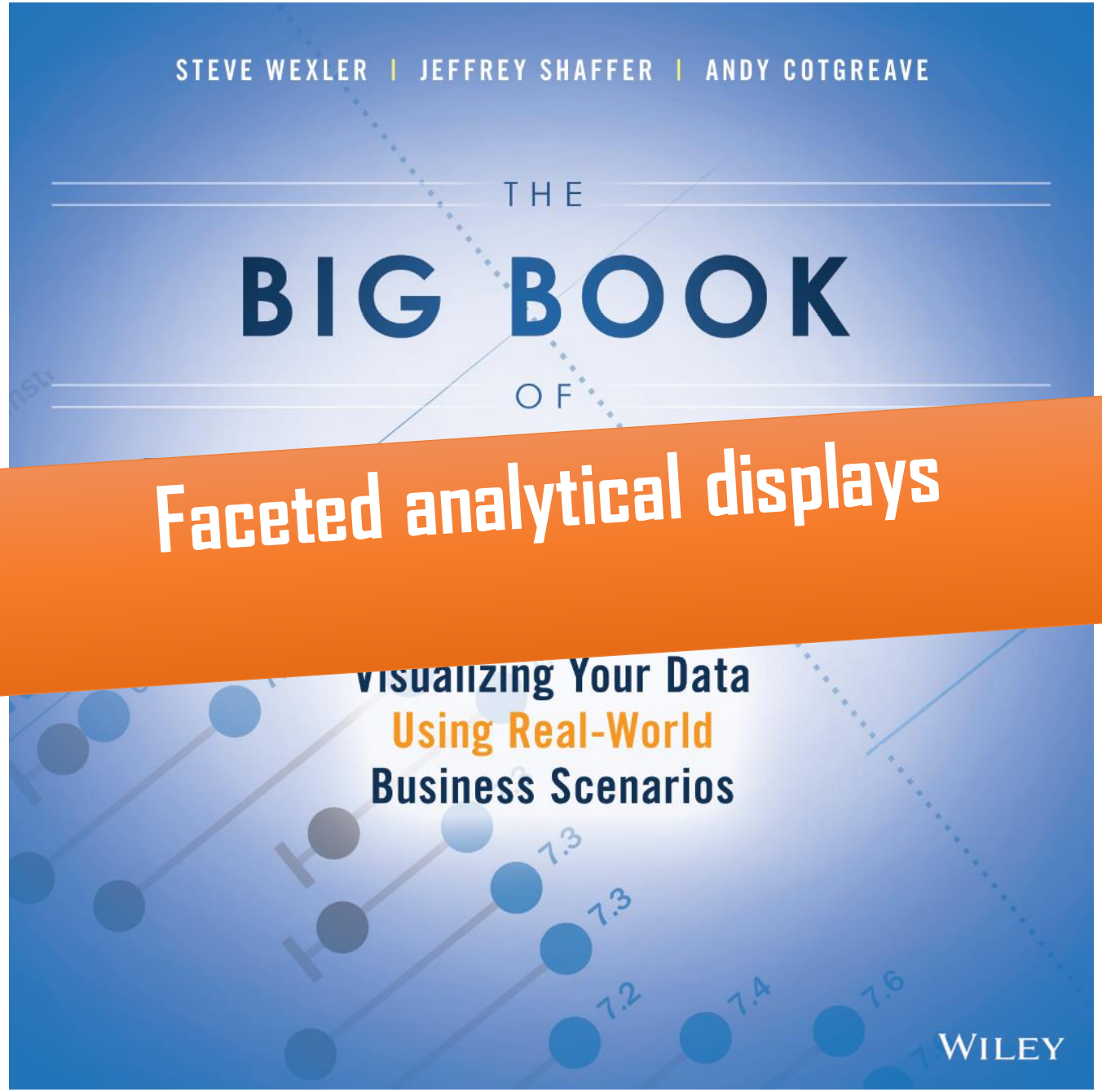
vs. a “faceted analytical display”

A “faceted analytical display” is a set of **interactive** charts (primarily graphs and tables) that simultaneously reside on a **single screen**, each of which presents a somewhat different view of a **common dataset**, and is used to analyze that information.
- Stephen Few (2007)

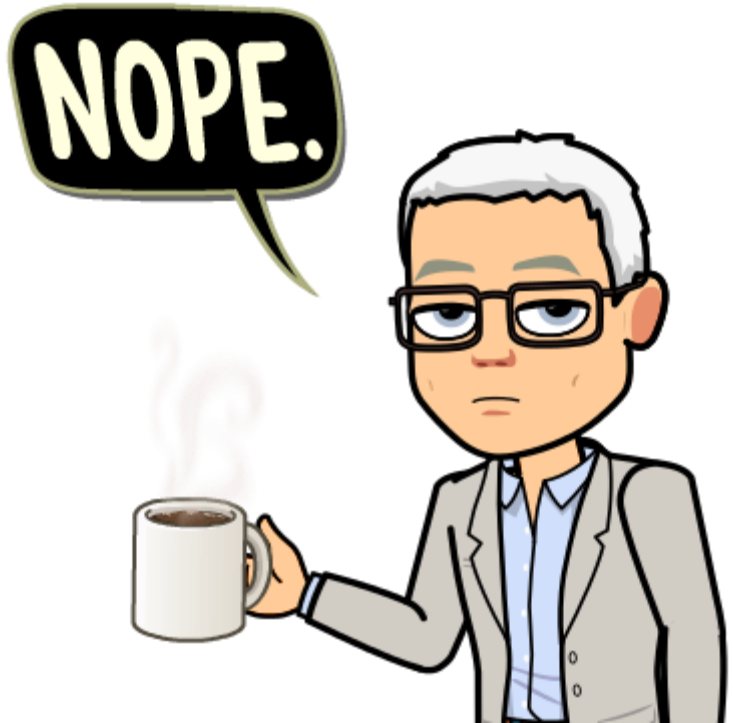
From “Dashboard Confusion Revisited” from PerceptualEdge.com, March 2007

vs. a “faceted analytical display”

From “Dashboard Confusion Revisited” from PerceptualEdge.com, March 2007



Faceted analytical displays



Dashboard Definition

Final

A dashboard is a visual display of data used to monitor conditions and/or facilitate understanding.

Andy's new one (no markup)

A dashboard comprises one or more charts and tables that either *explain* and/or allow *the exploration* of a particular data set.

In an *explanatory dashboard* (also called a static dashboard) the views do not change. While the underlying data may change (i.e., over time there are more data points, more categories, etc.,) the structure of the charts do not. The viewer is a reader but not an active participant.

In an *exploratory dashboard* (also called an interactive dashboard) the viewer is an active participant. The data on display will change based on user actions. Actions include applying a filter, hovering over a mark, or selecting multiple items. These actions impact other charts on the dashboard. Exploratory dashboards allow the viewer to gain further understanding of the data through these interactions.

~~Andy's~~ Collaborative new one (no markup)

A dashboard comprises one or more charts and tables that either *explain* and/or allow *the exploration* of a particular situation. Need better word than "situation". Business / organizational challenge.

In an *explanatory dashboard* (also called a static dashboard) the ~~views~~ visualized representation of the data does not change. While the underlying data may change (i.e., over time there are more data points, more categories, etc.,) the structure of the charts do not. The viewer is a reader but not an active participant. (www – suitable for print or online)

In an *exploratory dashboard* (also called an interactive dashboard) the viewer is an active participant. The data on display will change based on user actions. Actions include applying a filter, hovering over a mark, or selecting multiple items. These actions impact other charts on the dashboard. Exploratory dashboards allow the viewer to gain further understanding of the data through these interactions. (www – only works online)

Andy's new one (no markup)

A dashboard comprises one or more charts and tables that either *explain* and/or allow *the exploration* of a particular situation.

In an *explanatory dashboard* (also called a static dashboard) the views do not change. While the underlying data may change (i.e., over time there are more data points, more categories, etc.,) the structure of the charts do not. The viewer is a reader but not an active participant.

In an *exploratory dashboard* (also called an interactive dashboard) the viewer is an active participant. The data on display will change based on user actions. Actions include applying a filter, hovering over a mark, or selecting multiple items. These actions impact other charts on the dashboard. Exploratory dashboards allow the viewer to gain further understanding of the data through these interactions.

Andy's new one (with markup)

A dashboard comprises one or more charts and tables that either ~~explain and/~~ allow ~~the state of a particular business / organizational situation or that explain and allow~~ *the exploration* of a particular situation.

~~With~~ In an *explanatory dashboard* (also called a static dashboard) the views do not change. While the underlying data may change (i.e., over time there are more data points, more categories, etc.,) the ~~fundamental~~ structure of the views ~~do not~~ of the data won't change. The viewer is a reader but ~~spectator and~~ not an active participant.

~~With~~ In an *exploratory dashboard* (also called an interactive dashboard) the views will change based on user actions. Actions include ~~This could be~~ applying a filter, hovering over a mark ~~to see details, or~~, selecting multiple items, which in turn impact other charts on the dashboard, and so on. Exploratory dashboards allow the viewer to gain further understanding of the data through these interactions. ~~The idea is that the dashboard invites further understanding of the data by allowing people to examine that data through interactions.~~

Andy Cotgreave
Formatted: Normal

Andy Cotgreave
Duplication of wording removed.

Data Revelations
I think we need some type of modifier here, or a better word than "situation". Maybe "scenario" or "challenge" Also, I think the book's focus should be on business cases.

Andy Cotgreave
I wanted something more specific than "fundamental"

Andy Cotgreave
With an exploratory dashboard (also called an interactive dashboard) the views will change based user interactions. These interaction allow people to GAIN further understanding of the situation.

Data Revelations
Very often the interaction does not involve changing other graphs / charts on the dashboard. Consider "DASHING" tooltips. The action is hovering and the hover in this instance reveals additional information.

Steve's version of Andy's edited (with markup)

A dashboard comprises one or more charts and tables that either *explain* the state of a particular business [/organizational] situation or that explain *and allow the exploration* of a particular situation.

With an *explanatory dashboard* (also called a static dashboard) the views do not change. While the underlying data may change [i.e., over time there are more data points, more categories, etc.,) the fundamental views of the data won't change. The viewer is spectator and not an active participant.

With an *exploratory dashboard* (also called an interactive dashboard) the views will change based on ~~interaction by the user~~ user actions. This could be applying a filter, hovering over a mark to see details, selecting items which in turn impact other charts on the dashboard, and so on. ~~The idea is that the dashboard invites further understanding of the data by allowing people to examine that data through interactions.~~

Data Revelations
I think we need some type of modifier here, or a better word than "situation". Maybe "scenario" or "challenge" Also, I think the book's focus should be on business cases.

Andy Cotgreave
With an exploratory dashboard (also called an interactive dashboard) the views will change based user interactions. These interaction allow people to GAIN further understanding of the situation.

~~on. An interaction on one chart changes the other graphs on the dashboard.~~ The idea is that the dashboard invites further understanding of the data by allowing people to examine that data through interactions.

Data Revelations
Very often the interaction does not involve changing other graphs / charts on the dashboard. Consider "DASHING" tooltips. The action is hovering and the hover in this instance reveals additional information.

Steve's version of Andy's edited (no markup)

A dashboard comprises one or more charts and tables that either explain the state of a particular business / organizational situation or that explain *and allow the exploration* of a particular situation.

With an *explanatory dashboard* (also called a static dashboard) the views do not change. While the underlying data may change [i.e., over time there are more data points, more categories, etc.,) the fundamental views of the data won't change. The viewer is spectator and not an active participant.

With an *exploratory dashboard* (also called an interactive dashboard) the views will change based on user actions. This could be applying a filter, hovering over a mark to see details, selecting items which in turn impact other charts on the dashboard, and so on. The idea is that the dashboard invites further understanding of the data by allowing people to examine that data through interactions.

Steve's original

A dashboard comprises one or more graphs and tables that either explain the state of a particular business situation or that explain and allow the exploration of a particular business situation.

With an explanatory dashboard (also called a static dashboard) the views do not change. While the underlying data may change (i.e., over time there are more data points, more categories, etc.,) the fundamental views of the data won't change. The viewer is spectator and not an active participant.

With an exploratory dashboard (also called an interactive dashboard) the views will change based on some action by the user. This could be applying a filter, hovering over a bar to see details, speaking a command, panning, zooming, selecting a mark which in turn changes other graphs on the dashboard, clicking a web link, and so on. The idea is that the dashboard invites further understanding of the data by allowing people to examine that data through interactions.

Andy Cotgreave
Charts? Do we need to think about the academic definition of each word. Personally, I think in our business world we should be using "chart"

Andy Cotgreave
I struggle with "business" situation. Most VOTO dashboards are definitely dashboards, but not business. For example, dashboards created by sports fans are for sharing and exploring, but aren't business related.

Andy Cotgreave
I think this sentence is a contextual clarification of the previous sentence and therefore not necessary in a formal definition

Andy Cotgreave
This is too niche to include in a generic definition. Jeff and Allan's work is amazing, but of all interactions the % driven by voice is infinitesimally small

Andy's edited (with markup)

A dashboard comprises one or more ~~graphs~~ charts and tables that either explain the state of a particular ~~business~~ situation or that explain *and allow the exploration* of a particular ~~business~~ situation.

With an *explanatory dashboard* (also called a static dashboard) the views do not change. While the underlying data may change [i.e., over time there are more data points, more categories, etc.,) the fundamental views of the data won't change. The viewer is spectator and not an active participant.

With an *exploratory dashboard* (also called an interactive dashboard) the views will change based on ~~interaction by the user~~ An interaction on one chart changes the other graphs on the dashboard, ~~some action by the user. This could be applying a filter, hovering over a bar to see details, speaking a command, panning, zooming, selecting a mark which in turn changes other graphs on the dashboard, clicking a web link, and so on.~~ The idea is that the dashboard invites further understanding of the data by allowing people to examine that data through interactions.

our definition of a dashboard

A dashboard is a visual display of data used to monitor conditions and/or facilitate understanding.
- *The Big Book of Dashboards* (2017)

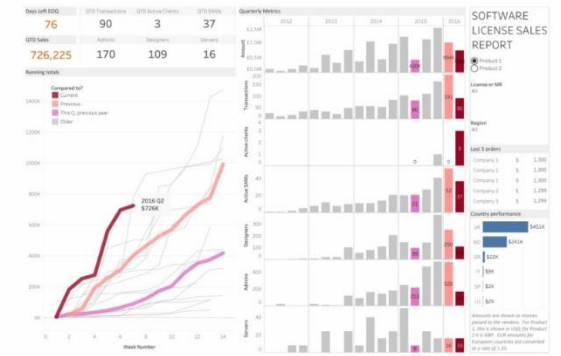
1. RIGHT INFO

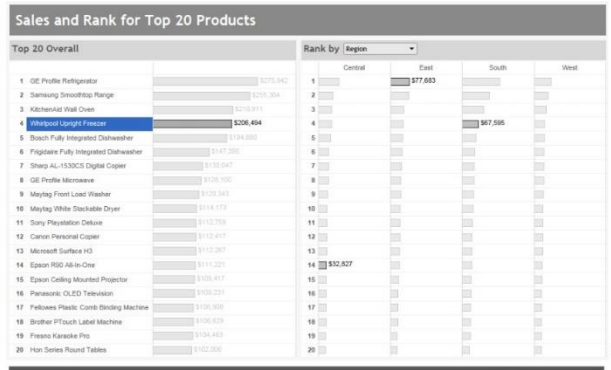
2. RIGHT AUDIENCE

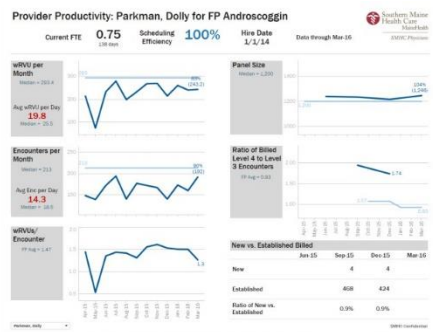
3. RIGHT MEDIUM

4. SHORTEST TIME POSSIBLE

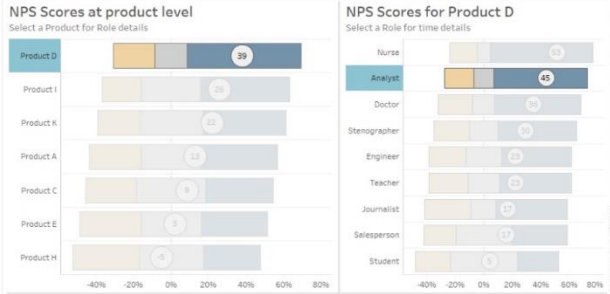
WANNA SEE SOME EXAMPLES?


SOFTWARE LICENSE SALES REPORT
Days Left EOQ
76
QTD Transactions
90
QTD Active Clients
3
QTD SKUs
37
QTD Sales
726,225
Admins
170
Designers
109
Servers
16
Running totals
Quarterly Metrics
2016 Q2
$726K
Week Number

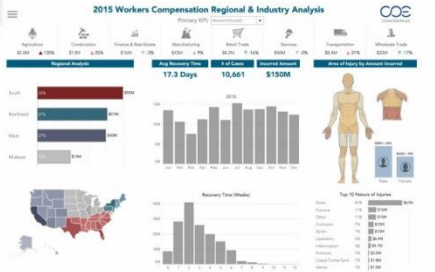

Sales and Rank for Top 20 Products
Top 20 Overall
1 GE Profile Refrigerator $275,942
2 Samsung Smoothtop Range $259,304
3 KitchenAid Wall Oven $210,911
4 Whirlpool Upright Freezer $208,494
5 Bosch Fully Integrated Dishwasher $194,880
6 Frigidaire Fully Integrated Dishwasher $147,385
7 Sharp AL-1530CS Digital Copier $130,047
8 GE Profile Microwave $128,100
9 Maytag Front Load Washer $120,343
10 Maytag White Stackable Dryer $114,173
11 Sony Playstation Deluxe $112,759
12 Canon Personal Copier $112,417
13 Microsoft Surface H3 $112,267
14 Epson RSO All-In-One $111,221
15 Epson Ceiling Mounted Projector $108,417
16 Panasonic OLED Television $108,231
17 Fellowes Plastic Comb Binding Machine $106,906
18 Brother PTouch Label Machine $106,629
19 Fresno Karaoke Pro $104,463
20 Hon Series Round Tables $102,006
Rank by Region
Central
East
South
West
$77,683
$67,595
$32,827

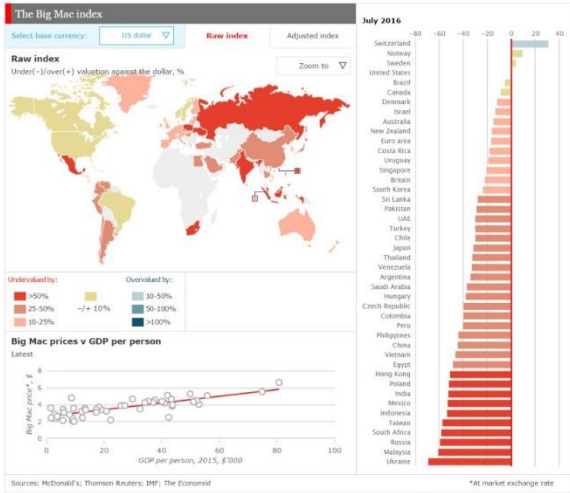

Provider Productivity: Parkman, Dolly for FP Androscoggin
Current FTE 0.75
Scheduling Efficiency 100%
Hire Date 1/1/14
Data through Mar-16
wRVU per Month
Panel Size
Encounters per Month
Ratio of Billed Level 4 to Level 3 Encounters
wRVUs / Encounter
New vs. Established Billed
Jan-15
Sep-15
Dec-15
Mar-16
New
4
4
Established
468
424
Ratio of New vs. Established
0.9%
0.9%

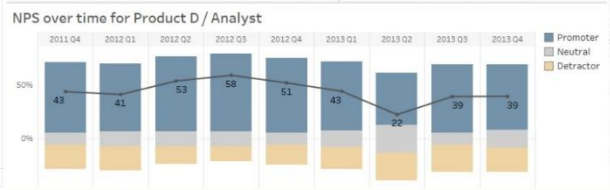

Net Promoter Score Analysis
Percentages / Score
Show Score


NPS Scores at product level
Select a Product for Role details
Product D
Product I
Product K
Product A
Product C
Product E
Product H
39
26
22
13
9
8
-5
-40%
-20%
0%
20%
40%
60%
80%

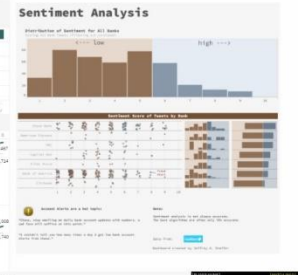
NPS Scores for Product D
Select a Role for time details
Nurse
Analyst
Doctor
Stenographer
Engineer
Teacher
Journalist
Salesperson
Student
45
-40%
-20%
0%
20%
40%
60%
80%

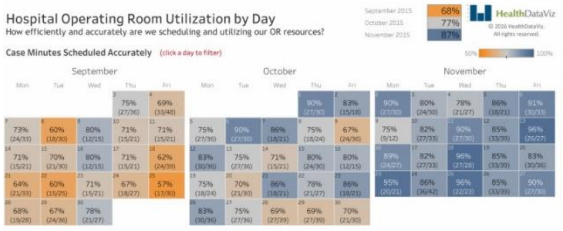

2015 Workers Compensation Regional & Industry Analysis
17.3 Days
10,661
$150M


The Big Mac index
Select base currency:
US dollar
Raw index
Adjusted index
Zoom to
Raw index
Under(−)/over(+) valuation against the dollar, %
Undervalued by:
>50%
25-50%
10-25%
Overvalued by:
10-50%
50-100%
>100%
−/+ 10%
Big Mac prices v GDP per person
Latest
GDP per person, 2015, $'000
July 2016
Switzerland
Norway
Sweden
United States
Brazil
Canada
Denmark
Israel
Australia
New Zealand
Euro area
Costa Rica
Uruguay
Singapore
Britain
South Korea
Sri Lanka
Pakistan
UAE
Turkey
Chile
Japan
Thailand
Venezuela
Argentina
Saudi Arabia
Hungary
Czech Republic
Colombia
Peru
Philippines
China
Vietnam
Egypt
Hong Kong
Poland
India
Mexico
Indonesia
Taiwan
South Africa
Russia
Malaysia
Ukraine
Sources: McDonald's; Thomson Reuters; IMF; The Economist
*At market exchange rate

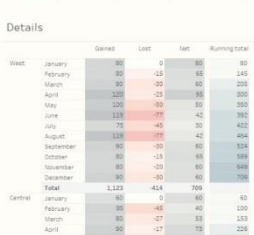

NPS over time for Product D / Analyst
2011 Q4
2012 Q1
2012 Q2
2012 Q3
2012 Q4
2013 Q1
2013 Q2
2013 Q3
2013 Q4
43
41
53
58
51
43
22
39
39
Promoter
Neutral
Detractor
50%
0%

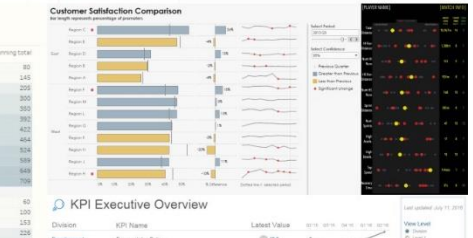

YTD / YoY Sales
Cumulative sales by region
Sales over time


Sentiment Analysis
Low
high


Hospital Operating Room Utilization by Day
How efficiently and accurately are we scheduling and utilizing our OR resources?
Case Minutes Scheduled Accurately (click a day to filter)
September
October
November
September 2015
October 2015
November 2015
68%
77%
87%
HealthDataViz
OR Utilization by Day: 25 September 2015
Details by OR: 25 September 2015
Scheduled Time
Accurate Estimate
Inaccurate Estimate

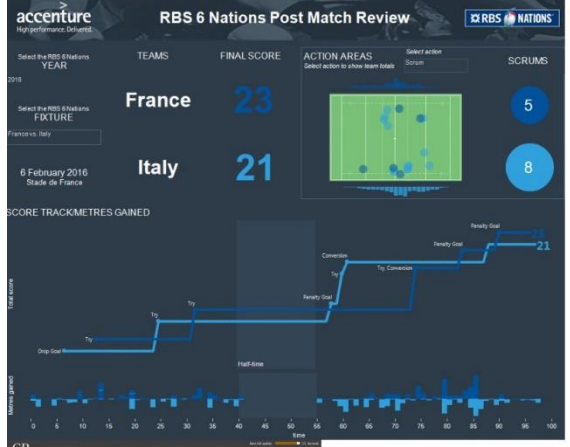

Subscriber Churn Analysis
Subscriber activity - All
Net subscriber activity by division
West
709
Central
444
East
331


Details


Customer Satisfaction Comparison

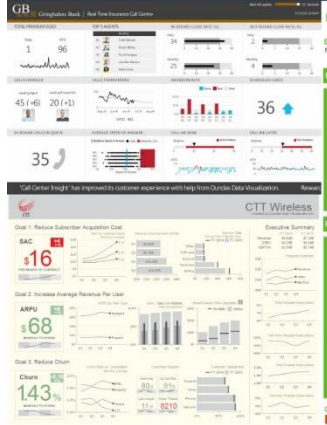
KPI Executive Overview


accenture
High performance. Delivered.
RBS 6 Nations Post Match Review
RBS 6 NATIONS


RBS 6 Nations Post Match Review
TEAMS
FINAL SCORE
France
23
Italy
21
ACTION AREAS
SCRUMS
5
8
SCORE TRACK/METRES GAINED

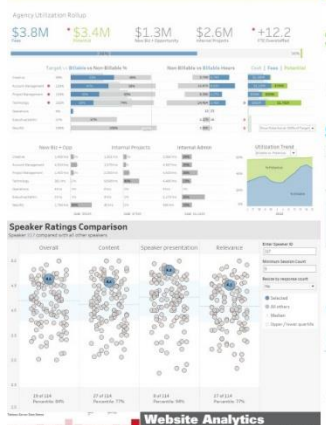

Complaints Dashboard
Total Complaints:
Closed 288
Open 39
Total 327
Complaints by Month
Complaints by State (click to filter)
Complaints by Reason
Complaints by Party (click to filter)

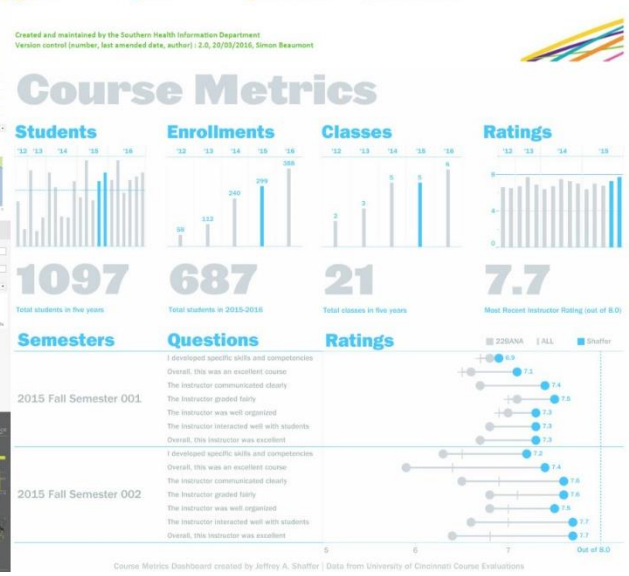

GTAPOWER
Power Plant Monitor
10,858 MW
758 MW
394 M$GD
6,646 MW
1,847 MW
356 M$GD
Local Metrics (Real-Time)
Details (All Locations)

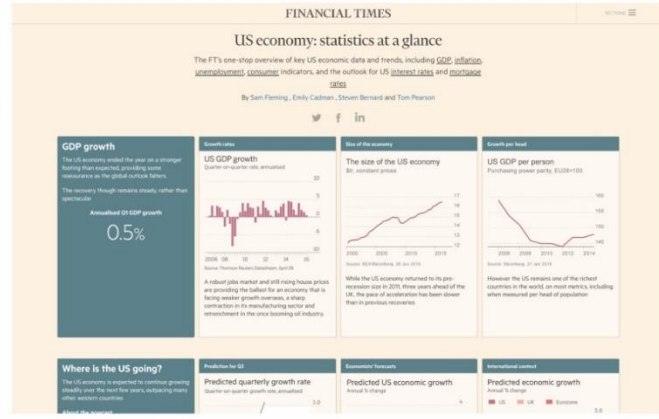

CTT Wireless
SAC
$16
ARPU
$68
Churn
1.43%


Integrated Care Team unscheduled care daily planning tool
Southern Health NHS
NHS Foundation Trust
Patients known to the Integrated Care Team (receiving care in the last 30 days); admitted 1 day(s) ago
14
Patients known to the Integrated Care Team (receiving care in the last 30 days) currently in hospital (admitted earlier than 1 day(s) ago)
124
Clinical intervention type colours explained
Admission
Discharge
Adults Physical Health
Older Persons Mental Health


THE WEXFORT HOTEL
Revenue per Available Room (RevPAR) Index
Weeks Prior
52 to 0
Asia
N.A.
Europe
Other
ADR
Occ
Breakdown by Hotel
RevPAR Index Variance from 100
RevPAR vs. Group RevPAR
RevPAR Map
Seoul
Hong Kong
Shanghai
Tokyo
Dubai


Agency Utilization Rollup
$3.8M
$3.4M
$1.3M
$2.6M
Speaker Ratings Comparison
Website Analytics
DATAPLUSSCIENCE.COM


Created and maintained by the Southern Health Information Department
Version control (number, last amended date, author) : 2.0, 20/03/2016, Simon Beaumont
Course Metrics
Students
Enrollments
Classes
Ratings
1097
Total students in five years
687
Total students in 2015-2016
21
Total classes in five years
7.7
Most Recent Instructor Rating (out of 8.0)
Semesters
Questions
Ratings
2015 Fall Semester 001
2015 Fall Semester 002
Out of 8.0
Course Metrics Dashboard created by Jeffrey A. Shaffer | Data from University of Cincinnati Course Evaluations


FINANCIAL TIMES
US economy: statistics at a glance
GDP growth
0.5%
US GDP growth
The size of the US economy
US GDP per person
Where is the US going?
Predicted quarterly growth rate
Predicted US economic growth
Predicted economic growth

LET'S PLAY: IS IT A DASHBOARD?

Simon beaumont

Integrated Care Team unscheduled care daily planning tool

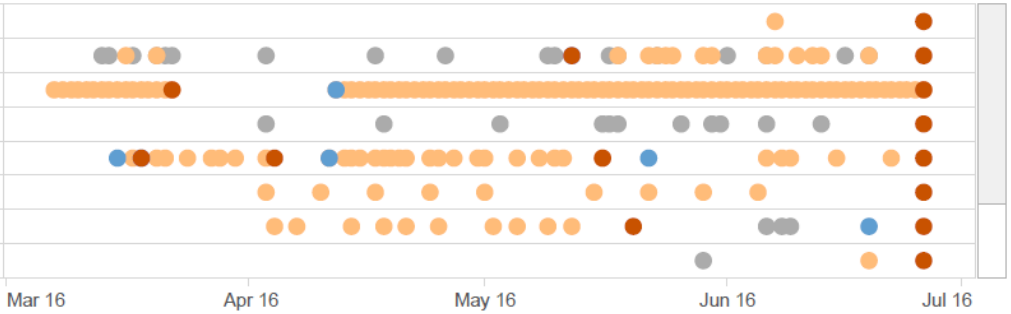
Southern Health NHS
NHS Foundation Trust

Select an Area	Select your Team	Select a Practice	Select the inpatient provider	Days you wish to view the most recent admissions for
None	All	None	All	1

Patients known to the Integrated Care Team (receiving care in the last 30 days); admitted 1 day(s) ago

14

LOS	Patient identifer	Current service
1	Patient 19	Admission - Acute Hospital
	Patient 95	Admission - Acute Hospital
	Patient 64	Admission - Acute Hospital
	Patient 205	Admission - Acute Hospital
	Patient 103	Admission - Acute Hospital
	Patient 193	Admission - Acute Hospital
	Patient 191	Admission - Acute Hospital
	Patient 180	Admission - Acute Hospital



Patients known to the Integrated Care Team (receiving care in the last 30 days) currently in hospital (admitted earlier than 1 day(s) ago)

124

LOS	Patient identifer	Current service
22	Patient 181	Admission - Acute Hospital
21	Patient 139	Admission - Acute Hospital
20	Patient 63	Admission - Acute Hospital
19	Patient 25	Admission - Acute Hospital
	Patient 82	Admission - Acute Hospital
	Patient 152	Admission - Acute Hospital
	Patient 228	Admission - Acute Hospital
	Patient 245	Admission - Acute Hospital
18	Patient 27	Admission - Acute Hospi
	Patient 48	Admission - Acute Ho
17	Patient 24	Admission - Acute Ho

Clinical intervention type colours explained
Admission Discharge

Created and maintained by the Southern Health Information Dep
Version control (number, last amended date, author) : 2.0, 20/03/

IS IT A DASHBOARD?

US economy: statistics at a glance

The FT's one-stop overview of key US economic data and trends, including GDP, inflation, unemployment, consumer indicators, and the outlook for US interest rates and mortgage rates

By Sam Fleming , Gemma Tetlow , Steven Bernard , Tom Pearson and Jennifer Bissell

GDP growth

The US recorded its slowest economic growth in five years in 2016, as poor trade data dragged on the economy in the fourth quarter.

The recovery remains steady, rather than spectacular.

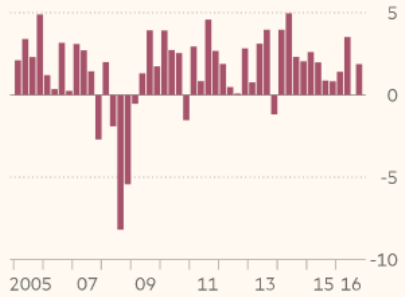
Annualised Q1 2017 GDP growth

1.4%

Growth rates

US GDP growth

Quarter-on-quarter rate, annualised



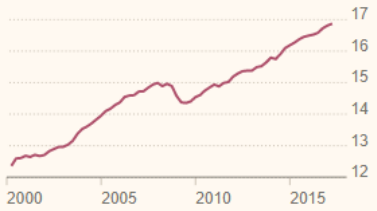
Source: Macrobond, ONS, January 27

A robust jobs market and still rising house prices are providing the ballast for an economy that is facing poor trade data, weaker growth overseas and retrenchment in the once booming oil industry.

Size of the economy

The size of the US economy

$tr, constant prices



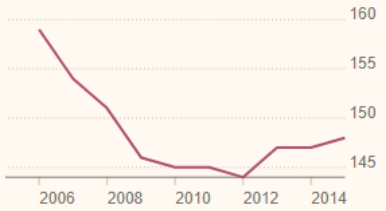
Source: BEA/Bloomberg, 29 Jun 2017

While the US economy returned to its pre-recession size in 2011, three years ahead of the UK, the pace of acceleration has been slower than in previous recoveries.

Growth per head

US GDP per person

Purchasing power parity, EU28=100



Source: Bloomberg, 21 Jan 2016

Where is the US going?

The US economy is expected to continue growing steadily over the next few years, outpacing many other western countries.

About the nowcast

now-casting.com uses statistical modelling to determine what individual economic data points tell us about the rate of growth. The nowcast

Prediction for Q2

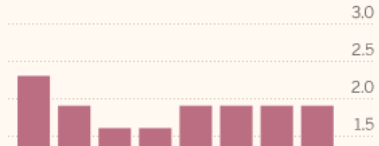
Predicted quarterly growth rate

Quarter-on-quarter rate, annualised

Economists' forecasts

Predicted US economic growth

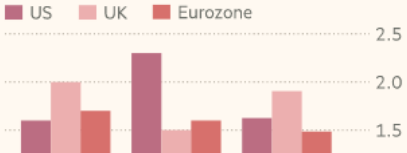
Annual real GDP % change



International context

Predicted economic growth

Annual % change



US economy: statistics at a glance

The FT's one-stop overview of key US economic data and trends, including GDP, inflation, unemployment, consumer indicators, and the outlook for US interest rates and mortgage rates

By Sam Fleming , Gemma Tetlow , Steven Bernard , Tom Pearson and Jennifer Bissell

GDP growth

The US recorded its slowest economic growth in five years in 2016, as poor trade data dragged on the economy in the fourth quarter.

The recovery remains steady, rather than spectacular.

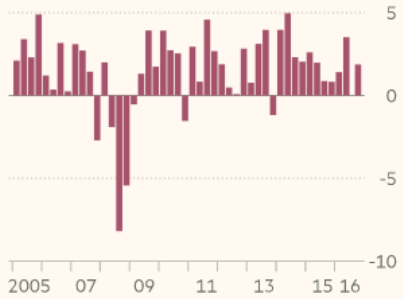
Annualised Q1 2017 GDP growth

1.4%

Growth rates

US GDP growth

Quarter-on-quarter rate, annualised



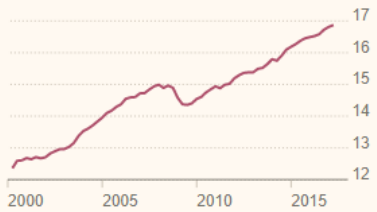
Source: Macrobond, ONS, January 27

A robust jobs market and still rising house prices are providing the ballast for an economy that is facing poor trade data, weaker growth overseas and retrenchment in the once booming oil industry.

Size of the economy

The size of the US economy

$tr, constant prices



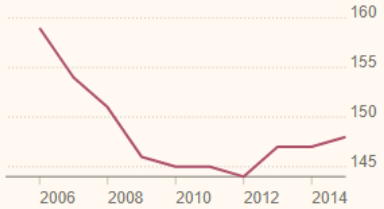
Source: BEA/Bloomberg, 29 Jun 2017

While the US economy returned to its pre-recession size in 2011, three years ahead of the UK, the pace of acceleration has been slower than in previous recoveries.

Growth per head

US GDP per person

Purchasing power parity, EU28=100



Source: Bloomberg, 21 Jan 2016

Where is the US going?

The US economy is expected to continue growing steadily over the next few years, outpacing many other western countries.

About the nowcast

now-casting.com uses statistical modelling to determine what individual economic data points tell us about the rate of growth. The nowcast

Prediction for Q2

Predicted quarterly growth rate

Quarter-on-quarter rate, annualised

Economists' forecasts

Predicted US economic growth

Annual real GDP % change

International context

Predicted economic growth

Annual % change

US economy: statistics at a glance

The FT's one-stop overview of key US economic data and trends, including GDP, inflation, unemployment, consumer indicators, and the outlook for US interest rates and mortgage rates

By Sam Fleming , Gemma Tetlow , Steven Bernard , Tom Pearson and Jennifer Bissell

GDP growth

The US recorded its slowest economic growth in five years in 2016, as poor trade data dragged on the economy in the fourth quarter.

The recovery remains steady, rather than spectacular.

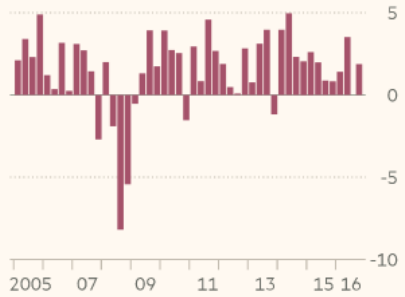
Annualised Q1 2017 GDP growth

1.4%

Growth rates

US GDP growth

Quarter-on-quarter rate, annualised



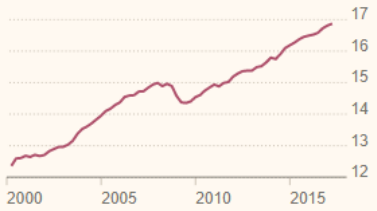
Source: Macrobond, ONS, January 27

A robust jobs market and still rising house prices are providing the ballast for an economy that is facing poor trade data, weaker growth overseas and retrenchment in the once booming oil industry.

Size of the economy

The size of the US economy

$tr, constant prices



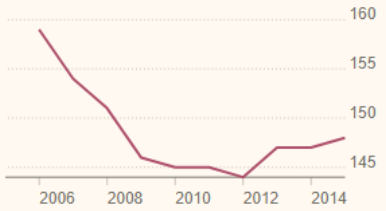
Source: BEA/Bloomberg, 29 Jun 2017

While the US economy returned to its pre-recession size in 2011, three years ahead of the UK, the pace of acceleration has been slower than in previous recoveries.

Growth per head

US GDP per person

Purchasing power parity, EU28=100



Source: Bloomberg, 21 Jan 2016

Where is the US going?

The US economy is expected to continue growing steadily over the next few years, outpacing many other western countries.

About the nowcast

now-casting.com uses statistical modelling to determine what individual economic data points tell us about the rate of growth. The nowcast

Prediction for Q2

Predicted quarterly growth rate

Quarter-on-quarter rate, annualised

Economists' forecasts

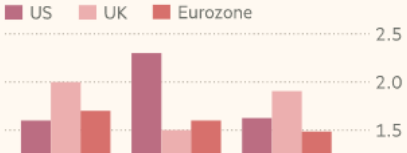
Predicted US economic growth

Annual real GDP % change

International context

Predicted economic growth

Annual % change



US economy: statistics at a glance

The FT's one-stop overview of key US economic data and trends, including GDP, inflation, unemployment, consumer indicators, and the outlook for US interest rates and mortgage rates

By Sam Fleming , Gemma Tetlow , Steven Bernard , Tom Pearson and Jennifer Bissell

GDP growth

The US recorded its slowest economic growth in five years in 2016, as poor trade data dragged on the economy in the fourth quarter.

The recovery remains steady, rather than spectacular.

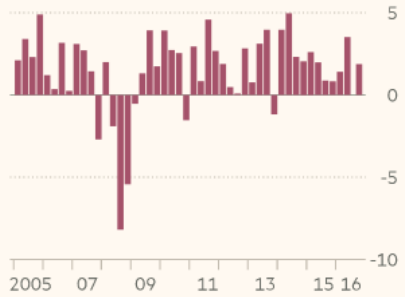
Annualised Q1 2017 GDP growth

1.4%

Growth rates

US GDP growth

Quarter-on-quarter rate, annualised



Source: Macrobond, ONS, January 27

A robust jobs market and still rising house prices are providing the ballast for an economy that is facing poor trade data, weaker growth overseas

Size of the economy

The size of the US economy

$tr, constant prices

Source: BEA/Bloomberg, 29 Jun 2017

While the US economy returned to its pre-recession size in 2011, three years ahead of the UK, the pace of acceleration has been slower than in previous recoveries.

Growth per head

US GDP per person

Purchasing power parity, EU28=100

Source

Where is the US g

The US economy is expected steadily over the next few ye other western countries.

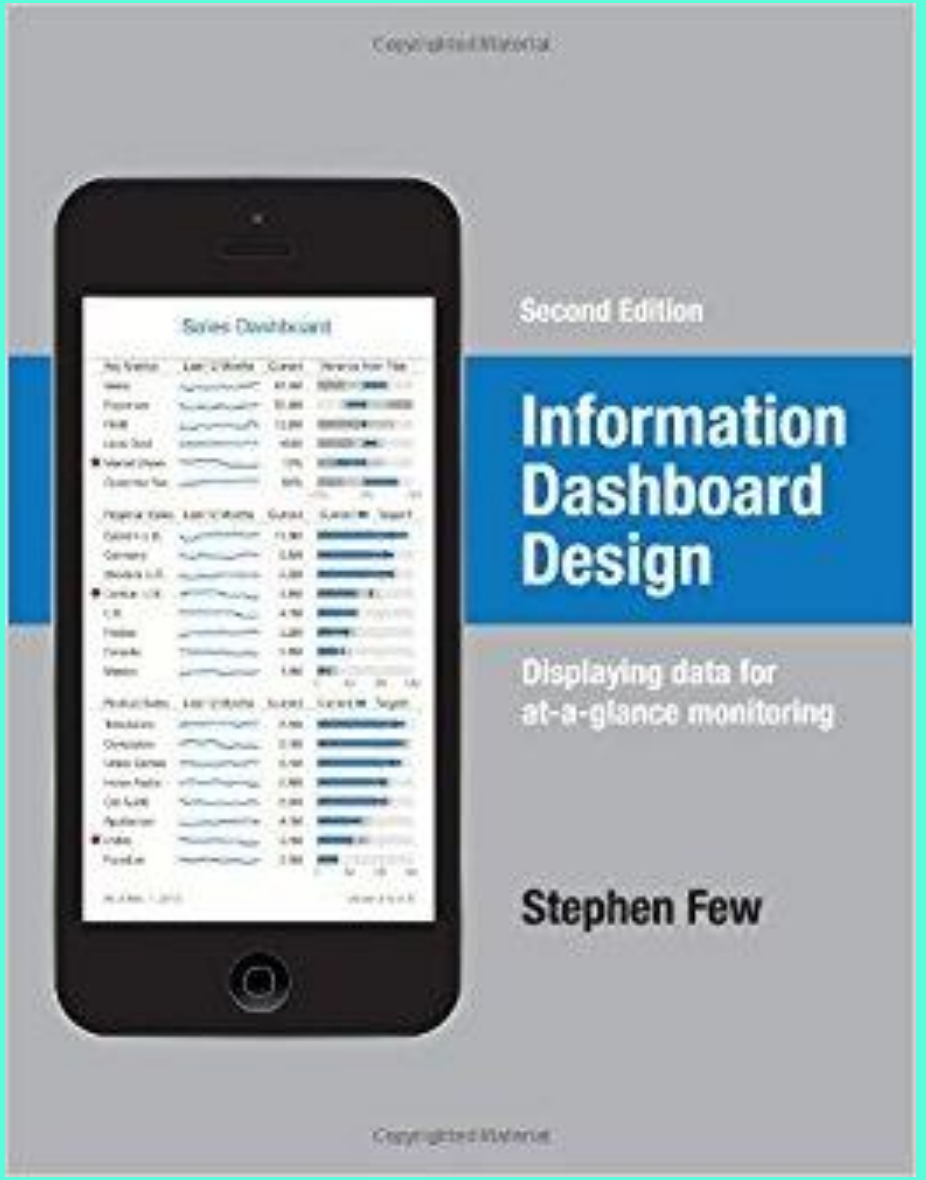
About the nowcast

now-casting.com uses statistical modelling to determine what individual economic data points tell us about the rate of growth. The nowcast

IS IT A DASHBOARD?


FUN
THIS
SO
MUCH


FUN
THIS
SO
MUCH


Copyrighted Material
Sales Dashboard
Second Edition
Information Dashboard Design
Displaying data for at-a-glance monitoring
Stephen Few
Copyrighted Material

US economy: statistics at a glance

The FT's one-stop overview of key US economic data and trends, including GDP, inflation, unemployment, consumer indicators, and the outlook for US interest rates and mortgage rates

By Sam Fleming , Gemma Tetlow , Steven Bernard , Tom Pearson and Jennifer Bissell

GDP growth

The US recorded its slowest economic growth in five years in 2016, as poor trade data dragged on the economy in the fourth quarter.

The recovery remains steady, rather than spectacular.

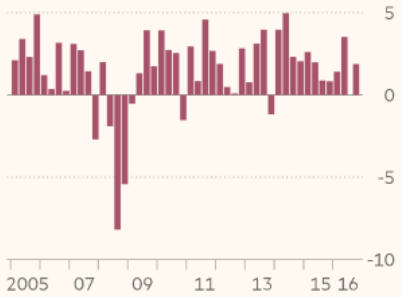
Annualised Q1 2017 GDP growth

1.4%

Growth rates

US GDP growth

Quarter-on-quarter rate, annualised



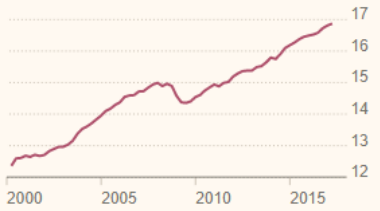
Source: Macrobond, ONS, January 27

A robust jobs market and still rising house prices are providing the ballast for an economy that is facing poor trade data, weaker growth overseas and retrenchment in the once booming oil industry.

Size of the economy

The size of the US economy

$tr, constant prices



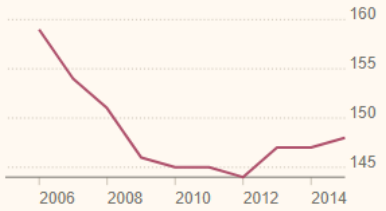
Source: BEA/Bloomberg, 29 Jun 2017

While the US economy returned to its pre-recession size in 2011, three years ahead of the UK, the pace of acceleration has been slower than in previous recoveries.

Growth per head

US GDP per person

Purchasing power parity, EU28=100

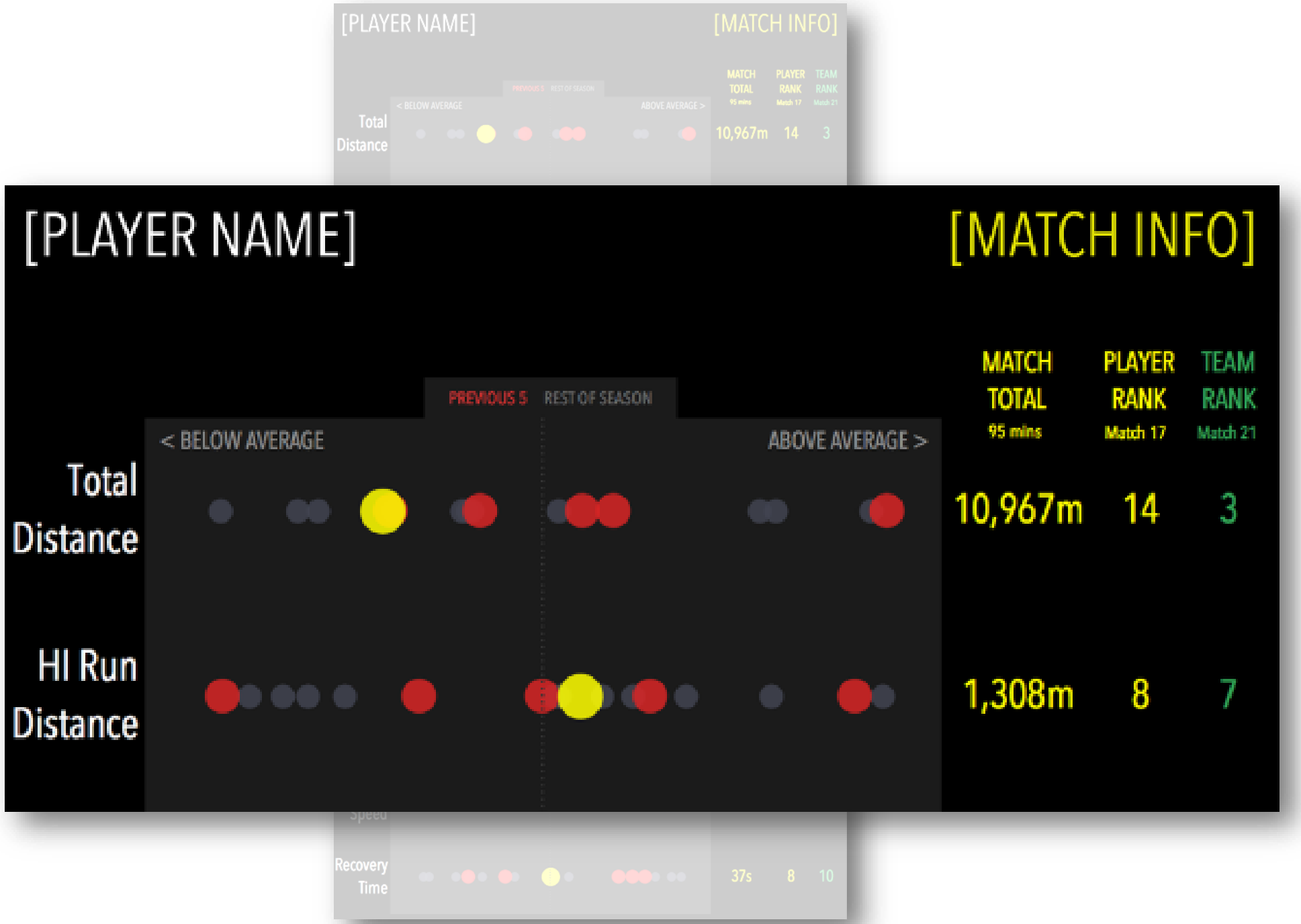


Source: Bloomberg, 21 Jan 2016


[PLAYER NAME]
[MATCH INFO]
PREVIOUS 5
REST OF SEASON
< BELOW AVERAGE
ABOVE AVERAGE >
MATCH TOTAL
95 mins
PLAYER RANK
Match 17
TEAM RANK
Match 21
Total Distance
10,967m
14
3
HI Run Distance
1,308m
8
7
Num HI Runs
151
9
6
HS Run Distance
924m
8
5
Num HS Runs
168
10
6
Sprint Distance
385m
8
7
Num Sprints
47
10
13
High Accels.
17
8
7
High Decels.
10
10
7
Top Speed
9.4m/s
1
6
Recovery Time
37s
8
10

Andy Kirk

Andy Kirk

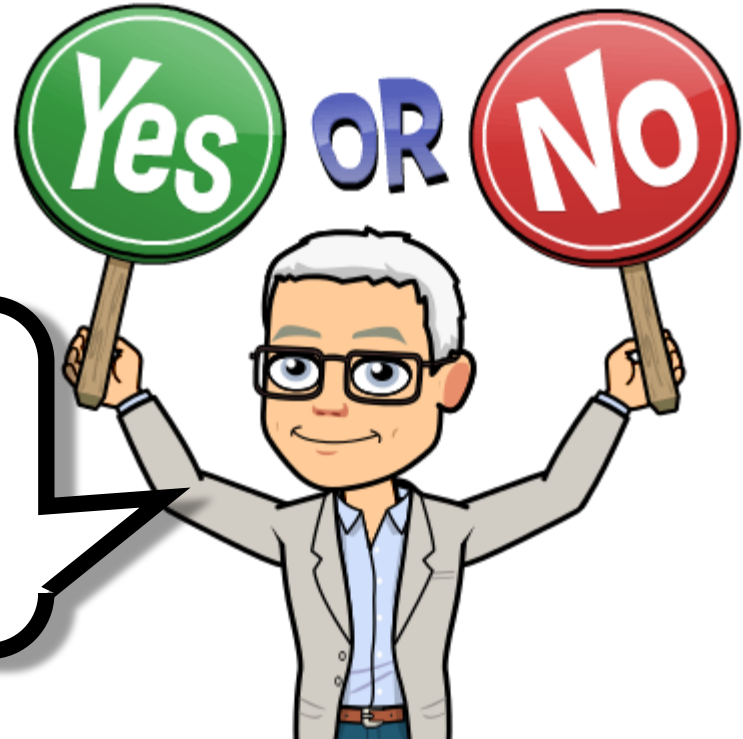

[PLAYER NAME]
[MATCH INFO]
MATCH TOTAL
95 mins
PLAYER RANK
Match 17
TEAM RANK
Match 21
PREVIOUS 5
REST OF SEASON
< BELOW AVERAGE
ABOVE AVERAGE >
Total Distance
10,967m
14
3
HI Run Distance
1,308m
8
7
Recovery Time
37s
8
10

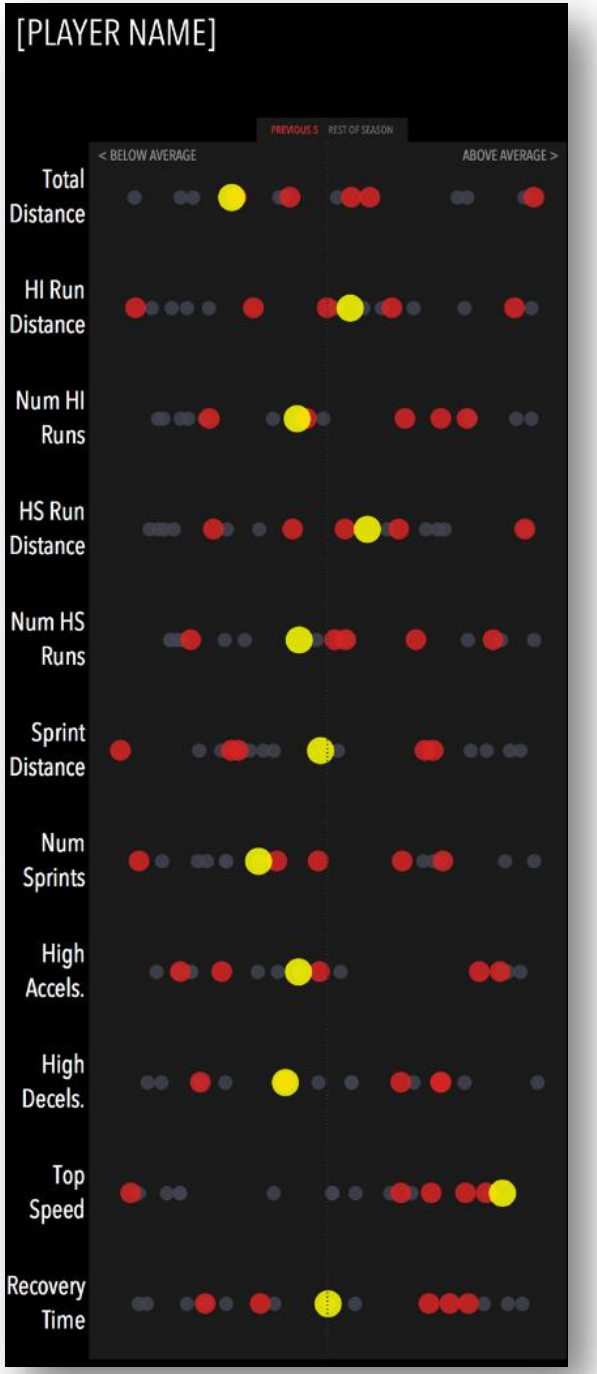

[PLAYER NAME]
[MATCH INFO]
PREVIOUS 5
REST OF SEASON
< BELOW AVERAGE
ABOVE AVERAGE >
MATCH TOTAL
95 mins
PLAYER RANK
Match 17
TEAM RANK
Match 21
Total Distance
10,967m
14
3
HI Run Distance
1,308m
8
7
Num HI Runs
151
9
6
HS Run Distance
924m
8
5
Num HS Runs
168
10
6
Sprint Distance
385m
8
7
Num Sprints
47
10
13
High Accels.
17
8
7
High Decels.
10
10
7
Top Speed
9.4m/s
1
6
Recovery Time
37s
8
10

Andy Kirk

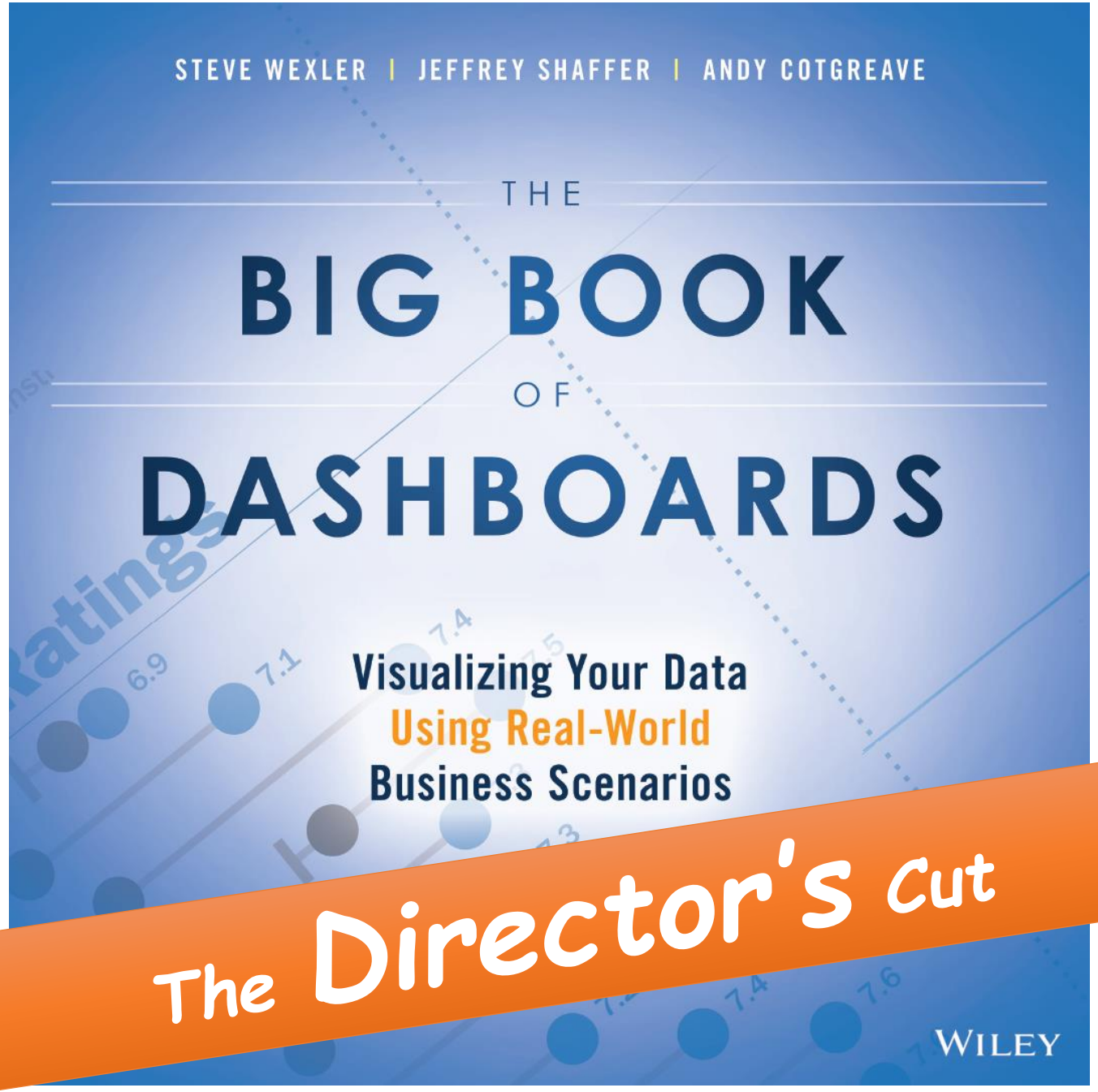
Andy Kirk

IS IT A DASHBOARD?

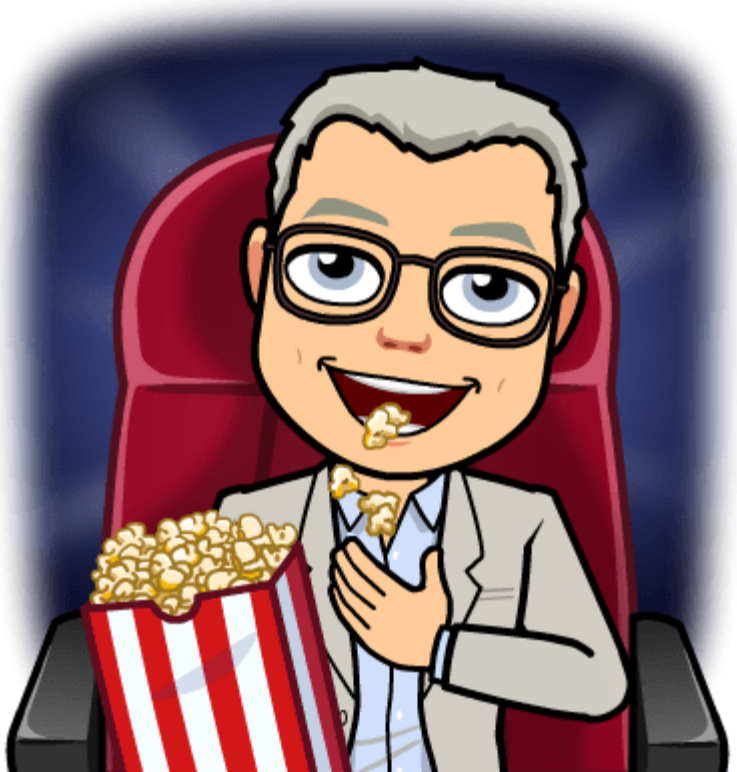


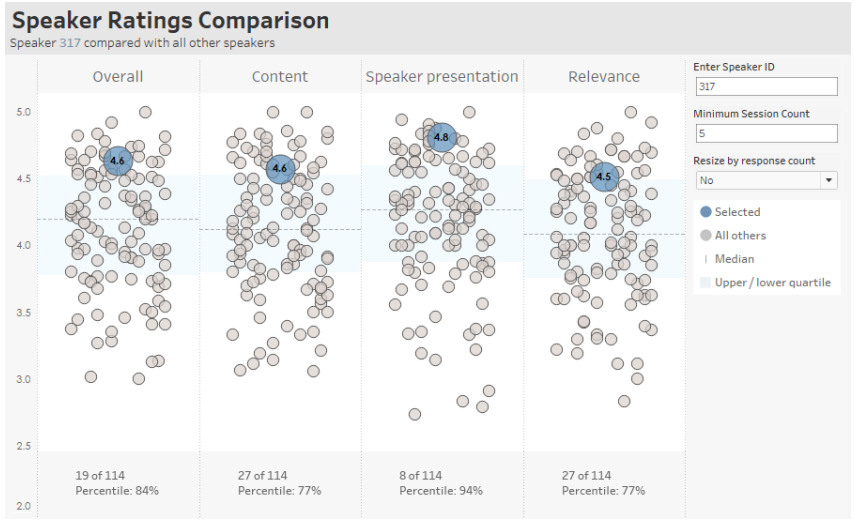

[PLAYER NAME]
PREVIOUS 5
REST OF SEASON
< BELOW AVERAGE
ABOVE AVERAGE >
Total Distance
HI Run Distance
Num HI Runs
HS Run Distance
Num HS Runs
Sprint Distance
Num Sprints
High Accels.
High Decels.
Top Speed
Recovery Time

Andy Kirk



The Director's Cut





Author Commentary

JEFF: This dashboard has a very simple approach to visualize the data but, at the same time, has the complexity of having lots of data. It's easy to see the single session versus all of the others. It shows the scope of how many sessions there were in total, not in a precise way for comparison, but in a way that we can quickly determine the scope. The use of jitter is key here, because otherwise the dots would all be on top of each other.

STEVE: If you are working with aggregated data—that is, where you don't have access to individual responses—make sure you check out Jeffrey Shaffer's Course Metrics dashboard. (See Chapter 2.) Jeff has built what is my go-to way to compare an individual with a peer group and with the overall population. Even if you're not working with aggregated data, you should check it out as the dot plot technique is very valuable.

ANDY: While writing this book, we discovered that Steve doesn't like box plots! I agree with Steve's point that laypeople often don't know what they are. But, as with all charts, people can be trained to understand them. Consider the waterfall plot in Chapter 24. That's by no means a straightforward chart, but once you learn how to read it, it reveals a great deal of information. A box plot is the same.

Perhaps it's their appearance? We can make box plots look better, by narrowing the width/height of the box. (See Figure 3.16.)

Steve's also right that if you want to see every dot, the box plot prevents that. However, not all analytical questions need us to see all the dots.

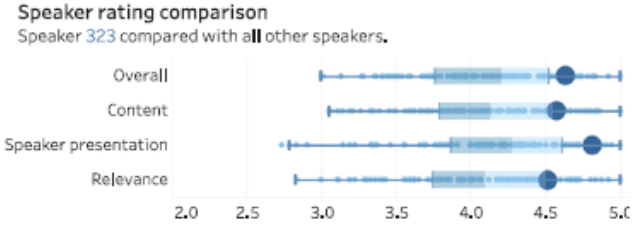


FIGURE 3.16 A more attractive box plot?

The box plot's very design is intended to overcome the issue of overlaid dots. The whiskers extend to 1.5 times the interquartile range. That sounds like scary statistical language, but it is just a way of describing how spread out the values are. What about the box? Its center point is the median, and its edges represent one quartile on either side of it. In other words, half of all the dots are within the box. Since the box, by definition, tells you where the quartiles and outliers are, do you still need to see all the dots when the primary question is just to see where your mark (the big blue dot in Figure 3.16) sits?

The box plot has additional strengths in that you can compare distributions very easily among different categories. In Figure 3.16, it's easy to see that the spread of values in each category is similar.

STEVE: What if there are a million dots?

ANDY: Steve presents a very nice way of showing the data in a histogram (in Figure 3.15). A box plot will work just as well with a million dots: As long as you learn to look primarily at the box, not the dots, a box plot is a great way to see a summary of the spread of data within a category.

STEVE WEXLER | JEFFREY SHAFFER | ANDY COTGREAVE

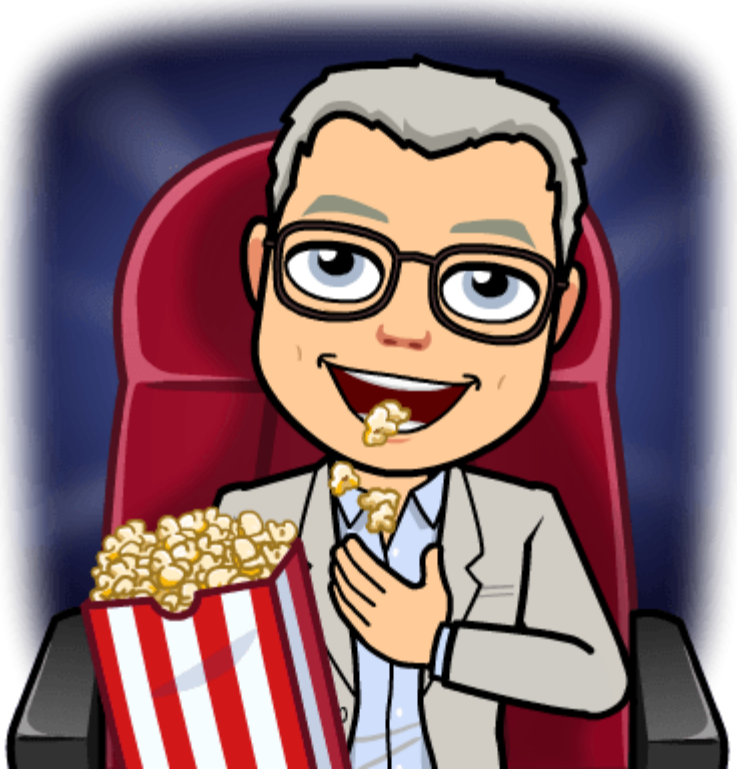
THE BIG BOOK OF DASHBOARDS

Visualizing Your Data Using Real-World Business Scenarios

WILEY

INCLUDES DELETED SCENES

The Director's Cut



Showing KPIs

Showing KPIs in a messaging app

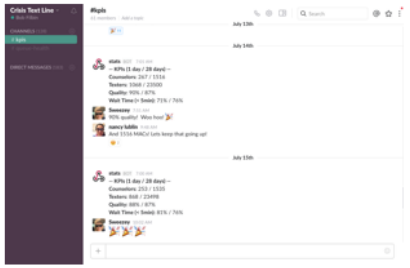


Figure 1.1 A text-only set of KPIs delivered in Slack [AC CTL Dashboard.png]

Dashboard Designer: Bob Filbin, Chief Data Scientist
Company: Crisis Text Line
http://www.crisistextline.org/

Scenario

Big Picture

You run a business which helps people in crisis. Instead of a traditional, telephone-based service, you use text messages. Anyone, anywhere in the US can send a text to your service, and quickly receive a reply, from a human being. People experiencing problems want help as quickly as possible. In possible suicide attempts, fast action saves lives. To run a responsive business, you need to know information about your business in the moment, in recent periods, and over your entire history.

Specifics (these are examples)

- In any given moment, what is the current state of the queue? If we see a sudden increase in people texting in, do we need more Crisis Counselors to jump on our texting platform and respond?
  - In the last 24 hours, and in the last month:
  - How many Crisis Counselors have been available?
  - On average, how long do people wait to be connected with a Crisis Counselor?
  - How satisfied were texters with the service?
- Overall, how many suicides have been averted because of your Crisis Counselors' interventions?

Related Scenarios (these are examples)

- All scenarios which focus on KPIs.

How People use the Dashboard

There are three different dashboards available. All are delivered in Slack. These dashboards are automated messages that appear at the same time each day. Using the messaging app keeps comments and the data together in one place.

The first is the daily KPI stats dashboard, shown in Figure 1.2; it also has some comments from staff beneath them.

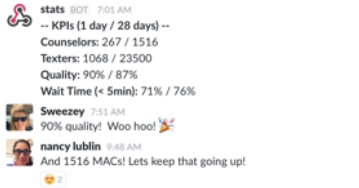


Figure 1.2 The KPI stats and 2 responses from staff [AC CTL Dashboard Detail.png]

Staff at Crisis Text Line get an immediate snapshot of the performance of the organization and can respond and discuss the data. This shows the four main KPIs the company uses to measure success.

The second dashboard is Active Rescues, also delivered daily. It is shown in Figure 1.3.

Figure 1.3 Active Rescues. On July 8th 2016, Crisis Text Line had called the Emergency Services to assist in 3,263 active suicide attempts [AC CTL Active Rescue Stats.png]

Active Rescues shows the recent impact of the organization. An active rescue is when Crisis Text Line send out emergency services to intervene in an active suicide attempt. At the time of the screenshot in Figure 1.4 Crisis Text Line had intervened in 3,263 attempted suicides. This number is a very real indicator of the impact of the organization.

The final dashboard shows queue health: are people waiting for too long? This updates every 30 seconds: decisions on queue health need to be made in real-time. It is shown in Figure 1.4

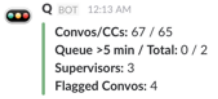


Figure 1.4 Queue Health Stats. [AC CTL Queue Health Stats.png]

The Queue Health Stats show four pieces of info:

How many conversations (Convos) are taking place with people in crisis and how many volunteer Crisis Counselors (CCs) are active?

How many people have been in a queue for over 5 minutes? In the figure, this is reading 0/2 which means 2 people are in the queue but neither have been in the queue for more than 5 minutes.

How many staff supervisors are available to support our Crisis Counselors?

How many conversations have been flagged? A conversation gets flagged if the Crisis Counselor thinks that texter might attempt suicide in the near future. This assessment is done following a strict procedure, in conjunction with supervisors.

A sign of declining queue health is long wait times for texters. A traffic light (the vertical bar alongside the text) changes from green to yellow to orange to red if queue health is declining. In Figure 1.3, the bar is green, indicating good response times. At each traffic light color, there are specific actions that all staff and volunteers know to take to reduce texter wait times.

Why This Works

It's delivered to where the people are

One of the biggest challenges with all dashboards is getting people to look at them. A barrier can be the need to switch to a different platform in order to see the dashboard. Instead of asking users to switch applications, why not send the data to the people? Several other dashboards in this book are delivered by email. People spend more and more time in conversation channels such as Slack, Convo, Hipchat. If your organization has moved there, why not send the data to that channel?

It allows conversation

You can see in figure 1.2 that two employees have reacted to that day's metrics. When people see the data in the same channel they have conversations, they are more likely to engage.

Traffic lights indicate performance levels

The queue health dashboard has a traffic light side bar - it's very easy for staff to recognize when things are good or bad by glancing at the colour of the bar. If it's amber or red, it's time to take action.

Data moves at the speed of decision making

Each dashboard is sent to Slack at the speed at which decisions need to be made. The KPI and Active Rescue KPIs need to be checked daily: they are delivered at the same time every day. The Queue Health, however, needs to be tracked in real time.

Designer / Author commentary

BOB FILBIN, Chief Data Scientist at Crisis Text Line:

When I started at CTL, I believed that reporting should allow anyone to find their own insights. I was creating 30-40 page reports that tried to bridge the data-to-insight divide. But those didn't solve the problem. Staff either asked questions that required further analysis by the data team or didn't read the reports.

On any given day, too many pages didn't have insights, and no one wanted to hunt through them to find the needles in the haystack. Data insights which did drive organizational change still came from deep-dive analyses by the data team.

Reporting can be expensive to produce and maintain. They can be time consuming for users if there are too many metrics.

So I stopped the reporting and simplified things by moving to Slack. Why?

- **The distance to the data is small.** There's no separate data tool to log into. This means everyone on staff sees our Slack dashboards daily.
- **The data becomes habitual.** Our data enters Slack at 7am each morning, and sends a notification to staff. This automatic data feed turns our data into a habit. The numbers are our version of checking the weather.

#kpis

61 members | *Add a topic*

Search

July 13th

🎉 11

July 14th

stats BOT 7:01 AM
-- KPIs (1 day / 28 days) --
Counselors: 267 / 1516
Texters: 1068 / 23500
Quality: 90% / 87%
Wait Time (< 5min): 71% / 76%

Sweezey 7:51 AM
90% quality! Woo hoo! 🎉

nancy lublin 9:48 AM
And 1516 MACs! Lets keep that going up!
😍 2

July 15th

stats BOT 7:00 AM
-- KPIs (1 day / 28 days) --
Counselors: 253 / 1535
Texters: 868 / 23498
Quality: 88% / 87%
Wait Time (< 5min): 81% / 76%

Sweezey 10:02 AM
🎉🎉🎉

Crisis Text Line
Bob Filbin

CHANNELS (128)
kpis
queue-health

DIRECT MESSAGES (183)

#kpis
61 members | Add a topic

Search

stats BOT 7:01 AM
-- KPIs (1 day / 28 days) --
Counselors: 267 / 1516
Texters: 1068 / 23500

July 8th

stats BOT 7:02 AM
-- Active Rescues --
Total: 3,263
Yesterday: 7
7 day avg: 7.9
28 day avg: 7.9

July 15th

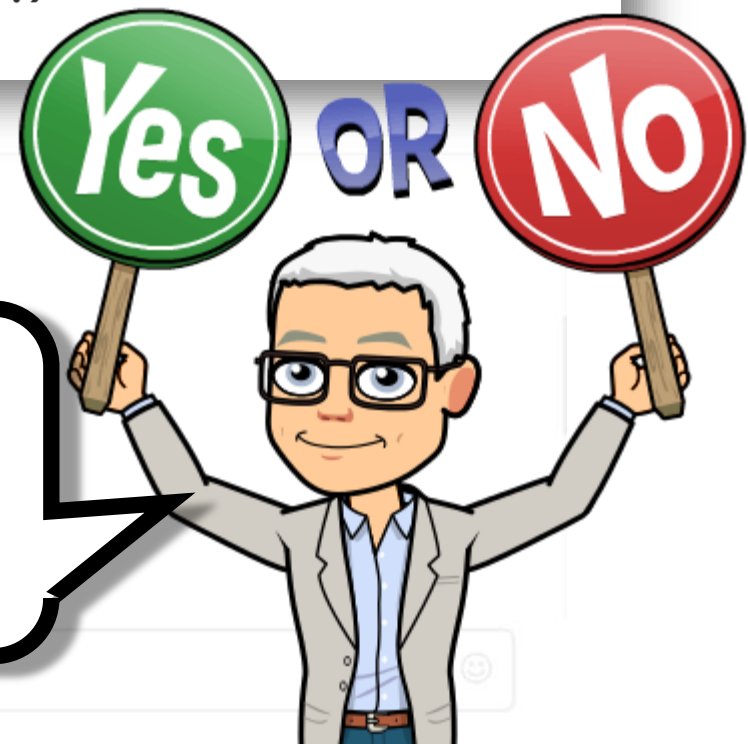
stats BOT 7:01 AM
-- KPIs (1 day / 28 days) --
Counselors: 267 / 1516
Texters: 1068 / 23500
Quality: 90% / 87%
Wait Time (< 5min): 71% / 76%

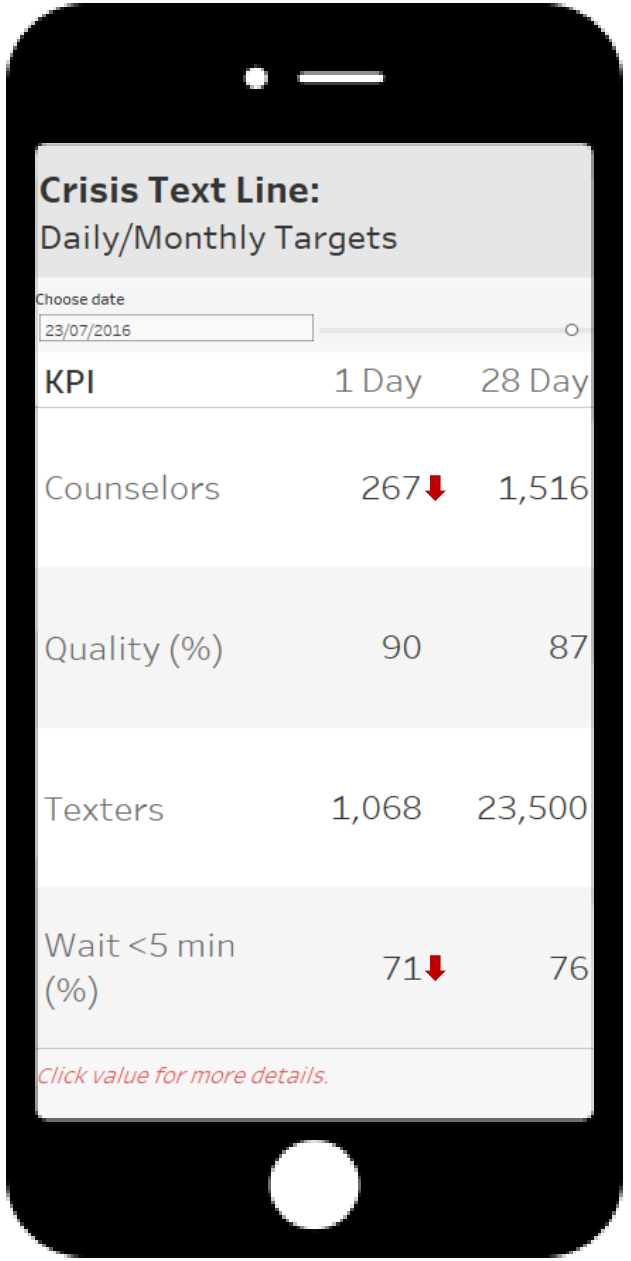
Sweezey 7:51 AM
90% quality! W

nancy lublin 9
And 1516 MA

2

IS IT A DASHBOARD?




Crisis Text Line:
Daily/Monthly Targets
Choose date
23/07/2016
KPI
1 Day
28 Day
Counselors
267
1,516
Quality (%)
90
87
Texters
1,068
23,500
Wait <5 min (%)
71
76
Click value for more details.

stats BOT 7:01 AM

-- KPIs (1 day / 28 days) --

Counselors: 267 / 1516

Texters: 1068 / 23500

Quality: 90% / 87%

Wait Time (< 5min): 71% / 76%

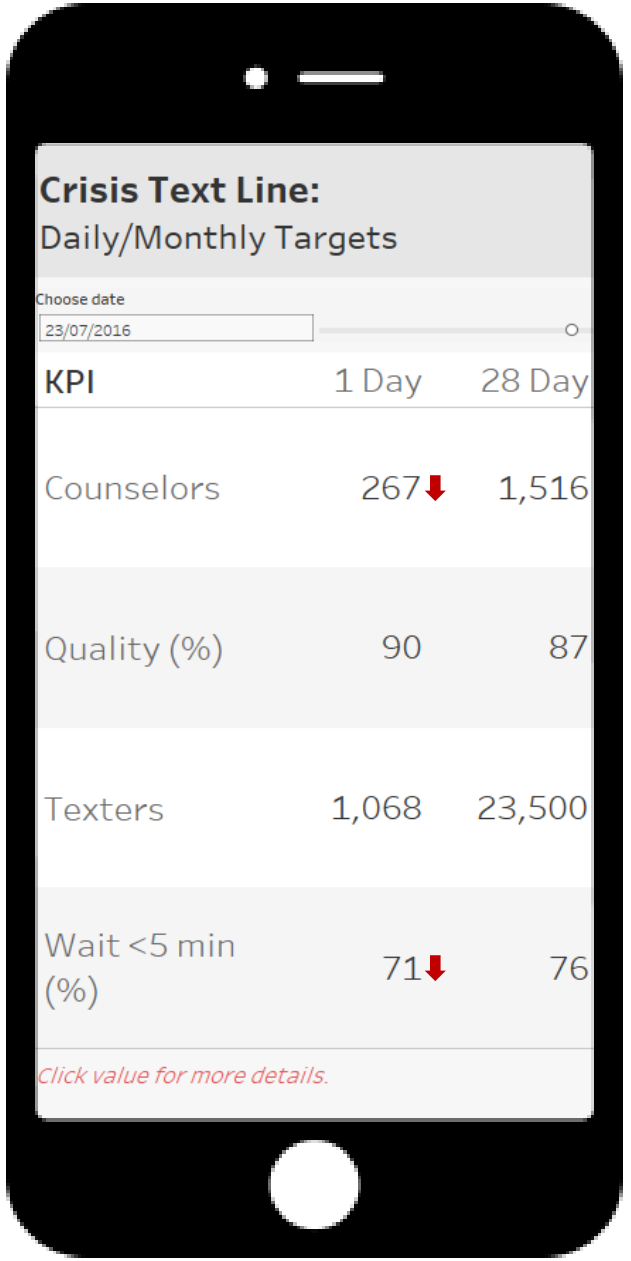
Sweezey 7:51 AM

90% quality! Woo hoo! 🎉

nancy lublin 9:48 AM

And 1516 MACs! Lets keep that going up!

😍 2



WHAT THE HECK IS A DASHBOARD, ANYWAY?

IT DEPENDS.

1. Right Info

2. Right audience

3. Right medium

4. Shortest time possible

1. Right I ht audience

3. Right mediu ortest time possible

1. Right Info

2. Right audience

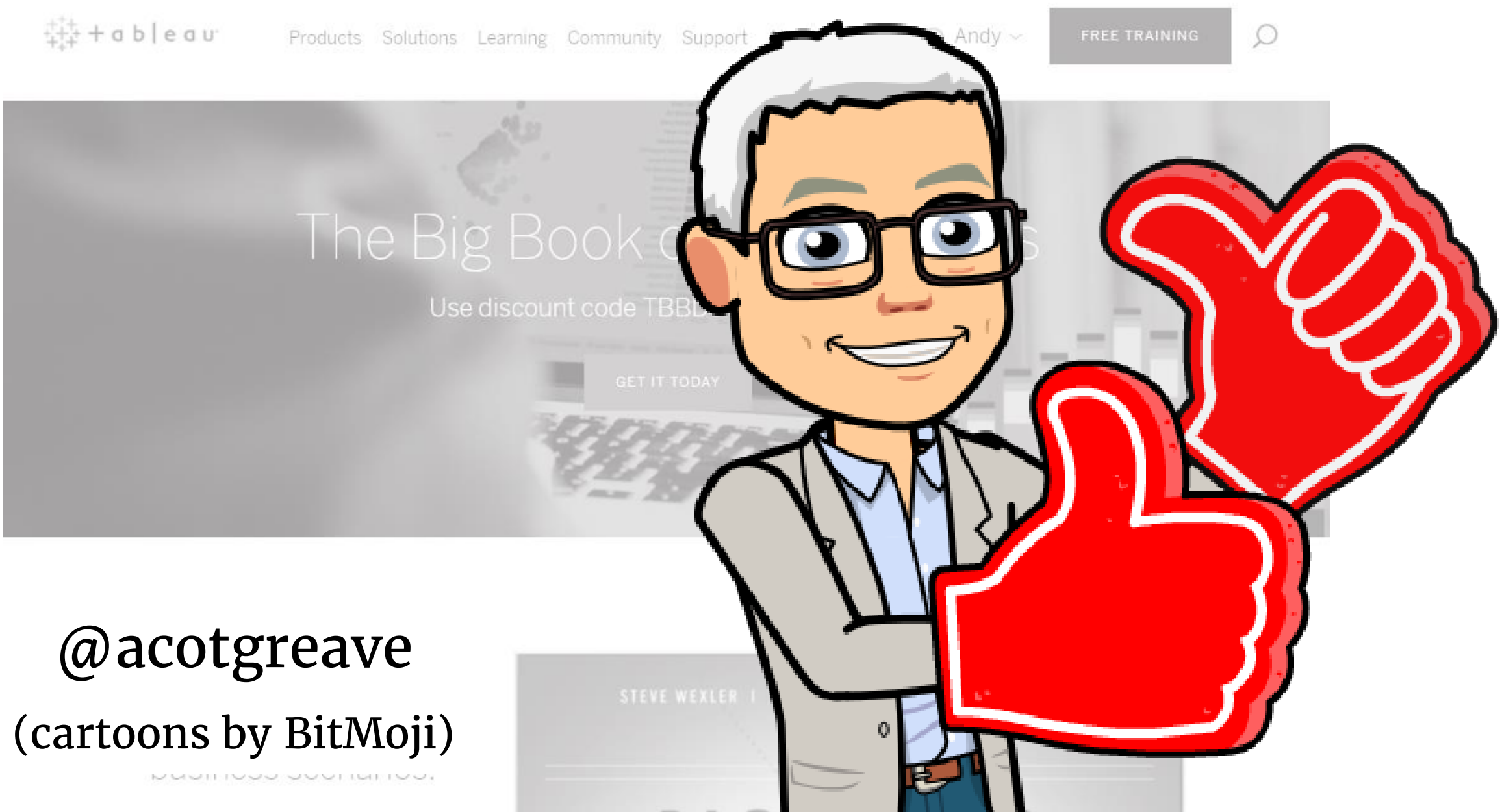
3. Right medium

4. Shortest time possible

https://www.tableau.com/big-book-dashboards **TBBD3** for 30% discount

Visualize your data using real-world business scenarios.

https://www.tableau.com/big-book-dashboards **TBBD3** for 30% discount



@acotgreave

(cartoons by BitMoji)