July 15, 2020

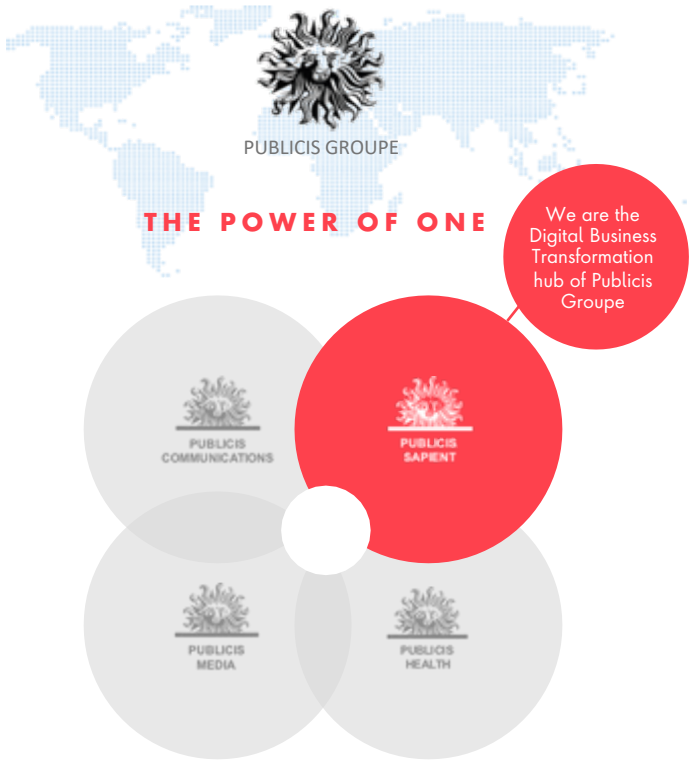
UX for AI



Agenda

1. Intros
2. PS Overview
3. UX for AI

Publicis Sapient at a glance



OUR SCALE

20,000
Passionate People

50+
Offices
Globally Connected

30
Years of Digital Pioneering and Customer Innovation

OUR CLIENTS

Lloyds Banking Group, U.S. Bank, T-Mobile, Samsung, Chrysler, Royal Bank of Scotland, Marriott, AXA, Nationwide Building Society, Unilever, McDonald's, Travelers, Microsoft, Citi

OUR ENGINEERING CAPABILITIES

Experience Engineers

Full Stack & Cloud Native Engineering

Marketing Platform Engineering

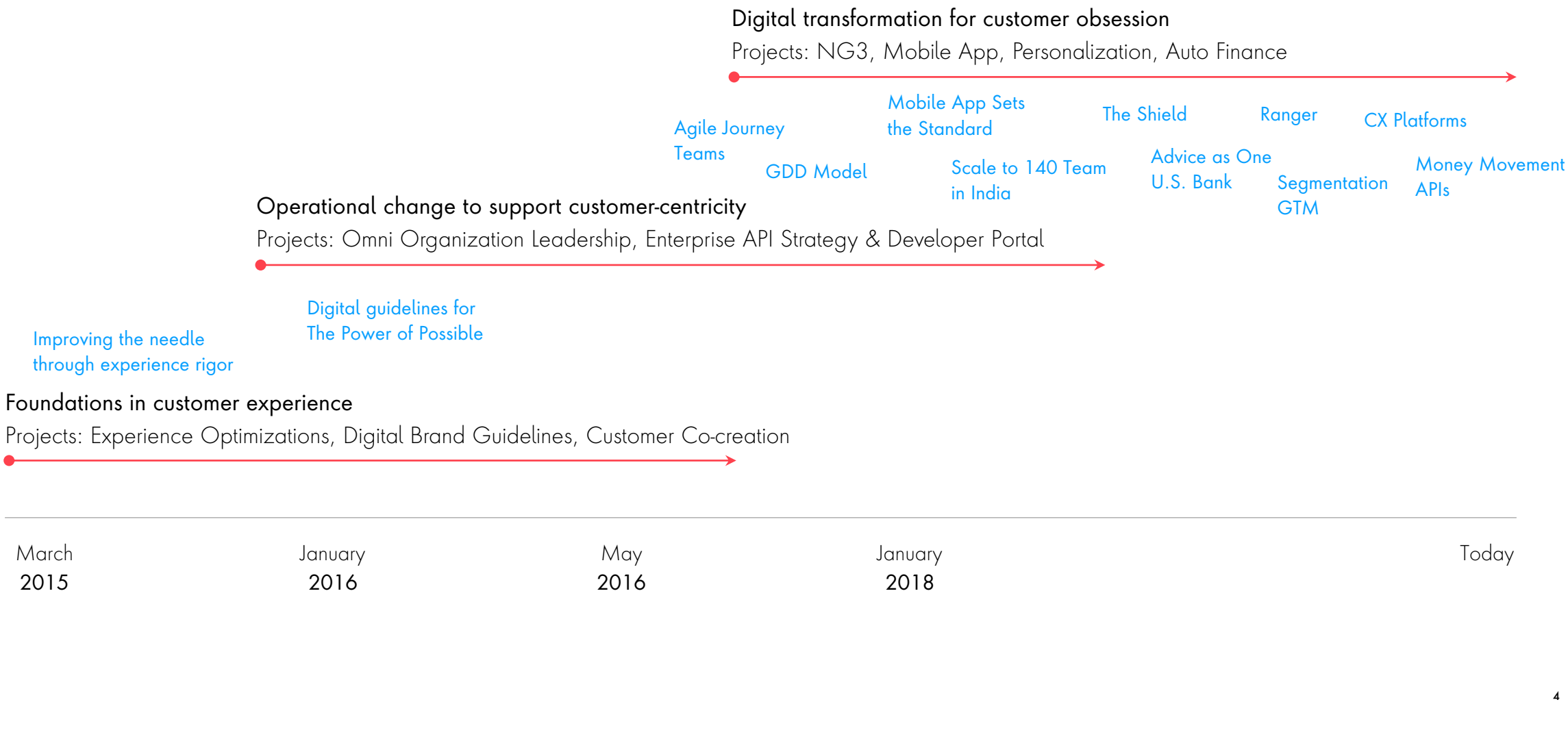
Data, AI Based Decision Platforms, and Predictive Analytics

Emerging Technologies, including Voice and Blockchain

DEEP INDUSTRY EXPERTISE

Consumer Products, Energy & Commodities, Financial Services, Health, Public Sector, Retail, Telco/Media/Technology, Transportation & Mobility, Travel & Hospitality

Our partnership with U.S. Bank



Our AI & Data Capabilities

AI Perspective



Identify approaches to create competitive advantage through data and algorithms and lay the roadmap for how



AI STRATEGIST

Competitive advantage is created at the confluence of artificial intelligence, data, engineering, strategy and deep business expertise



AI SCIENTISTS

Develop models and algorithms to build and deploy optimal intelligence solutions



BUSINESS ANALYSTS



AI ENGINEERS

Build and deploy enterprise-scale platforms and intelligent products



BUSINESS EXPERTS



FULL STACK ENGINEERS

Measure, instrument and iteratively explore data, develop visualization and reporting for data-driven decision-making



DATA ANALYTICS

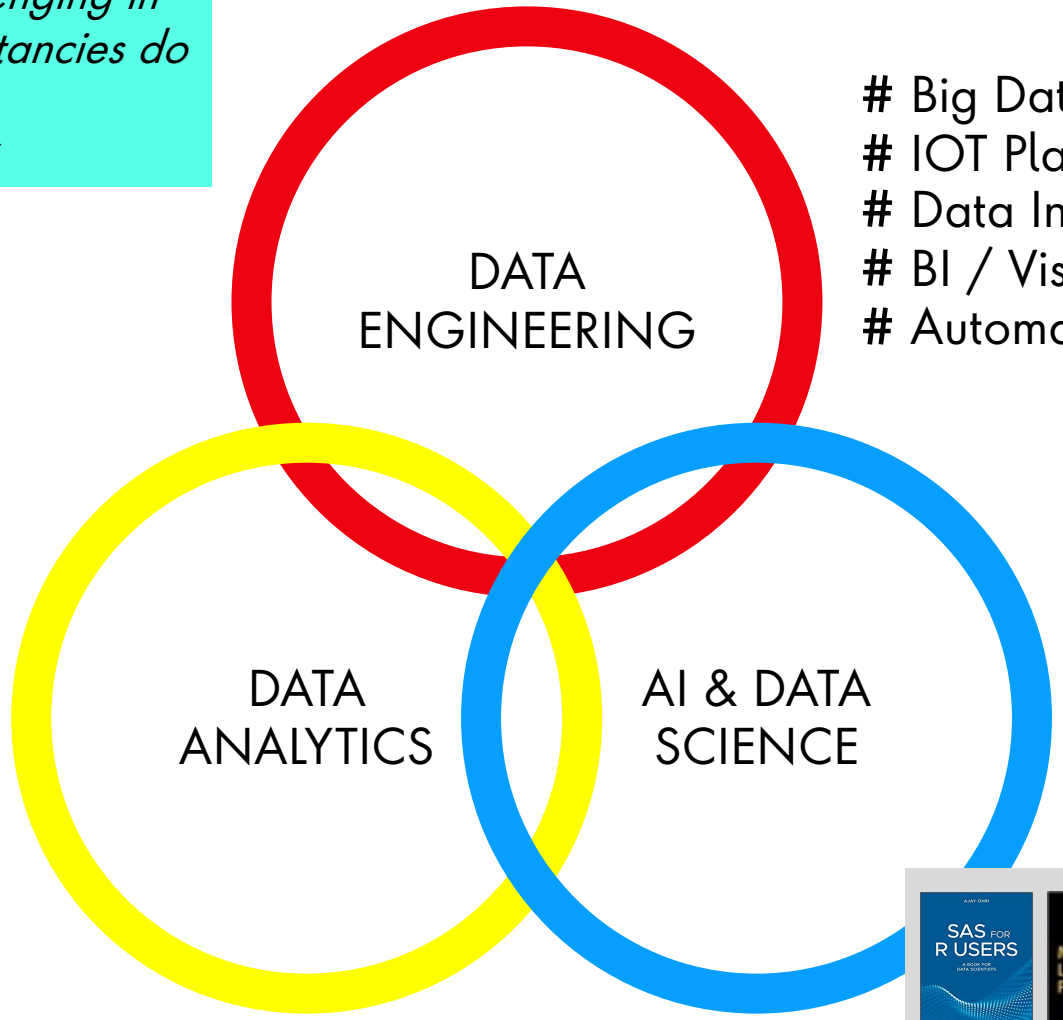


DATA ENGINEERS

Solve challenges of large-scale ingestion, storage, processing, querying, enabling analytics and leveraging big data technologies

Our Capabilities for AI+Data

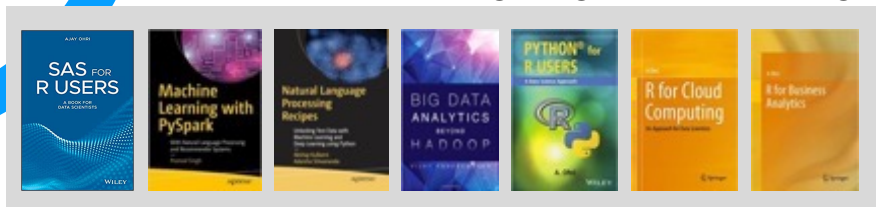
"60% of AI decision-makers say data access and quality is very challenging in these efforts, but most AI consultancies do not integrate data services."
- Forrester



Big Data Platforms
IOT Platforms
Data Integration
BI / Visualization
Automation

Data Analysis
Experiment Design
Analytics Platforms
Data Instrumentation
Omni-channel Analytics
Experience Optimization

Data Science
Machine Learning
Artificial Intelligence
Cognitive Experiences
Algorithmic Simulation
Mathematical Optimization
Robotic Process Automation
Natural Language Processing



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sapient

Best UX practices in Artificial Intelligence

June 2021

Context: purpose and audience 3

Best practices for teams working on AI 4

Quote: UX is not an ingredient, it's the recipe 5
UX needs a seat at the table during the planning phase 6
Bridge the gap between expectation and reality 7
Quote: If picture is worth a thousand words, a prototype is worth at least a million 8
Translate machine into human language 9
Predictive Intent for Financial Advisors - What it is & How it works 10
Predictive Intent for Financial Advisors - Predicted Client Attrition 11
Language Analysis - What it is & How it works 12
Language Analysis - word translation 13
Language Analysis - the UI 14
With data visualization, the stakes are high 15
Data visualization cheat sheet - when to use what 16
Quote: In Data Science, we are all journalists, looking for the stories in the data. 17
Quote: and stories we find...Interesting quote from Sapient's AI team previous client project 18

Best practices for AI UX design 19

Surface how confident model is, in its output 20
Enable users to provide feedback 21
Predictive Intent for Financial Advisors - Accept / Reject Prediction zoomed in 22
Fixed Income chatbot - Thumbs up / down 23
Fixed Income chatbot - Sample user feedback 24
Sentiment analyzer - What it is & How it works 25
Sentiment analyzer - Sentiment & Topic Override 26
Data visualization best practices 27
#1 - Show context: South Korea shelters 28
#1 - Show context: Murder rate per capita in US cities 29
#4 - Explainable AI: how the algorithm came to its conclusion 30
#1, 2, 5 - Trust, Clarity and Annotations 31
#1, 2, 5 - Trust, Clarity: ensure visualization makes it easier for user to understand 32
#6, 7 - Create a narrative flow and put AI in perspective 33
#8 - Show the same data from different perspectives 34
#9 - Always start "Y" axis on a zero 35
#10 - Replace double "Y" axis with a percentage scale 36
#13, 14 - Call attention to social issues and evoke a feeling 37
Quote: Seize the space 38
Target the under-banked populations: Women 39
Now. Bravely. Fiercely. Inclusively. Creatively. Next. THANK YOU! 40

Context

U.S. Bank Innovation Team is interested in UX best practices for artificial intelligence based projects.

The use cases the bank have been focusing on and are interested in:

- Fraud detection. Help bolster fraud detection efforts. Operationally focused.
- Predictive models to help customers make better choices, such as helping a consumer avoid a late fee or take better steps to increase savings.

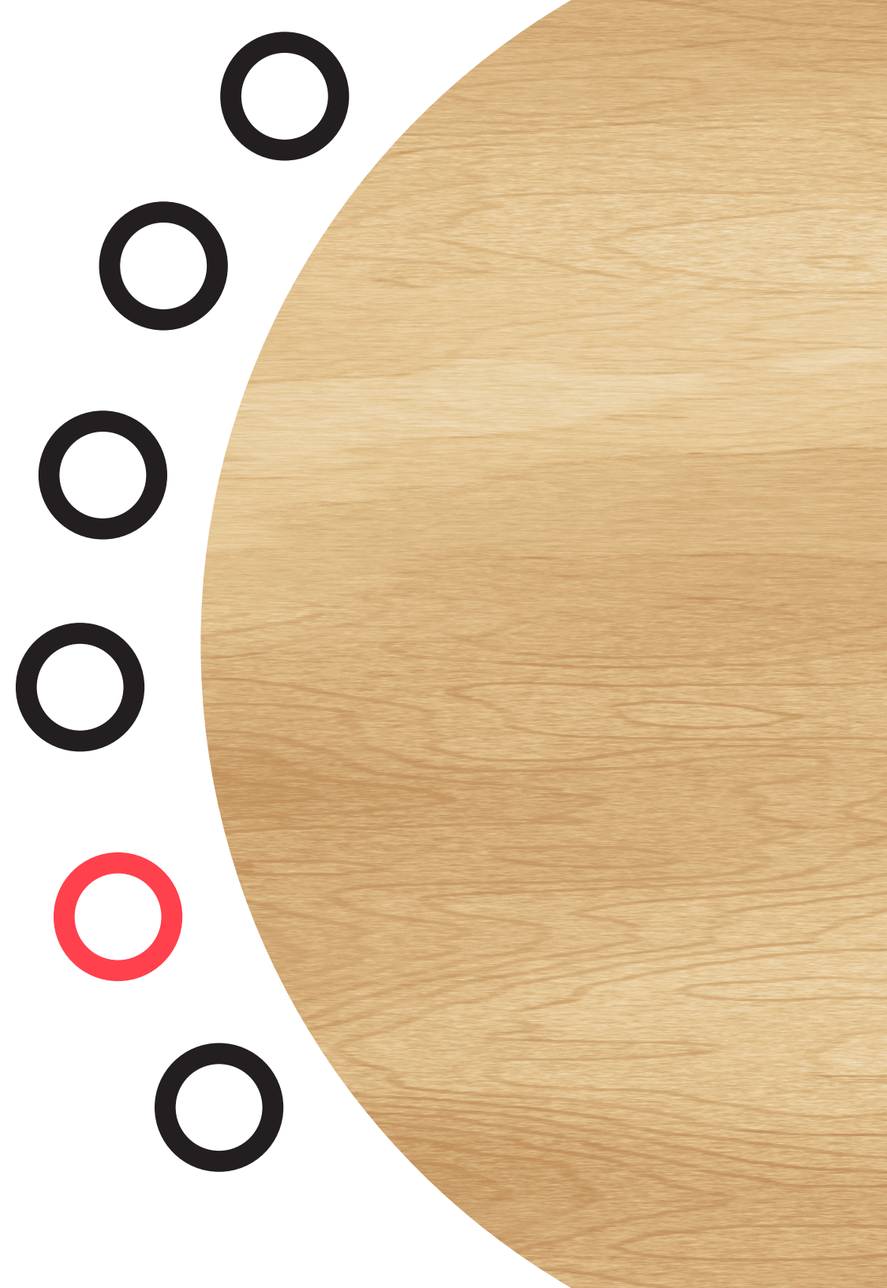


Best practices for teams working on AI projects



UX is not an ingredient. It's the recipe.

Unknown



UX needs a seat at the table during the planning phase

- There are sometimes expectations that intuitive user experience is inherent to artificial intelligence, because of how powerful AI is.
- Other times, stakeholders may believe that hiring Data Scientists, takes care of UX.
- Sometimes, there simply may not be enough awareness of what UX is.
- Or, there may not be budget.
- Stakeholders may believe that they can “apply UX later”.

Empirical evidence:

- Pharma bot that was discontinued, just because error handling was not designed well.
- Home insurance digital assistant that helps users fill out very complex forms (“How slanted is your roof?”), and chokes frequently in user testing. Because the use case is too complex for a Bot.

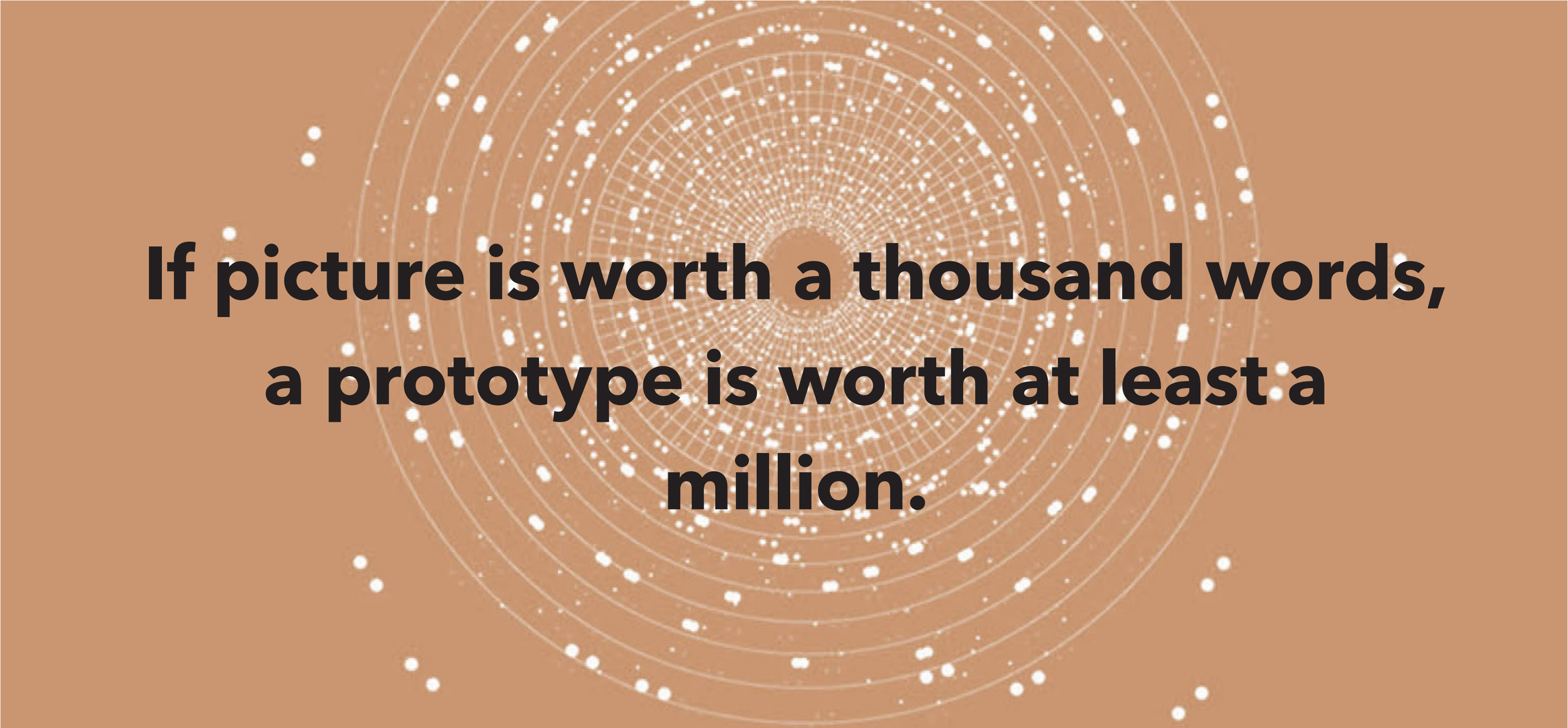
Bridge the gap between expectation and reality

- One of the biggest problem with enterprise AI, is a scenario where stakeholders want a Ferrari version of a product, when all they have resources (time, money, manpower and compute power) for, is to build a scooter.
- Another consideration is how machine learning works. It takes time, and data, to learn and improve.
- UX can help bridge this gap, by building artifacts, ideally prototypes, to demonstrate iterative development, and where product will be, at each stage, between MVP, and the final version, with rich functionality.

As a UX leader, prepare your staff

For rapid prototyping. UX should, whenever possible, build prototypes, to show the Ferrari version of the product. This strategy works optically, because:

- It brings something tangible to the table. Bonus points if stakeholders can play with the prototype!
- Stakeholders feel heard and seen. They see their ideas, requirements and suggestions - captured! Which contributes to help them feel more at ease about accepting the scooter, while their Ferrari is being built.


If picture is worth a thousand words,
a prototype is worth at least a
million.

Translate machine into human language

- Algorithms and APIs produce powerful results. However, unless there's a designer inserted between the code, and the user, the user may not necessarily be able to understand or process the output.
- In order to translate machine into human language, the UX is going to have to rely on, and trust, their instincts. Early on in the process, ask the following type of questions:
  - what is the user looking at?
  - why is the user looking at it?
  - why should the user believe it?
  - why should the user act on it?

As a UX leader, prepare your staff

Encourage your designers, to feel empowered to ask these types of questions and not feel intimidated.

As designers, we must remember that we represent the user, while these products are being built, and we must advocate for the user. In order to be able to build the most intuitive UX.

Translate machine into human language: predictive intent for financial advisors

Behavioral & Predictive Analysis, for Financial Advisors - with IBM Watson

Project goals: manage risk and spot opportunities to grow business.

Project was: AI predicts or calculates the following:

- Predicts client attrition
- Predicts upcoming life events
- Identifies client segments
- Surfaces top action clients by aggregating attrition with other life events. Client can have multiple life events associated with them

How it works

Behavior analysis and predictive analytics:

LIFE EVENTS

Based on eCommerce activity, social media sites, online games and “any other web applications”

Informs FAs of past behavioral trends also

Events are divided into “detected” and “predicted”

Helps FAs avoid performance pitfalls that derail best-laid investment plans

Improve client relationships, remember important dates

Excerpt from the white paper

Advantages for Advisors

Digital advice has received the lion’s share of attention thus far, as the incorporation and advancement of algorithmic technology has allowed for the growth of online portfolio management services with minimal human interaction.[5]

Yet artificial intelligence and behavioral analytics also can handle high-volume, menial and repetitive tasks. This, in turn, lowers costs and frees advisors to engage in more client-facing, revenue-generating activities that positively affect the bottom line.

Most impressive (and exciting) is the speed of innovation in artificial intelligence as it relates to advisory and brokerage services.

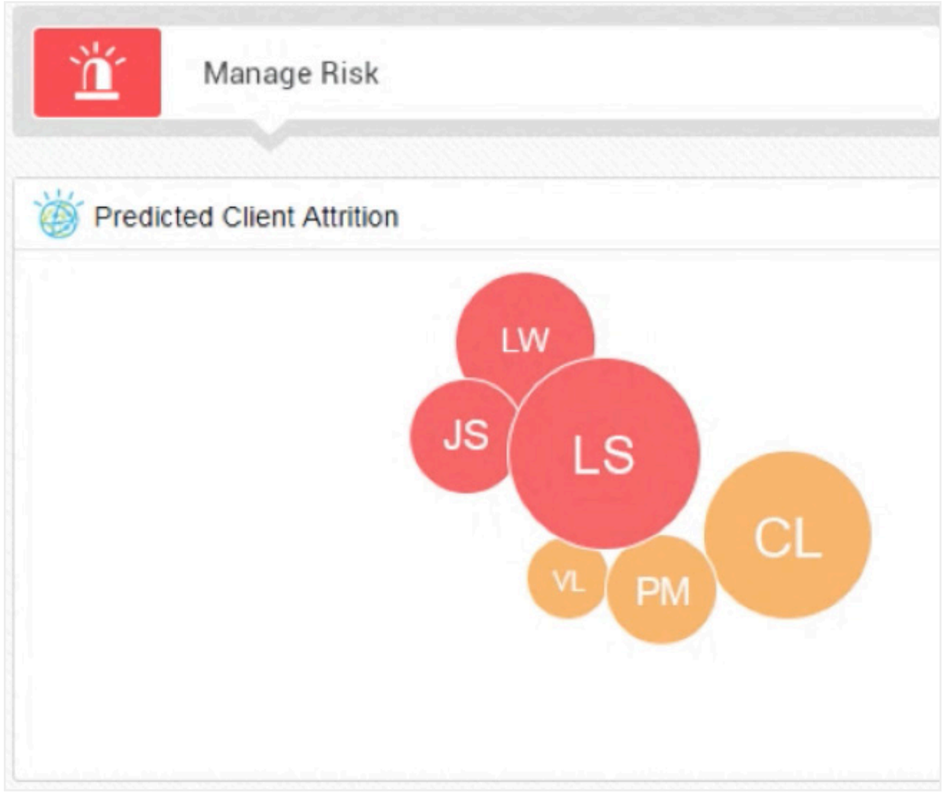
Four reasons to include artificial intelligence

So, what are the fours ways artificial intelligence can help advisors and clients?

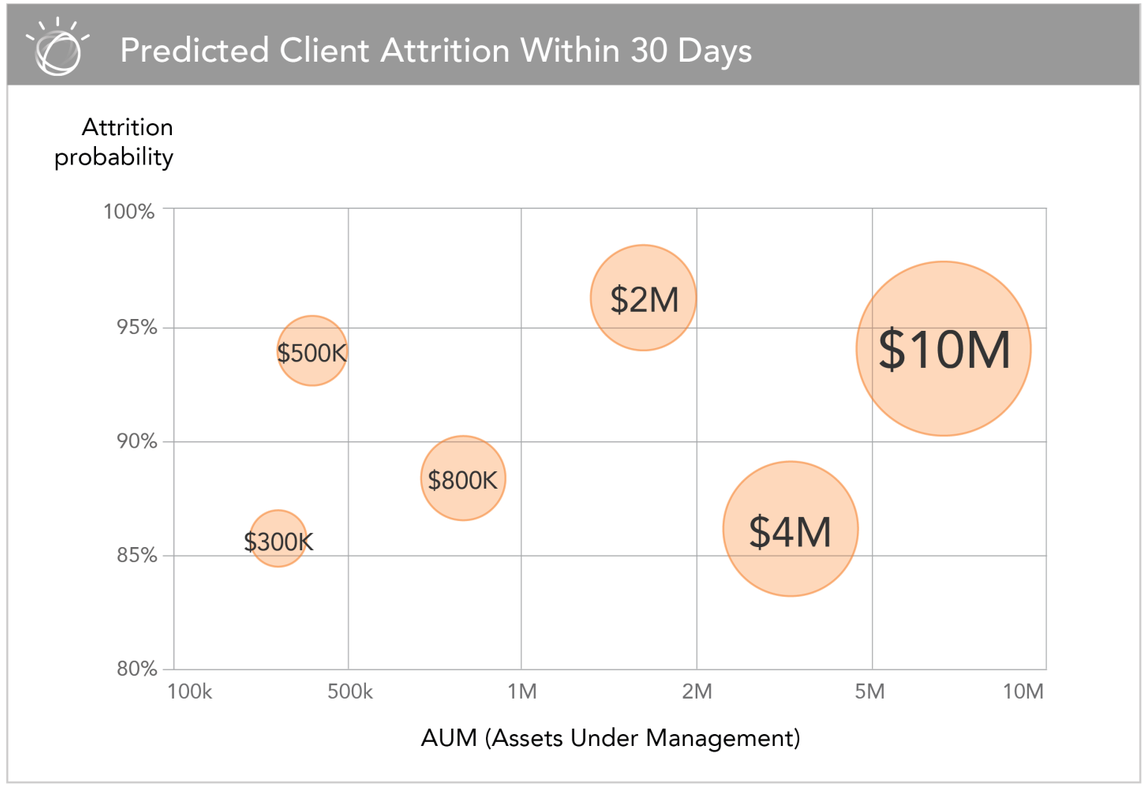
1 **Life event predictions**—In the portfolio or the practice, artificial intelligence and the use of predictive analytics help advisors avoid performance pitfalls that too often derail best-laid investment plans. Quickly organizing and analyzing enormous amounts of data, often in real time, helps identify areas of investment opportunity as well as assets at risk[6]

Translate machine into human language: predictive intent for financial advisors

What the model produced, out of the box



UX put data into context, around advisor's needs



Translate machine into human language: language analysis of financial transcripts

What the model is & How it Works

Analysis of psychological features of companies, in earnings calls.

Project goals: detect trouble, and other aspects a company may be trying to conceal.

How the model works: by quantifying language usage in earnings call transcripts.

Earnings calls consist of:

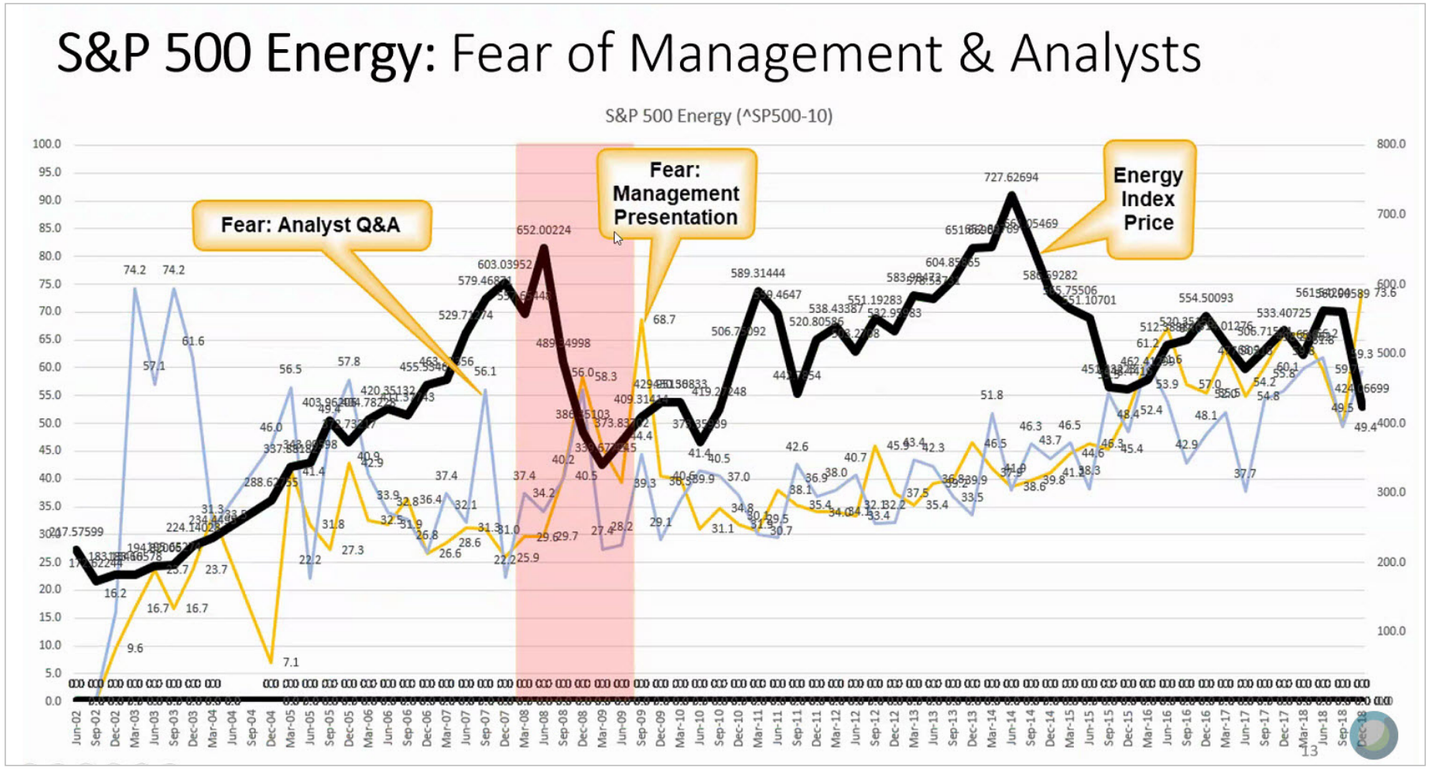
- Corporate Presentation, where (usually) CFO talks uninterrupted.
- Followed by Q&A session, where analysts and journalists ask questions. Q&A is the more revealing section of a call.

Use case: the visual is in Excel, which predated the UI.

Pink area highlights the Recession. Where Fear peaks, in Q&A, it is right before the Stock Price crashed (thick black line). The fear predicted financial crisis.

On an individual base, in can help predict bankruptcy, merger, aquisition, etc.

Users: Analysts



Translate machine into human language: language analysis of financial transcripts

Words used to describe speaker's emotion and perspective

Supplied

As Data Scientist, a Linguist with a PhD, supplied it

UX translation

into commonly understandable words

UX grouping

Grouping the words into categories, with similar characteristics, for easier processing and improved usability

LENS		PERSPECTIVE
Hyperbolic score / Bravado	Bragging	Bragging
First person POV (point of view)	Taking ownership	Taking ownership
Second person	Distancing oneself	Distancing oneself
Third Person	Disowning	Disowning
Uncertain modals	Uncertainty	Uncertainty
Certain modals	Certainty	Certainty
Modal score	NA. I requested to be removed. No meaning.	**EMOTION**
Joy		Joy
Trust		Trust
Surprise		Surprise
Anticipation		Anticipation
Sadness		Sadness
Disgust		Disgust
Fear		Fear
Other positive	General positive	General positive
Other negative	General negative	General negative

Translate machine into human language: language analysis of financial transcripts

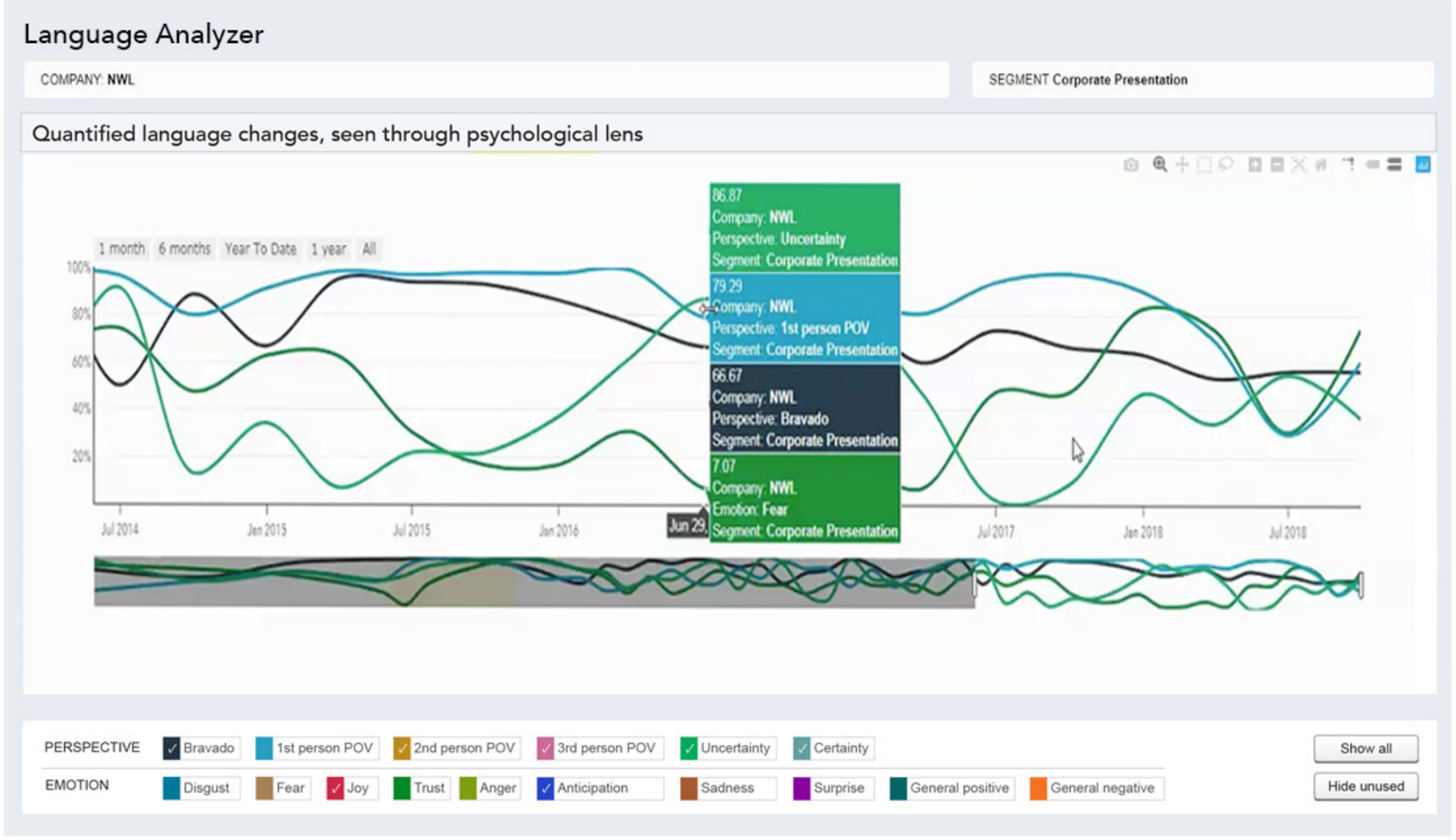
Model UI

Language use is not meant to be the only source of truth, that informs investment strategy.

But it is another angle, that was not available before.

Retail use of the concept can be applying language analysis to the call center calls.

- USBank has all calls recorded
- Recordings can be auto-transcribed
- Transcripts fed into language analysis type of model
- The model detects insights, trends, forecasts, etc.



With data visualization, the stakes are high

Keep this in mind: data science is a field loaded with - Data Scientists. Majority of Data Scientists have extensive and deep training in best practices in data visualization: when to use what, why, how. When NOT to use certain visualizations.

Folks working in Data Science, are not your average stakeholders and colleagues. They are usually highly sophisticated in the field of data visualization.

Data vis decisions, made by UX, are going to be questioned.

Expect the questions. Anticipate them.

As a UX leader, prepare your staff

To explain their choices in a clear and concise manner, outlining their logic, and backing it up with data.

It's also good to have a "When to use What" cheat sheet handy, to reference in front of your stakeholders, such as the Financial Times' one, on the next page.

Data visualization cheat sheet - when to use what

Ranking

Use where an item's position in an ordered list is more important than its absolute or relative value. Don't be afraid to highlight the points of interest.

Example FT uses
Wealth, deprivation, league tables, constituency election results

Ordered bar



Standard bar charts display the ranks of values much more easily when sorted into order.

Ordered column



See above.

Ordered proportional symbol



Use when there are big variations between values and/or seeing fine differences between data is not so important.

Dot strip plot



Dots placed in order on a strip are a space-efficient method of laying out ranks across multiple categories.

Distribution

Show values in a dataset and how often they occur. The shape (or 'skew') of a distribution can be a memorable way of highlighting the lack of uniformity or equality in the data.

Example FT uses
Income distribution, population (age/sex) distribution, revealing inequality

Histogram



The standard way to show a statistical distribution - keep the gaps between columns small to highlight the 'shape' of the data.

Dot plot



A simple way of showing the change or range (min/max) of data across multiple categories.

Dot strip plot



Good for showing individual values in a distribution, can be a problem when too many dots have the same value.

Barcode plot



Like dot strip plots, good for displaying all the data in a table, they work best when highlighting individual values.

Change over Time

Give emphasis to changing trends. These can be short (intra-day) movements or extended series traversing decades or centuries: Choosing the correct time period is important to provide suitable context for the reader.

Example FT uses
Share price movements, economic time series, sectoral changes in a market

Line



The standard way to show a changing time series. If data are irregular, consider markers to represent data points.

Column



Columns work well for showing change over time - but usually best with only one series of data at a time.

Column + line timeline



A good way of showing the relationship over time between an amount (columns) and a rate (line).

Slope



Good for showing changing data as long as the data can be simplified into 2 or 3 points without missing a key part of story.

Magnitude

Show size comparisons. These can be relative (just being able to see larger/bigger) or absolute (need to see fine differences). Usually these show a 'counted' number (for example, barrels, dollars or people) rather than a calculated rate or per cent.

Example FT uses
Commodity production, market capitalisation, volumes in general

Column



The standard way to compare the size of things. Must always start at 0 on the axis.

Bar



See above. Good when the data are not time series and labels have long category names.

Paired column



As per standard column but allows for multiple series. Can become tricky to read with more than 2 series.

Paired bar



See above.

Part-to-whole

Show how a single entity can be broken down into its component elements. If the reader's interest is solely in the size of the components, consider a magnitude-type chart instead.

Example FT uses
Fiscal budgets, company structures, national election results

Stacked column/bar



A simple way of showing part-to-whole relationships but can be difficult to read with more than a few components.

Marimekko



A good way of showing the size and proportion of data at the same time – as long as the data are not too complicated.

Pie



A common way of showing part-to-whole data – but be aware that it's difficult to accurately compare the size of the segments.

Donut



Similar to a pie chart – but the centre can be a good way of making space to include more information about the data (eg total).

Spatial

Aside from locator maps only used when precise locations or geographical patterns in data are more important to the reader than anything else.

Example FT uses
Population density, natural resource locations, natural disaster risk/impact, catchment areas, variation in election results

Basic choropleth (rate/ratio)



The standard approach for putting data on a map – should always be rates rather than totals and use a sensible base geography.

Proportional symbol (count/magnitude)



Use for totals rather than rates – be wary that small differences in data will be hard to see.

Flow map



For showing unambiguous movement across a map.

Contour map



For showing areas of equal value on a map. Can use deviation colour schemes for showing +/- values

Flow

Show the reader volumes or intensity of movement between two or more states or conditions. These might be logical sequences or geographical locations.

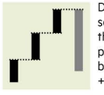
Example FT uses
Movement of funds, trade, migrants, lawsuits, information; relationship graphs.

Sankey



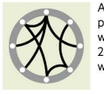
Shows changes in flows from one condition to at least one other; good for tracing the eventual outcome of a complex process.

Waterfall



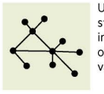
Designed to show the sequencing of data through a flow process, typically budgets. Can include +/- components.

Chord



A complex but powerful diagram which can illustrate 2-way flows (and net winner) in a matrix.

Network



Used for showing the strength and inter-connectedness of relationships of varying types.

ft.com/vocabulary

https://github.com/ft-interactive/chart-doctor/tree/master/visual-vocabulary

In Data Science, we are all journalists, looking for the stories in data.

Unknown

And stories we find...

In 2019, while Sapient AI team was exploring earnings call transcripts corpus of data, for a client, we encountered an interesting fact:

Companies who over the years, reduced their budget for R&D, all eventually went bankrupt.

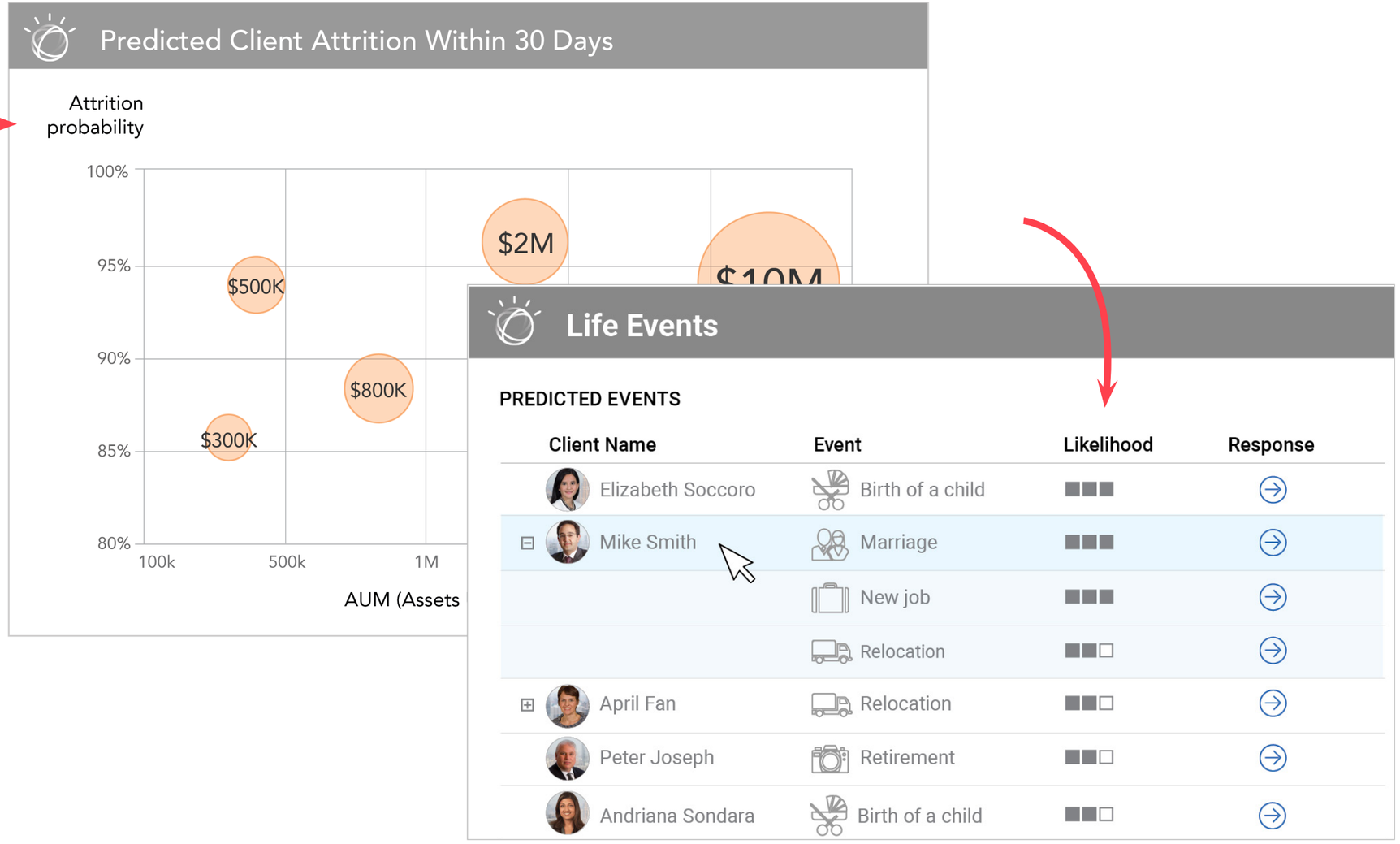
Best practices for designing AI UX design

Surface how confident model is in its output

This data is usually called:

- Confidence Score
- Likelihood
- Event probability

Providing this data helps establish credibility and trust.



Enable users to provide feedback

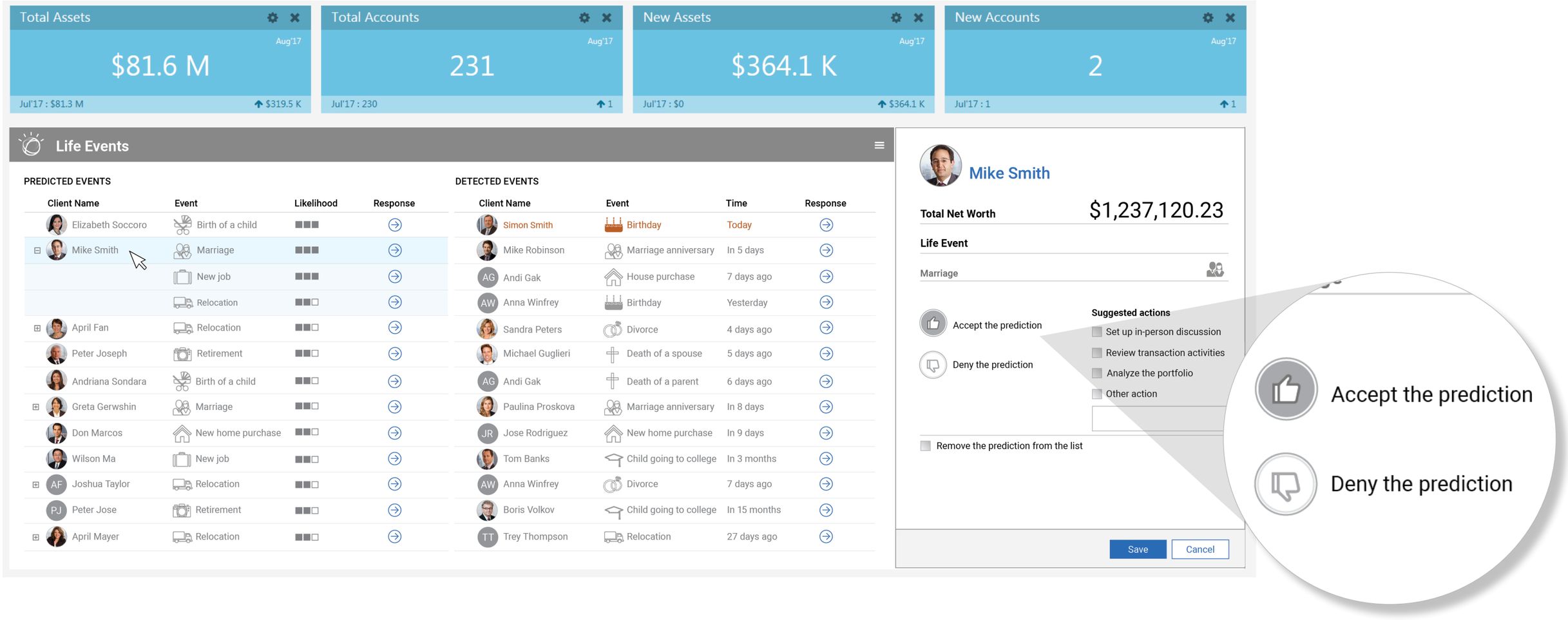
Enabling users to provide feedback, creates the connection with the user and keeps them engaged. Give the user the ability to hide suggestions they are not interested in, while being able to further explore the ones of interest.

Give the user the ability to choose what they see:

- “I don’t want to see any more suggestions about savings.”
- “I’d like to see more about investment options.”
- “How do I pay off my mortgage faster?”



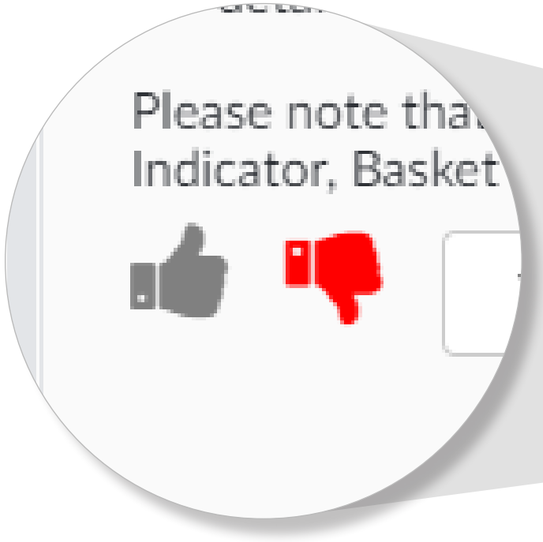
Enable users to provide feedback: predicted client life events for financial advisors

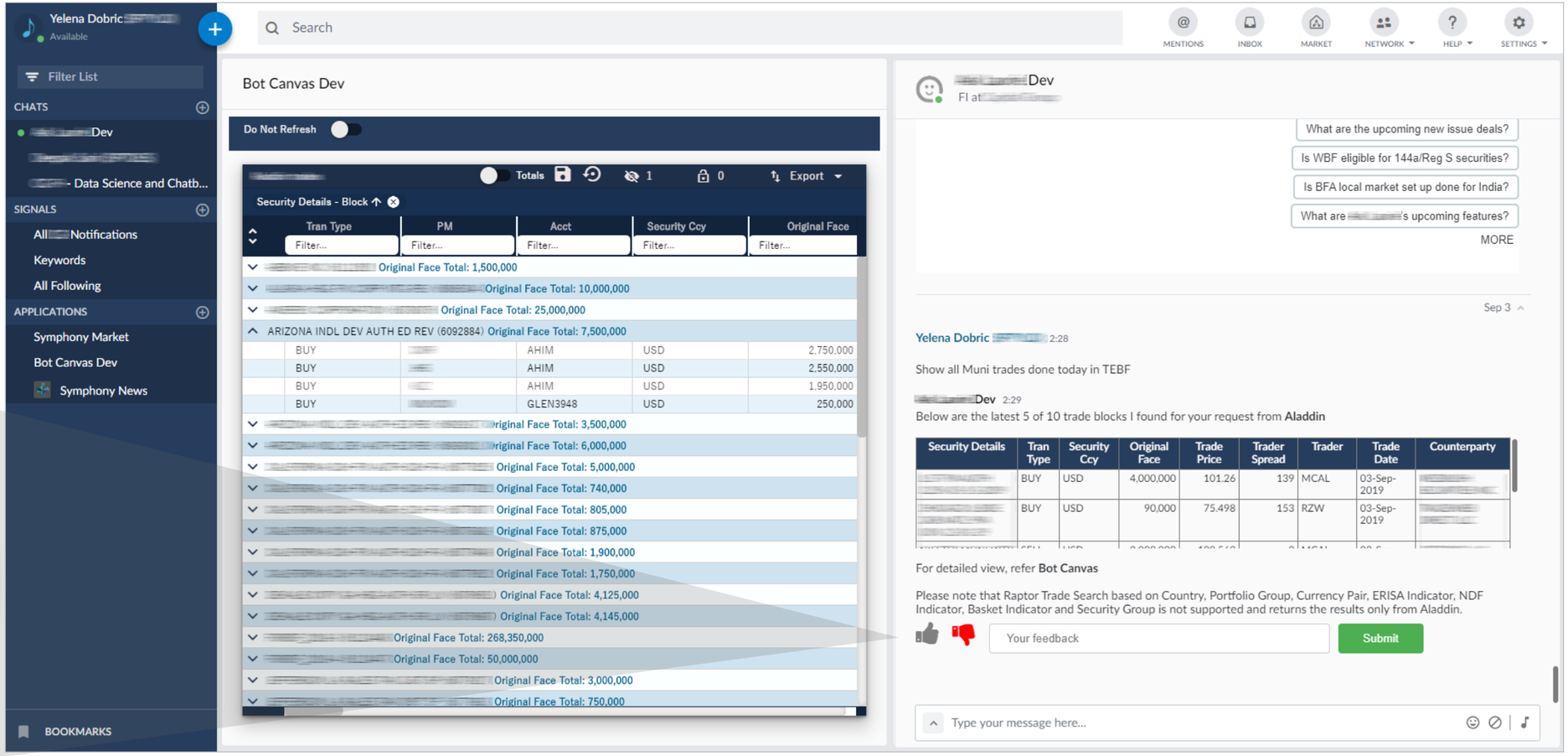


Enable users to provide feedback: fixed income multi-purpose chatbot

Chatbot

- Enables Portfolio Managers to search 800 entities, from a single interface (systems, apps, platforms, models)
- Scans FINRA websites, for Counterparty Credit Research team
- Provides traders with recent trades, and legal and regulatory updates



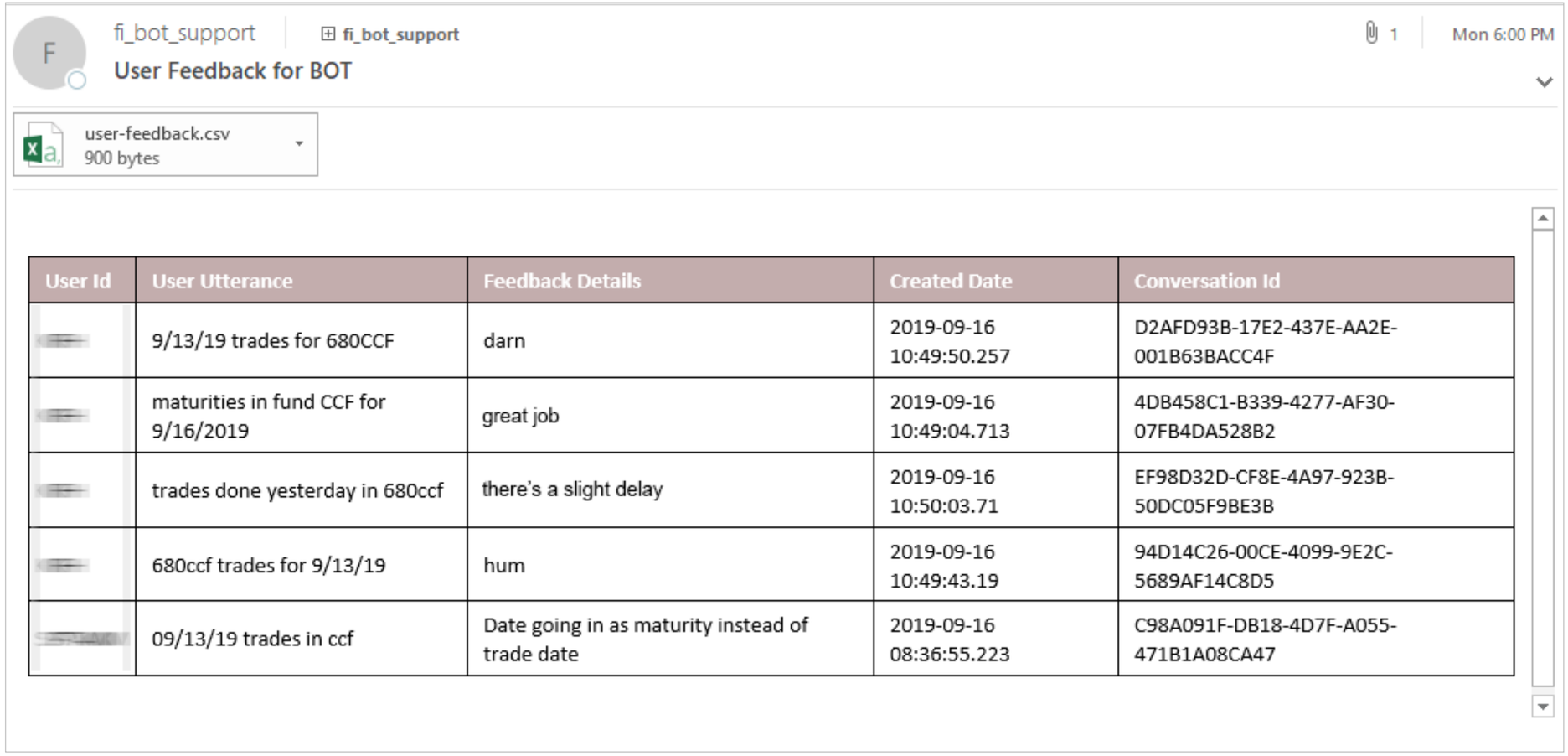


Enable users to provide feedback: chatbot sample feedback extract

User feedback on the chatbot

The Bot team receives a feedback report EOD each day.

Bot learns continously, from the feedback.



User Id	User Utterance	Feedback Details	Created Date	Conversation Id
[redacted]	9/13/19 trades for 680CCF	darn	2019-09-16 10:49:50.257	D2AFD93B-17E2-437E-AA2E-001B63BACC4F
[redacted]	maturities in fund CCF for 9/16/2019	great job	2019-09-16 10:49:04.713	4DB458C1-B339-4277-AF30-07FB4DA528B2
[redacted]	trades done yesterday in 680ccf	there's a slight delay	2019-09-16 10:50:03.71	EF98D32D-CF8E-4A97-923B-50DC05F9BE3B
[redacted]	680ccf trades for 9/13/19	hum	2019-09-16 10:49:43.19	94D14C26-00CE-4099-9E2C-5689AF14C8D5
[redacted]	09/13/19 trades in ccf	Date going in as maturity instead of trade date	2019-09-16 08:36:55.223	C98A091F-DB18-4D7F-A055-471B1A08CA47

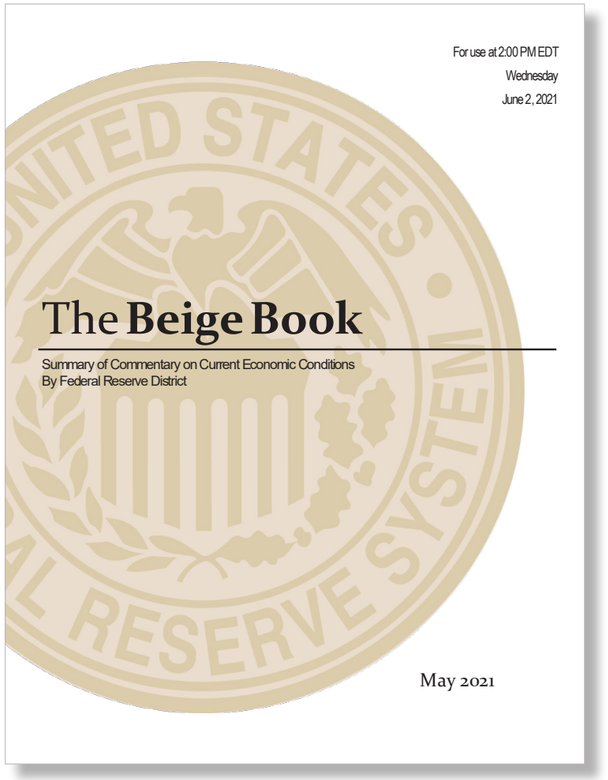
What is Beige Book?

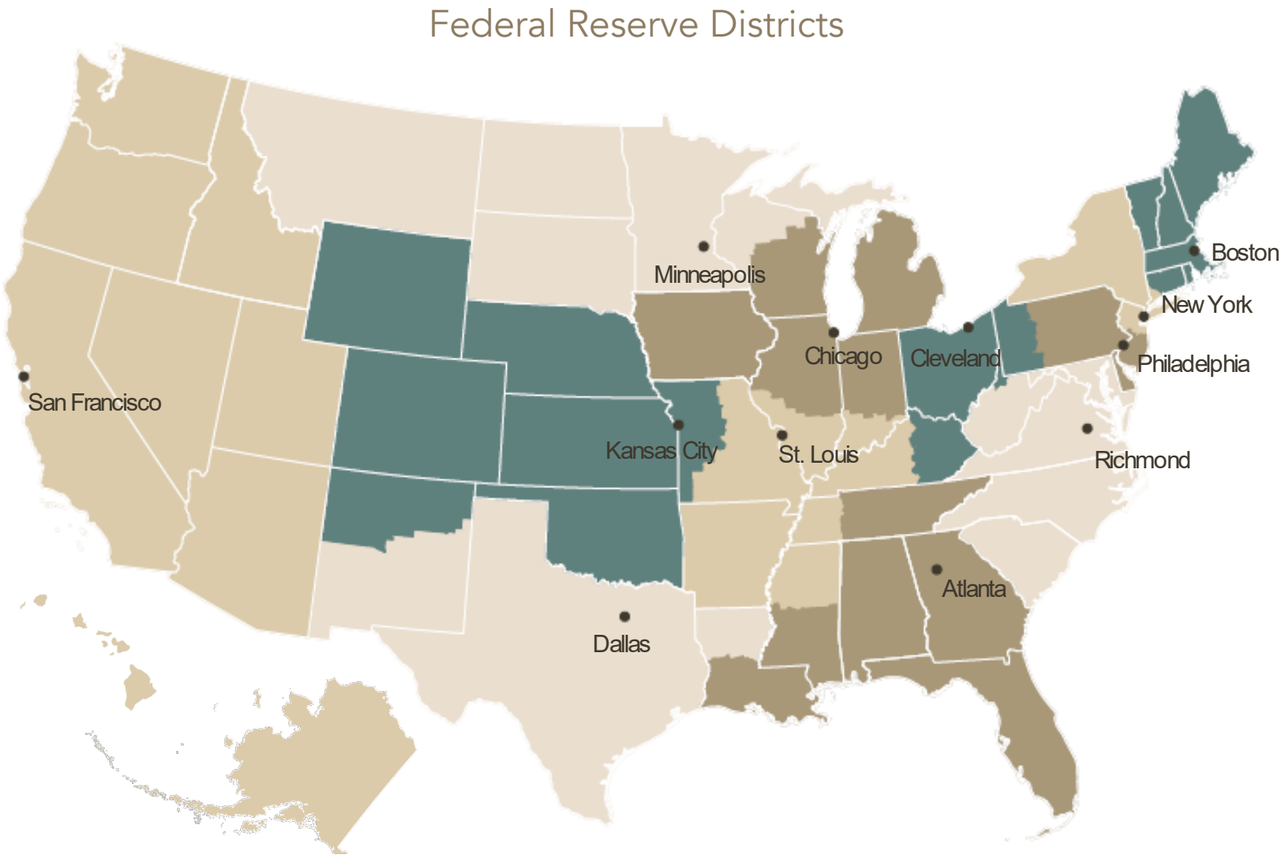
Beige Book sentiment & Topic Analysis goal:

Analysis on an economy level, to inform institutional users about changes in the market and to help spot signals.

10 Topics

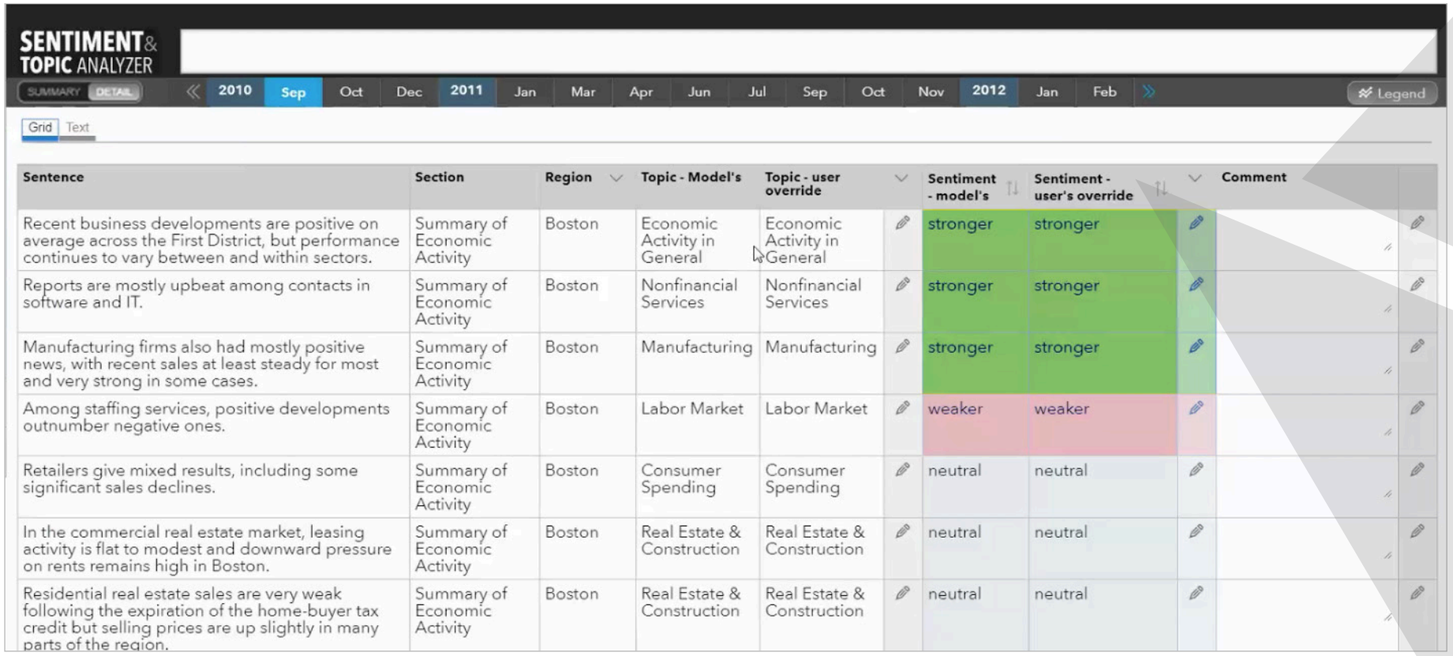
1. Economic Activity in General
2. Manufacturing
3. Nonfinancial Services
4. Consumer Spending
5. Real Estate & Construction
6. Investment
7. Banking & Finance
8. Inflation
9. Labor Market
10. Wages & Income





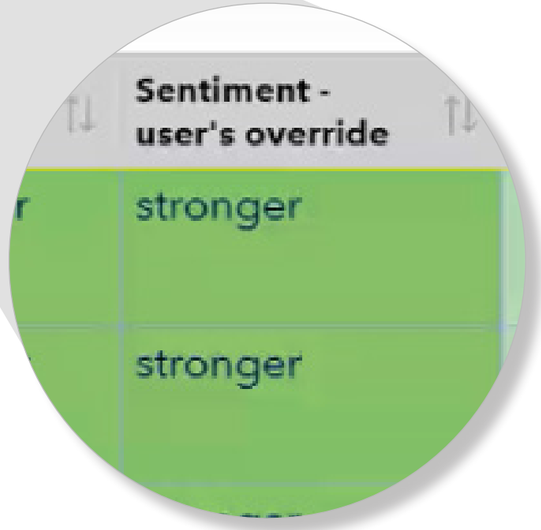
https://www.federalreserve.gov/monetarypolicy/beigebook202106.htm

Enable users to provide feedback: sentiment analysis



Sentence	Section	Region	Topic - Model's	Topic - user override	Sentiment - model's	Sentiment - user's override	Comment
Recent business developments are positive on average across the First District, but performance continues to vary between and within sectors.	Summary of Economic Activity	Boston	Economic Activity in General	Economic Activity in General	stronger	stronger	
Reports are mostly upbeat among contacts in software and IT.	Summary of Economic Activity	Boston	Nonfinancial Services	Nonfinancial Services	stronger	stronger	
Manufacturing firms also had mostly positive news, with recent sales at least steady for most and very strong in some cases.	Summary of Economic Activity	Boston	Manufacturing	Manufacturing	stronger	stronger	
Among staffing services, positive developments outnumber negative ones.	Summary of Economic Activity	Boston	Labor Market	Labor Market	weaker	weaker	
Retailers give mixed results, including some significant sales declines.	Summary of Economic Activity	Boston	Consumer Spending	Consumer Spending	neutral	neutral	
In the commercial real estate market, leasing activity is flat to modest and downward pressure on rents remains high in Boston.	Summary of Economic Activity	Boston	Real Estate & Construction	Real Estate & Construction	neutral	neutral	
Residential real estate sales are very weak following the expiration of the home-buyer tax credit but selling prices are up slightly in many parts of the region.	Summary of Economic Activity	Boston	Real Estate & Construction	Real Estate & Construction	neutral	neutral	





User Feedback available to all users

Free text comments are available to All Users, and they help the team understand how the model is performing, and make improvements.

User Feedback available to only the Power User

User overrides are only visible to the one single Power User. His overrides provide deep learning for the model, and help train the model.

Grid View provides a granular level of what is causing the Sentiment to go UP or DOWN. Each sentence has a Sentiment assigned to it. And Individual Score for a particular sector is an aggregate of all sentences in that section. Thus, providing accountability and explainability. Example of events that can affect the Sentiment to go UP or DOWN, are natural disasters, such as floods, fires or droughts.

Data visualization best practices

AI SPECIFIC

1. **TRUST** Be conservative with your data vis. People already distrust AI. Data vis in AI, has a very responsible role. It's there to help instill trust and explain content. The exception are cases where the intention for UX is to be playful and delightful.
2. **CLARITY** Pick simplest possible data vis. Virtually every chart, can be translated into bar, pie or line chart. Not that that's all 3 types of data vis to use, but be mindful to make it easier for users to understand data. Note: data vis is like a joke. If you have to explain it...Consider using a bar chart instead.
3. **CONTEXT** Create added meaning for your users.
4. **EXPLAINABLE AI** Show how the algorithm came to its conclusion. What factors contributed? What data was used and how was it calculated?

NOT AI SPECIFIC, BUT VERY HELPFUL

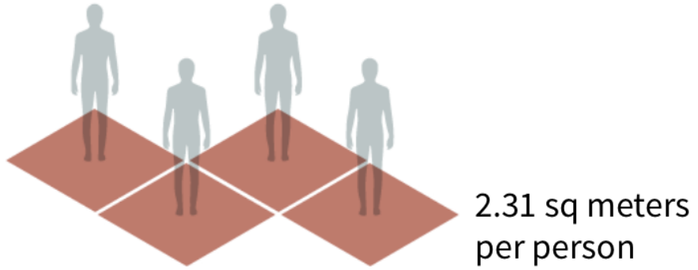
5. PROVIDE ANNOTATIONS. Guide readers with bits of explanatory text or visuals. Contributes to Explainable AI.
6. CREATE A NARRATIVE FLOW. An entry point with simple, big-picture idea. Human brain needs meaning before details.
7. PUT AI IN PERSPECTIVE.
   - Historical: "You spent $300 this month on entertainment. This year, your average monthly spent on entertainment was $250"
   - Average: "You have $150,000 in retirement savings. Average savings for a single woman in her thirties in $135,000. Way to go!"
8. SHOW THE SAME DATA FROM DIFFERENT PERSPECTIVES.
9. ALWAYS START "Y" AXIS ON A ZERO. Otherwise you risk appearing like you are manipulating an unassuming user.
10. AVOID DOUBLE "Y" AXIS. Consider an alternative: using percentages, instead of absolute values.
11. DEBUNK MISCONCEPTIONS.
12. CONSIDER DIFFERENT TYPES OF USERS.
    Provide the following:
    - Explanation for the uninitiated.
    - Exploration for the expert. A way for the expert to interrogate data.
13. CALL ATTENTION TO SOCIAL ISSUES, if that's appropriate.
14. EVOKE A FEELING, an emotion or some personality (Surprise, Alarm, Humor, Authority, Expertise, Fun).
15. ADD A VOICE. Serious to humorous.
16. RELATABILITY:
    - Readers like seeing themselves in the data. Contributes to Explainable AI.
    - Put your data in familiar context.

Data Vis best practices: Show context. Create added meaning for your readers.

There are 17,501 shelters across South Korea, with 3,321 civil defense evacuation facilities in the city of Seoul, according to the ministry.



Based on this combined area, the shelters would provide each of the city's 10.2 million inhabitants an average of 2.31 square meters of space.



Data Vis best practice

#3 SHOW CONTEXT. Create added meaning for your users.

http://fingfx.thomsonreuters.com/gfx/rngs/NORTHKOREA-MISSILES/010041BR2VH/index.html

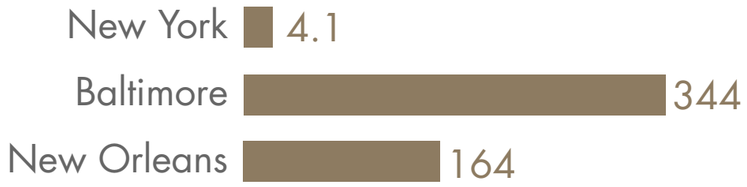
Data Vis best practices: Show context. Create added meaning for your readers.

City	Population	Number of murders	Murder rate per 100,000 inhabitants
New York	8,537,673	352	4.1
Baltimore	621,252	344	55.4
New Orleans	393,447	164	41.7

Number of murders, 2015



Murder rate per 100,000 inhabitants, 2015

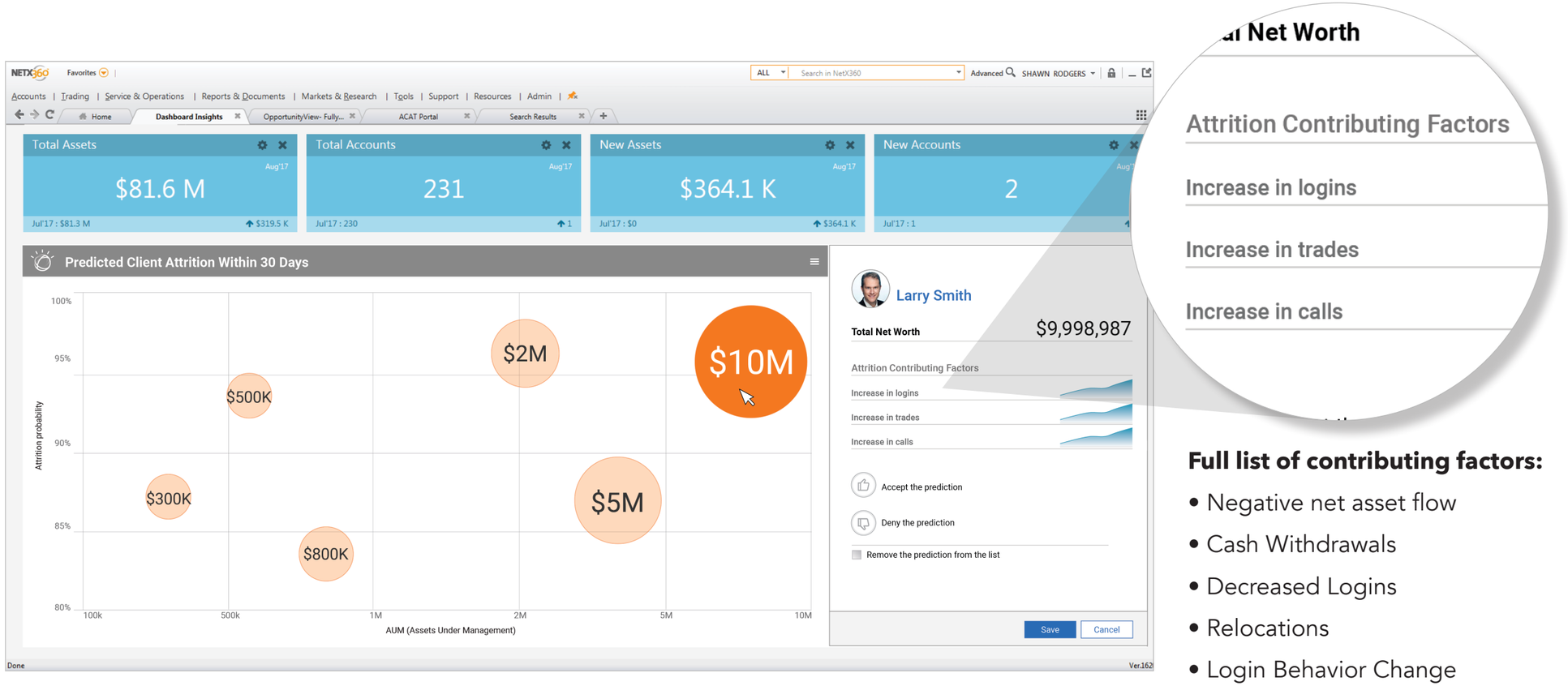


Data Vis best practices:

#3 SHOW CONTEXT. Create added meaning for your users.

Source: FBI 2015 UCR Data

Data Vis best practices: explain how the algorithm came to its conclusion



Full list of contributing factors:

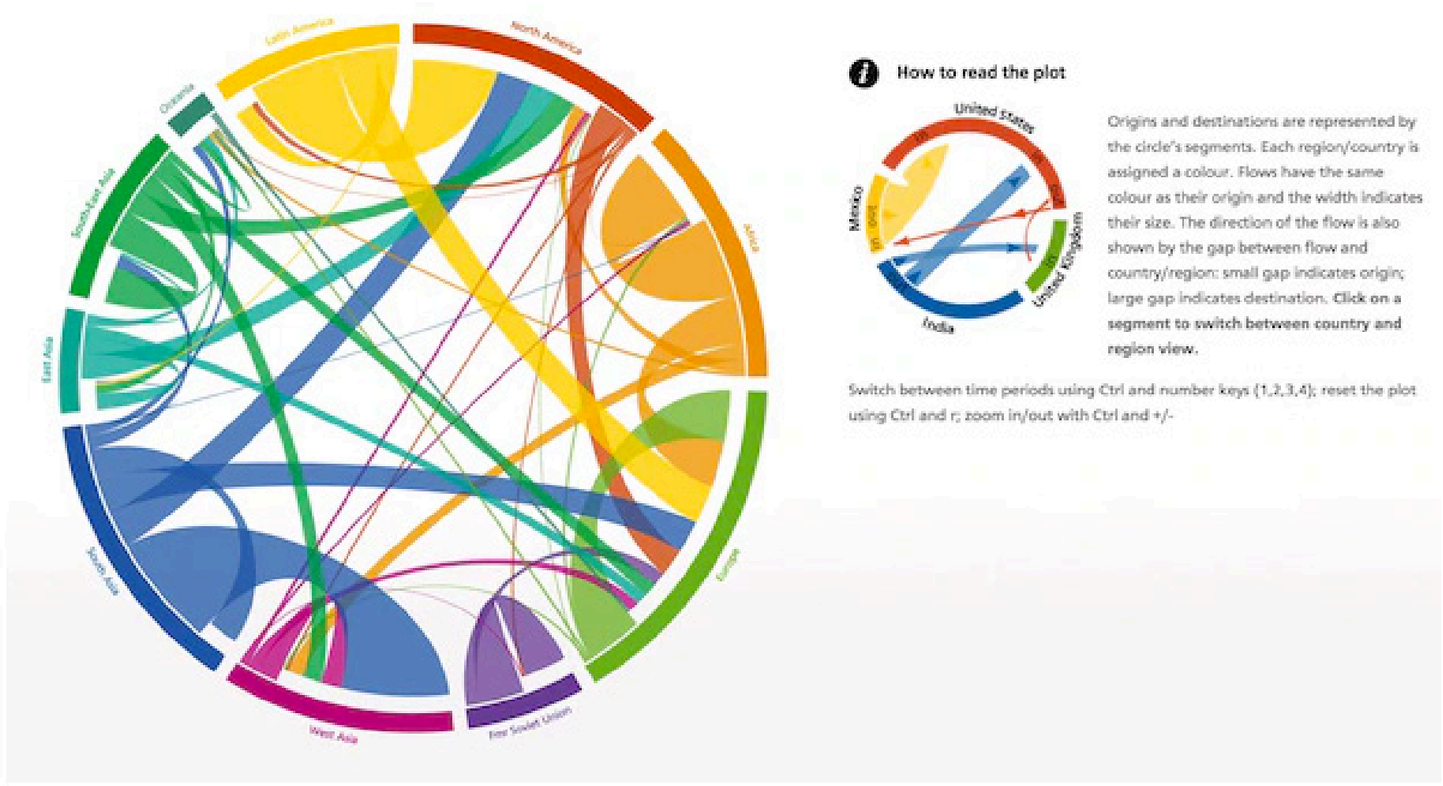
- Negative net asset flow
- Cash Withdrawals
- Decreased Logins
- Relocations
- Login Behavior Change
- Decreasing Returns
- Increased asset transfers

Data Vis best practices:

#3 SHOW CONTEXT. Create added meaning for your users.

#4 EXPLAINABLE AI Show how the algorithm came to its conclusion. What factors contributed? What data was used and how was it calculated?

Data Vis best practices: trust, clarity and annotations



The migration map helpfully provides instructions, at right.

https://www.nationalgeographic.com/science/article/150922-data-points-visualization-eye-candy-efficiency

Data Vis best practices:

#1 TRUST Be conservative with your data vis. People already distrust AI. Data vis in AI, has a very responsible role. It's there to help instill trust and explain content. The exception are cases where the intention for UX is to be playful and delightful.

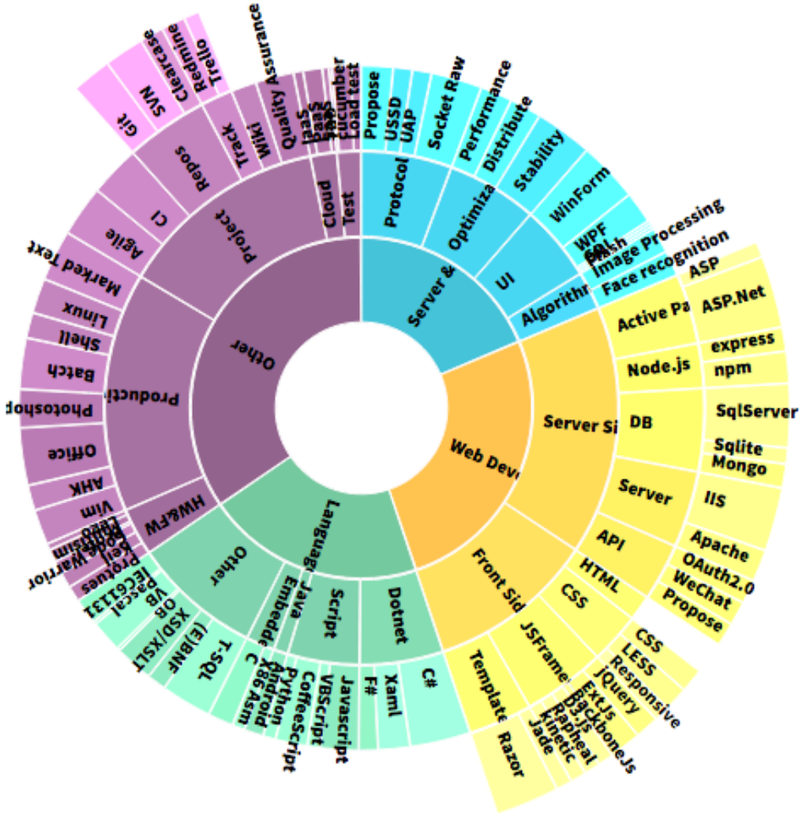
#2 CLARITY Pick simplest possible data vis. Virtually every chart, can be translated into bar, pie or line chart. Not that that's all 3 types of data vis to use, but be mindful to make it easier for users to understand data. Note: data vis is like a joke. If you have to explain it...Consider using a bar chart instead

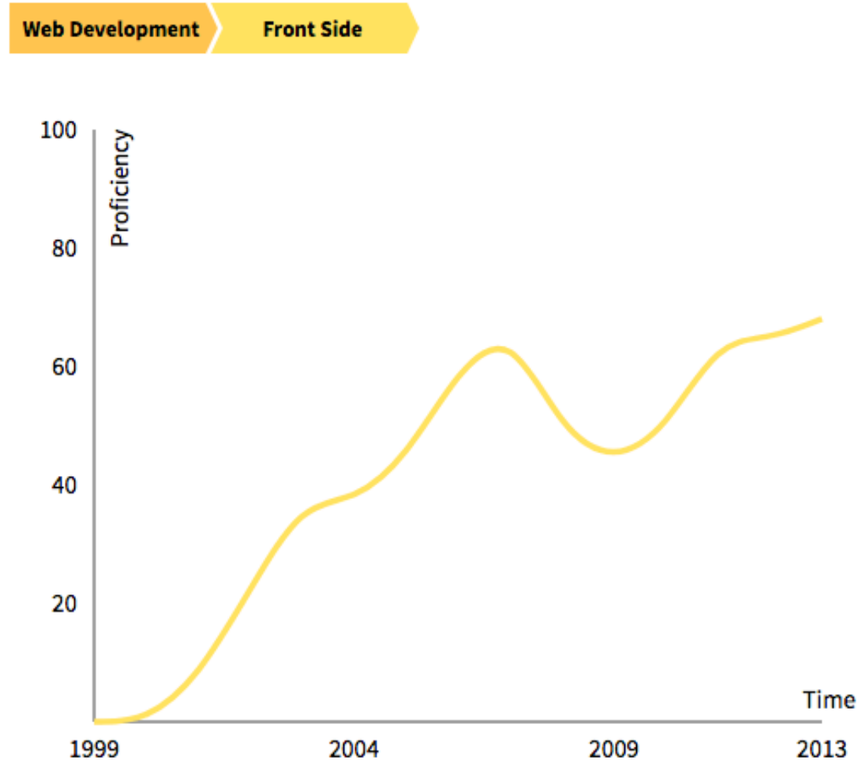
Quote from the article itself:
"Beware the temptation of eye-candy. If you must use a circular chart, don't make people do cartwheels to read them. Best use: for cyclical or "periodic" data, like seasons or repeating processes."

#5 PROVIDE ANNOTATIONS. Guide readers with bits of explanatory text or visuals. Contributes to Explainable AI.

Data Vis best practices: ensure visualization makes it easier for users to understand

Sunburst for a software skill map. Lives on a developer's portfolio website.





Data Vis best practices:

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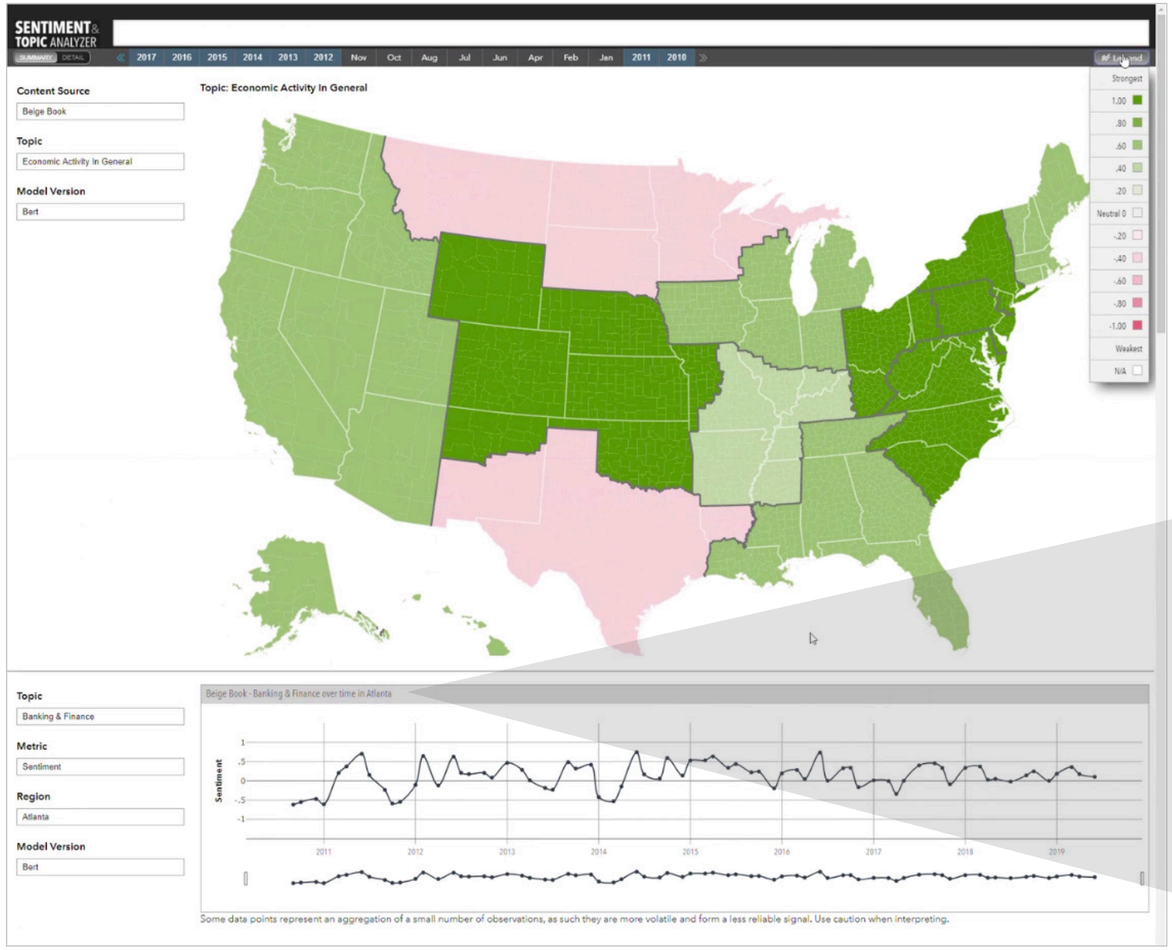
http://bl.ocks.org/wizicer/f662a0b04425fc0f7489

Data Vis best practices: create a narrative flow and put AI in perspective



Map View

Provides a Macro View

Historical View

Provides a Micro View



Data Vis best practices:

#6 CREATE A NARRATIVE FLOW. An entry point with simple, big-picture idea. Human brain needs meaning before details.

#7 PUT AI IN PERSPECTIVE. Can be historical. For personal finance purposes: "You spent $300 this month on entertainment. This year, your average monthly spent on entertainment was $250"

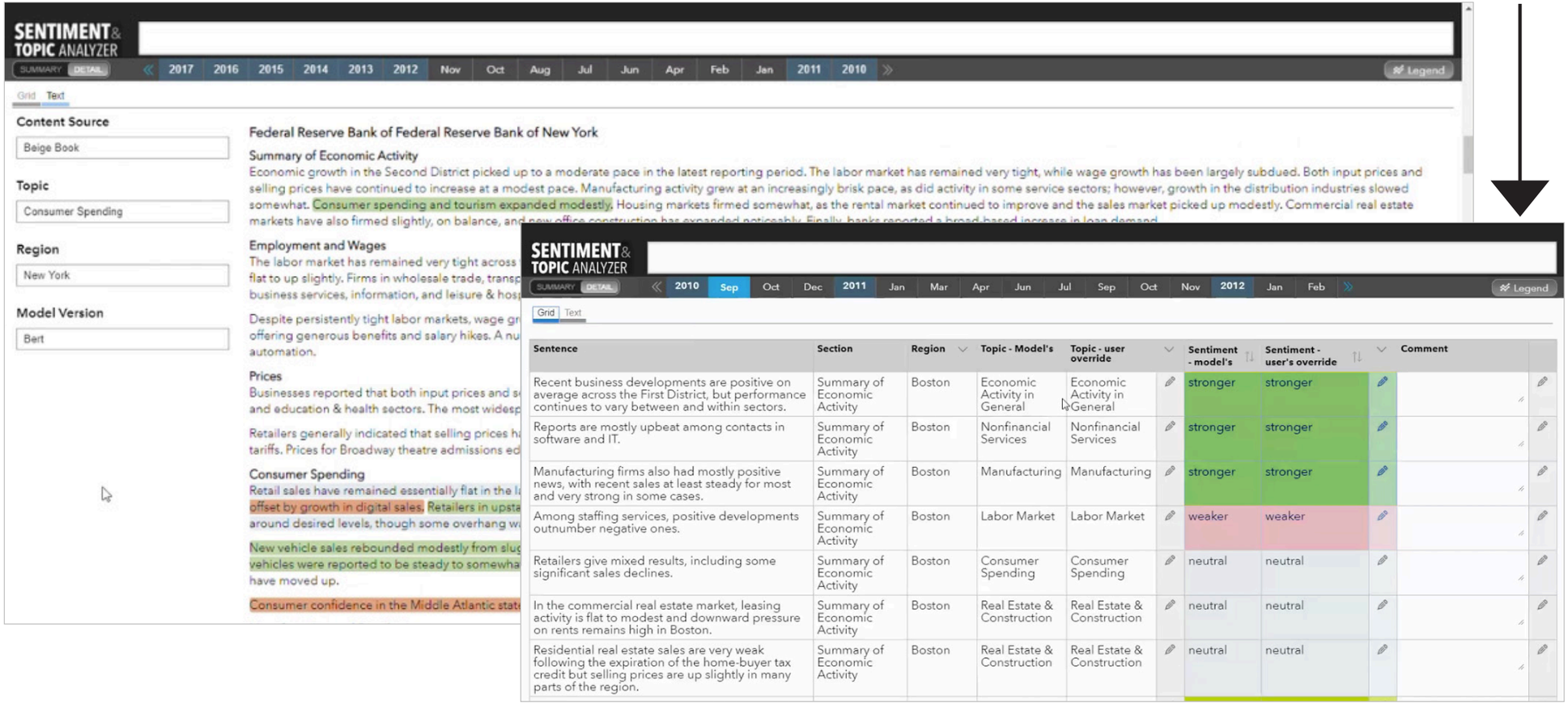
Data Vis best practices: show the same data from different perspectives

Text view

is targeted towards consumers of the Beige Book model, Analysts and Traders

Grid View

is for the Power User

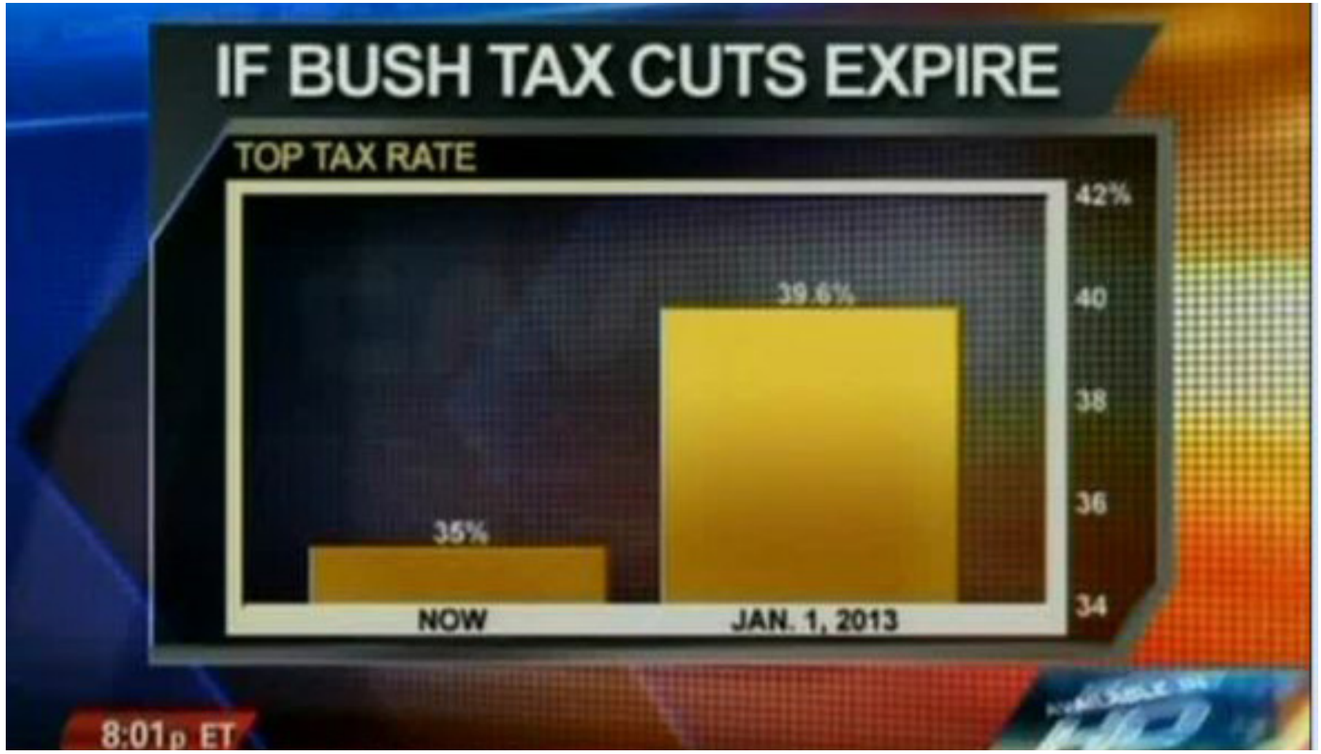


Data Vis best practices:

#8 SHOW THE SAME DATA FROM DIFFERENT PERSPECTIVES.

Data Vis best practices: always start “Y” axis on a zero

Pop quiz! / What’s wrong with this chart?



Data Vis best practices:

#9 ALWAYS START “Y” AXIS ON A ZERO. Otherwise you risk appearing like you are manipulating an unassuming user.

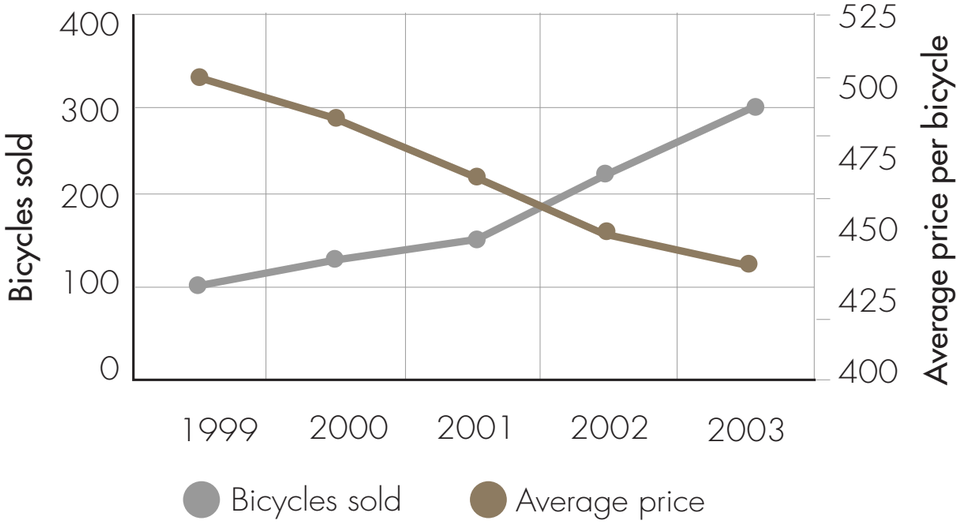
https://www.mediamatters.org/fox-friends/history-dishonest-fox-charts

Data Vis best practices: replace double “Y” axis with a percentage scale

Double “Y” axis & absolute values

Bicycles sold
100 - 300 (+200)

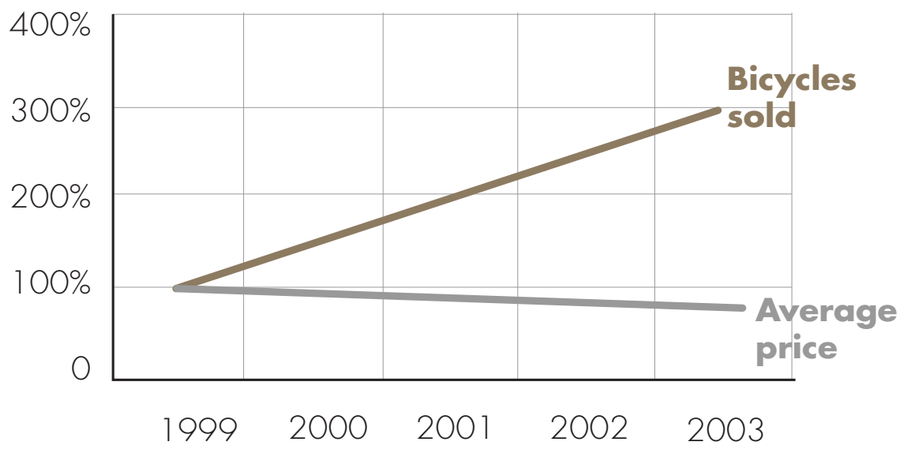
Average price
500 - 437 (-$63)



Percentage change

Bicycles sold
100 - 300 (+200%)

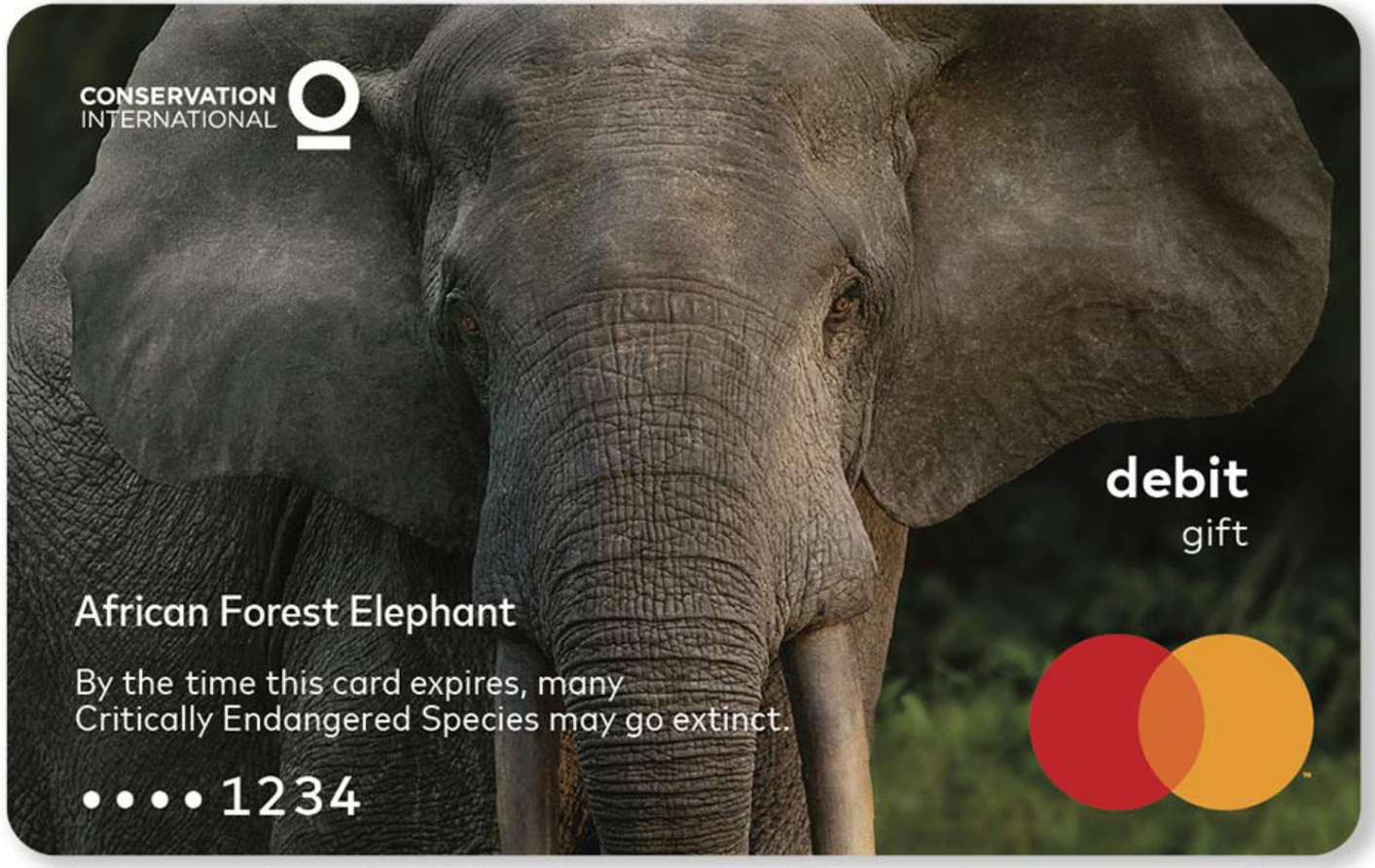
Average price
500 - 437 (-12.6%)



Data Vis best practices:

#10 AVOID DOUBLE “Y” AXIS. Consider an alternative: using percentages, instead of absolute values.

Data Vis best practices: call attention to social issues and evoke a feeling





Learn more about the campaign: https://www.mastercard.us/en-us/personal/find-a-card/wildlife-impact-gift-card.html Watch the video: https://www.youtube.com/watch?v=B-YazHFQxYM

Data Vis best practices:

#13 CALL ATTENTION TO SOCIAL ISSUES, if that's appropriate.

#14 EVOKE A FEELING, an emotion or some personality (Surprise, Alarm, Humor, Authority, Expertise, Fun).

In this case, card expiration date is related to the year when the animal species is projected to go extinct.


Seize the space.

Target the under-banked: Women

Women are the next frontiers for the banking industry. So lets think for a second how you utilize predictive modeling, targeting your female customers.

Sallie Krawcheck, the CEO and founder of Ellevest and former CEO of Merrill Lynch's wealth management division, said financial services firms are leaving at least $700 billion in revenue on the table each year by not meeting the needs of female customers.

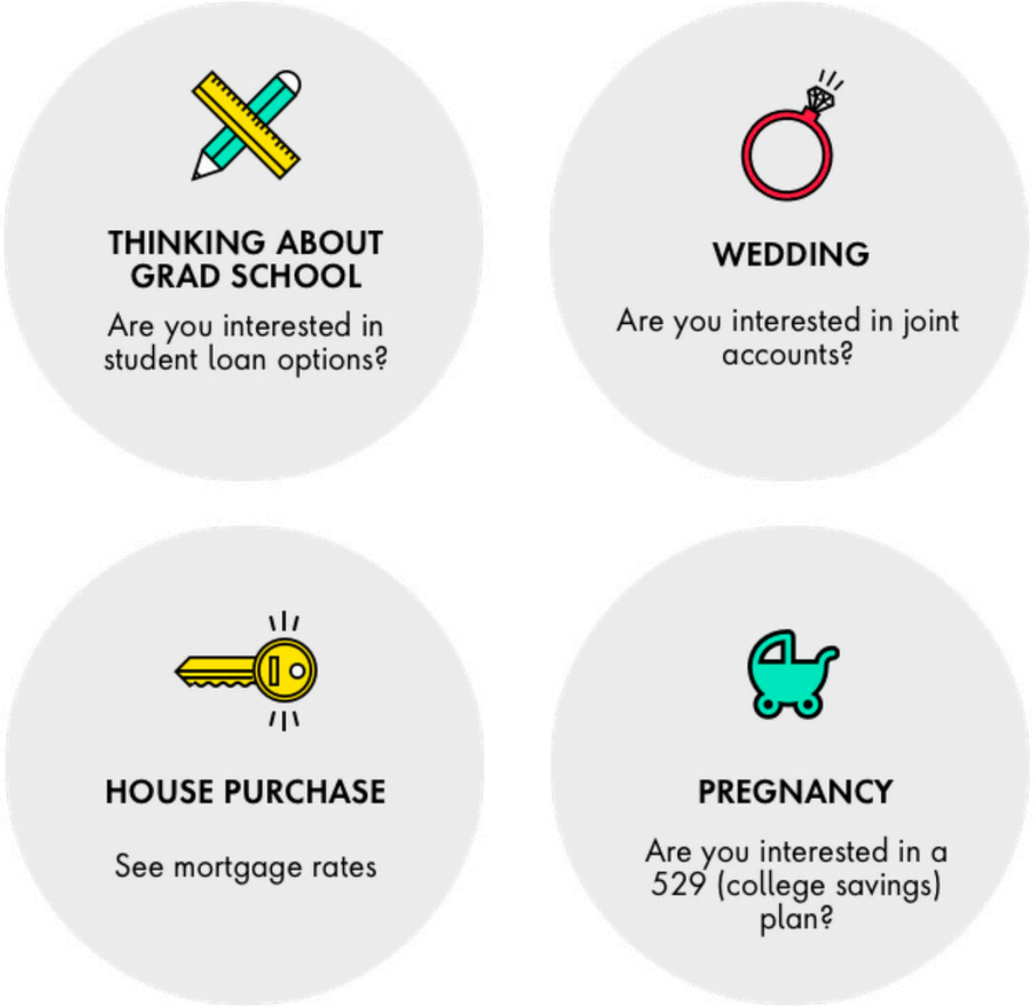
As of 2020, 41 percent of video game players in the U.S. were females (Statista). The average age was 34. Adult women represent a greater portion of the video game playing population (34 percent) than boys under 18 (17 percent). But this rise in female players is not reflected in finance-related games.

A search for "investing game" in the App Store returns eight results. These games simulate real-life investing scenarios. It is worth noting that all the games show male characters, and most are focused on competing against other players.

There's room for games with a more traditionally female sensibility. They could feature female characters and focus on cooperation over competition and navigating life events. Women are usually more likely to want to join forces and ask for advice (Prudential). And outside events are likely to disrupt women's lives in part because 75 percent of all caregivers are female (Family Caregiver Alliance).

All of these factors could influence the content of mobile games. When confronted with "what if" scenarios – whether submitted by the user or generated through artificial intelligence based on their data – the app could suggest actions for the player. Examples are on the right.

In any case, the goal of these apps and games, would be to get the ball rolling, to break the inertia, to get women to engage with their finances and make their money work for them.



https://www.publicissapient.com/insights/financial-services-and-the-gender-wealth-gap

Now
Bravely
Fiercely
Inclusively
Creatively
Next

Thank you!

publicis
sapient