

Phuse: DV04

Get the full picture of your data with SAS

How to turn a billion data points into one actionable
insight

November 8, 2023

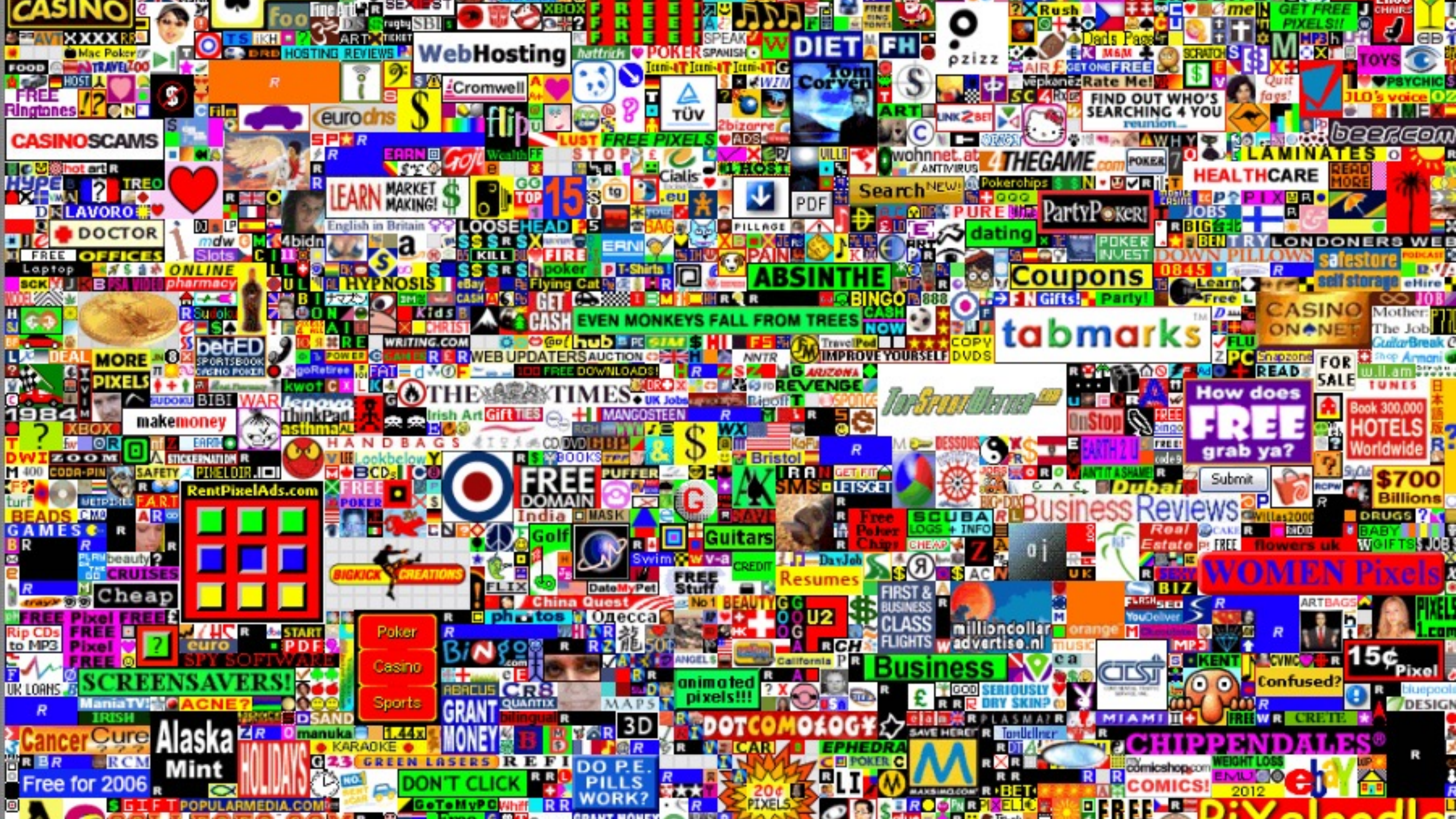
Andy Bayliss, Senior Technical Director SAS Life Sciences





A Picture says a thousand words







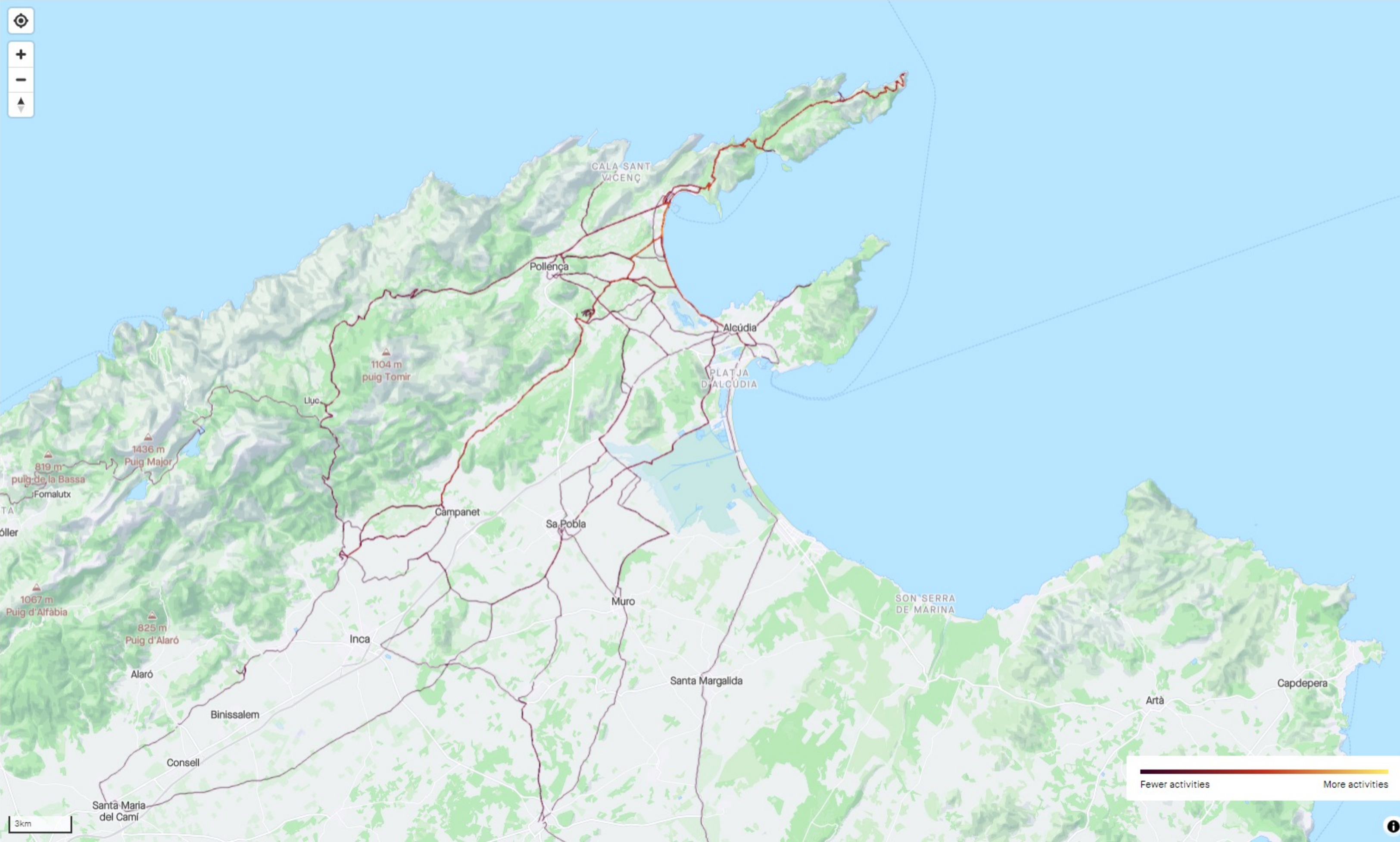
My Heatmap

- All activities ▾
- All-time ▾
- Include private activities ☐
- Include commutes ☐
- Show hidden addresses ☐

Map settings

- Red heat ▾
- Standard map ▾
- Show street labels ☒
- Show activity clusters ☒
- Show 3D Terrain ☐

 Search for places, landmarks, addresses



▼ ANALYTICS LIFE CYCLE

Discover Information Assets

Manage Data

PrepareData

Explore and Visualize

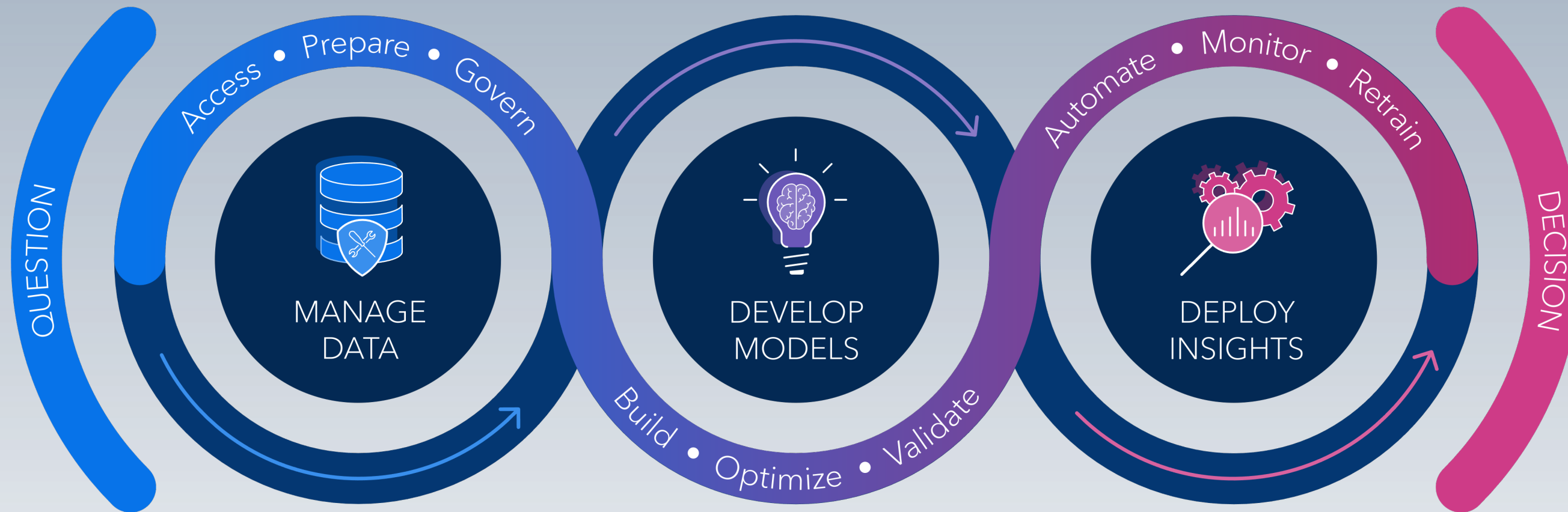
Build Models

Manage Models

Build Decisions

Share and Collaborate

Develop SAS Code



**Data for Analytics
and Decisioning**

*Accelerate data
storytelling and increase
speed to value.*

**Analytical
Visualization**

*Thread automation and
intelligence throughout
the analytics life cycle.*

**Advancing
with AI**

**Automate
Modeling**

*Deliver fast, self-service power
to every user - and deliver
embedded smart insights.*

**Operationalizing
Analytics**

Get more done with a faster



Innovate Faster

End-to-End

Automate Your Work

Fast Model Deployment

High-performance
Analytics



Elevate Everyone

Continuous
collaboration

All skill sets

Open integration

Combine multiple
approaches



Results You Trust

Governance

Enable responsible AI

Transparent insights

Trusted partner



Analytics You Need, Delivered on Your Terms

Frictionless access

Agile development

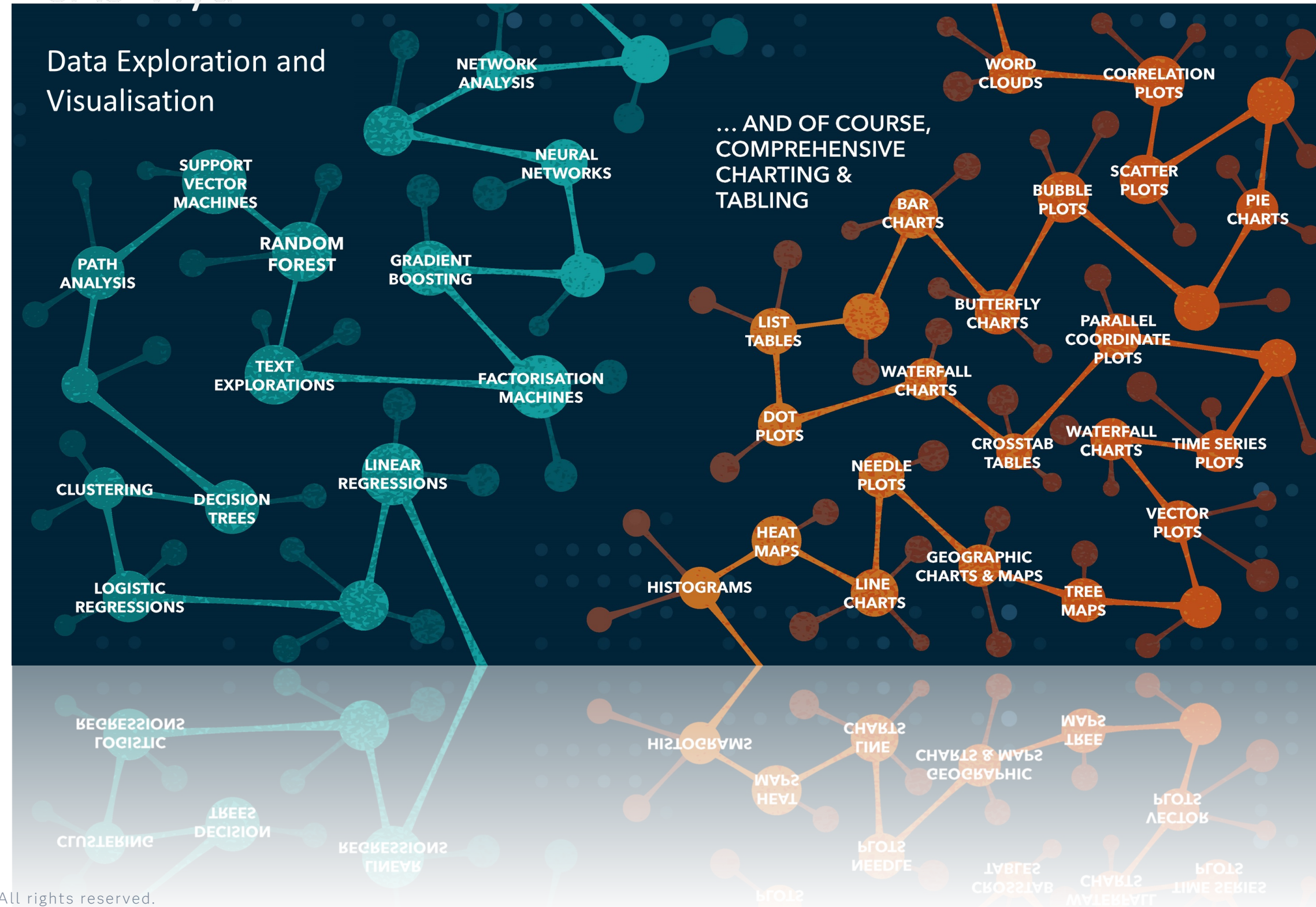
Flexible compute
environments

Deploy anywhere

Exploration and Visualization

With a point-and-click visualization tool within SAS Viya you can build interactive reports dashboards to gain deeper insights quickly.

SAS Viya



Files and Folders

Tasks and Utilities



My Tasks

Tasks

Data

Graph

Bar Chart

Bar-Line Chart

Box Plot

Bubble Plot

Histogram

Line Chart

Mosaic Plot

Pie Chart

Scatter Plot

Series Plot

Simple HBar

Combinatorics and Prob

Statistics

High-Performance Statis

Power and Sample Size

Multivariate Analysis

Cluster Analysis

Snippets

Libraries

File Shortcuts

Program 1 x *Bar-Line Chart x

Settings

Code/Results

Split



Log

Code

DATA

OPTIONS

INFORMATION

DATA

SASHELP.CARS

WHERE CLAUSE FILTER

ROLES

*Category variable: (1 item)

Type

*Bar response variable: (1 item)

MPG_City

*Line response variable: (1 item)

Horsepower

Group variable: (1 item)

Column

URL variable: (1 item)

Column

STATISTICS

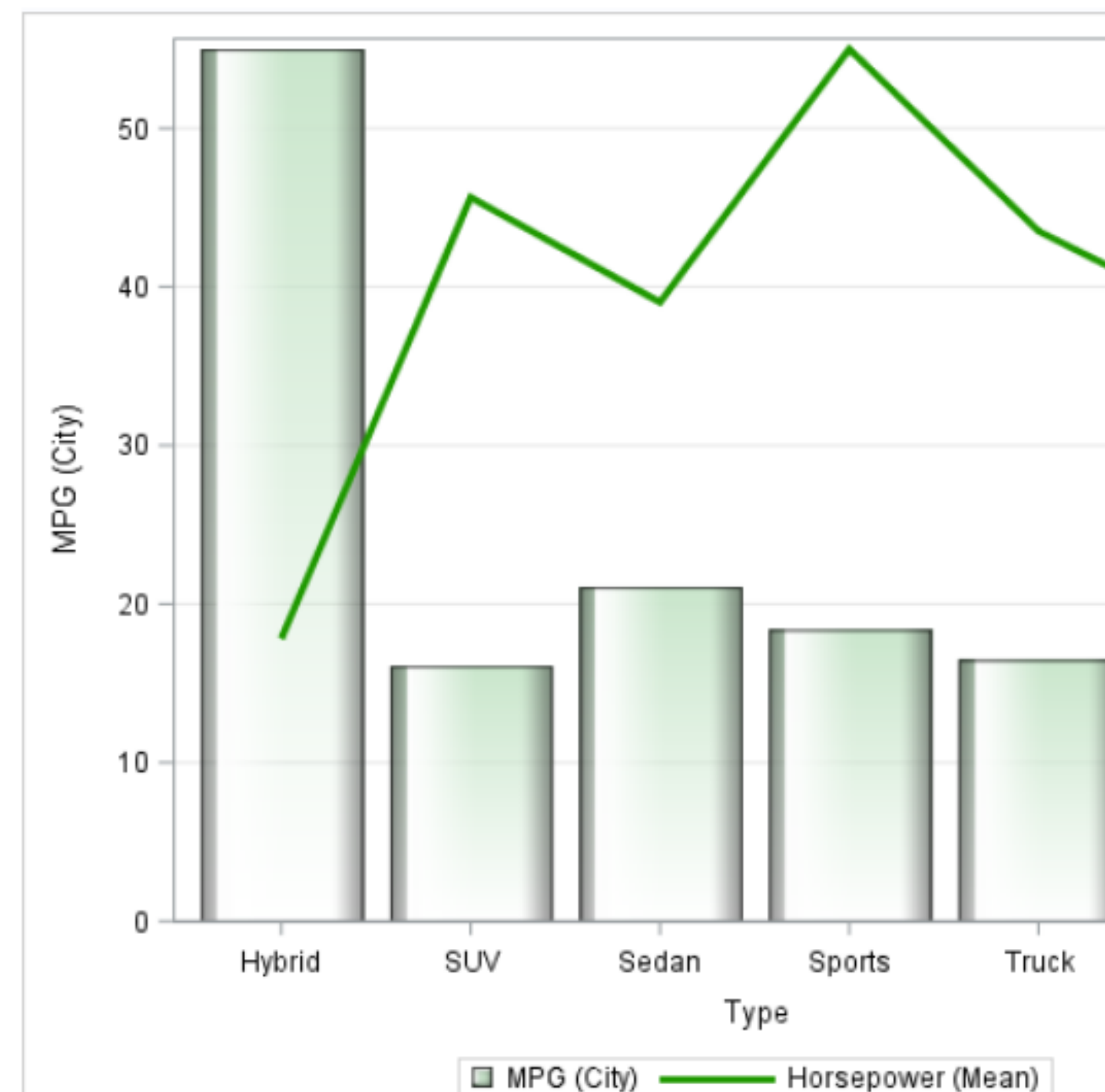
CODE

LOG

RESULTS



Table of Contents

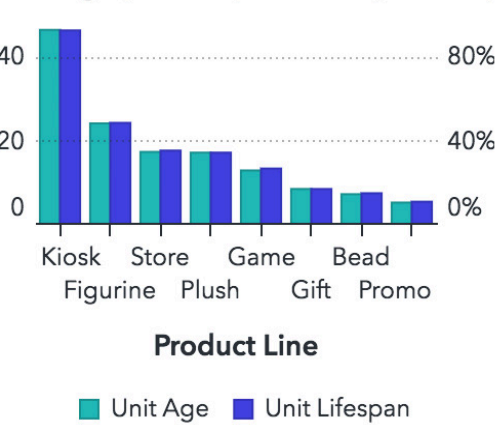


Suggestions

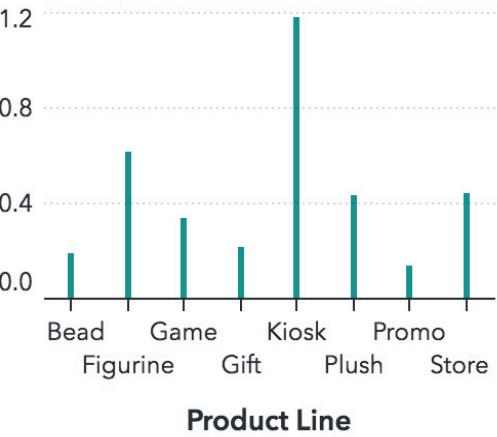
INSIGHT_TOY_DEMO

More Refresh

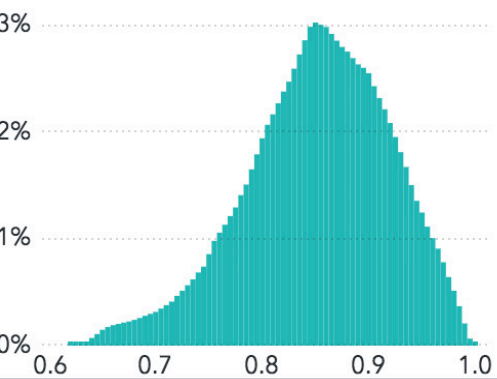
Unit Age (millions) Unit Li...(millions)



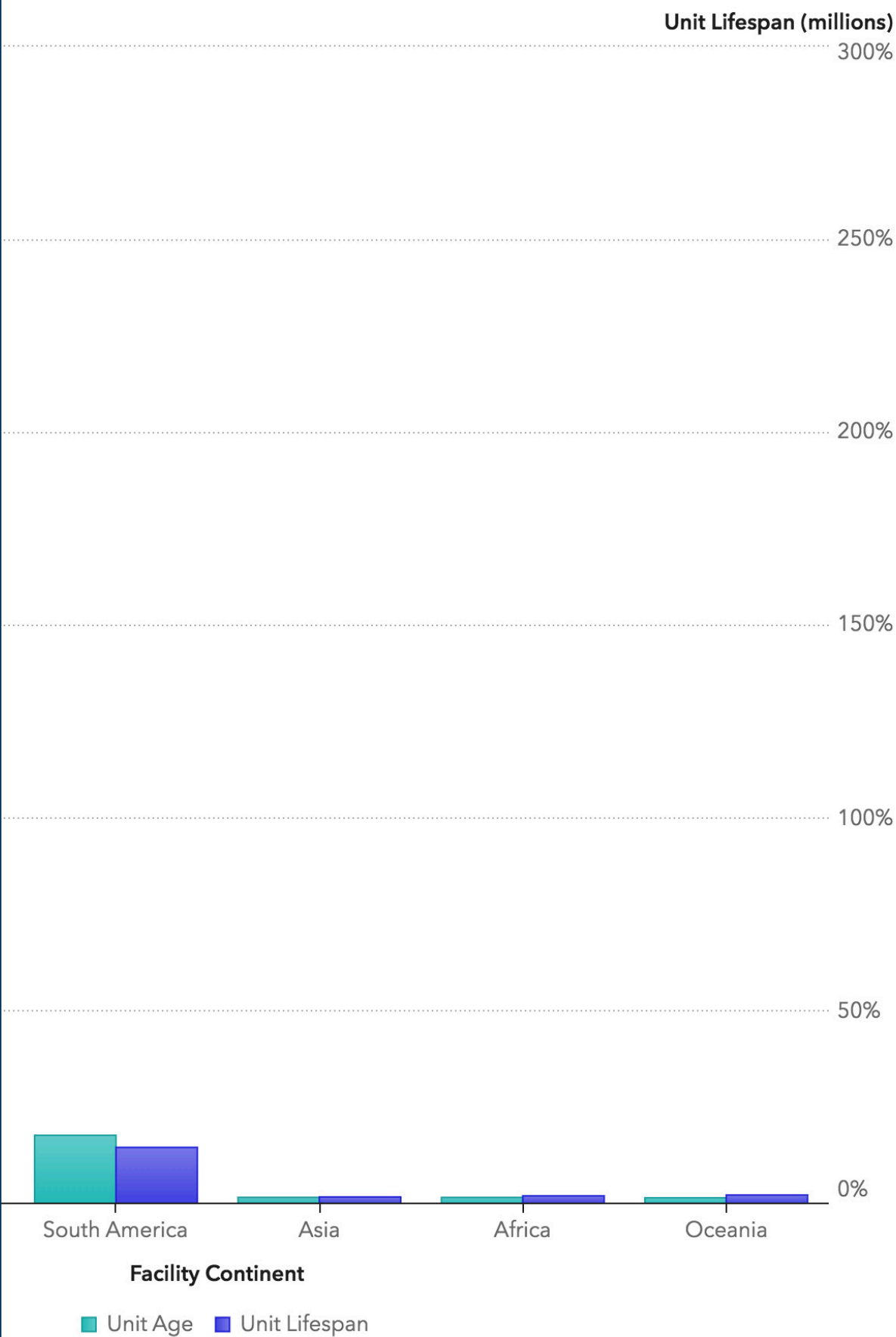
Frequency (millions)



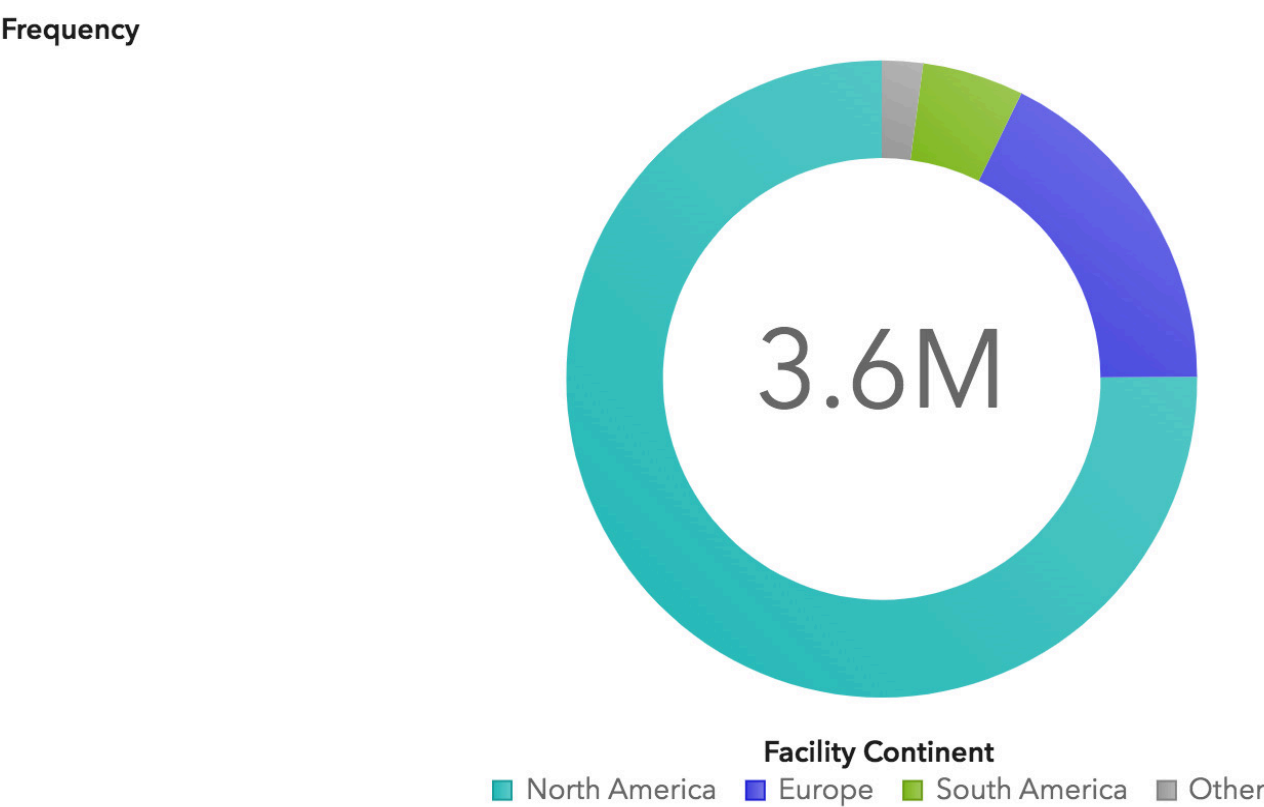
Frequency Percent



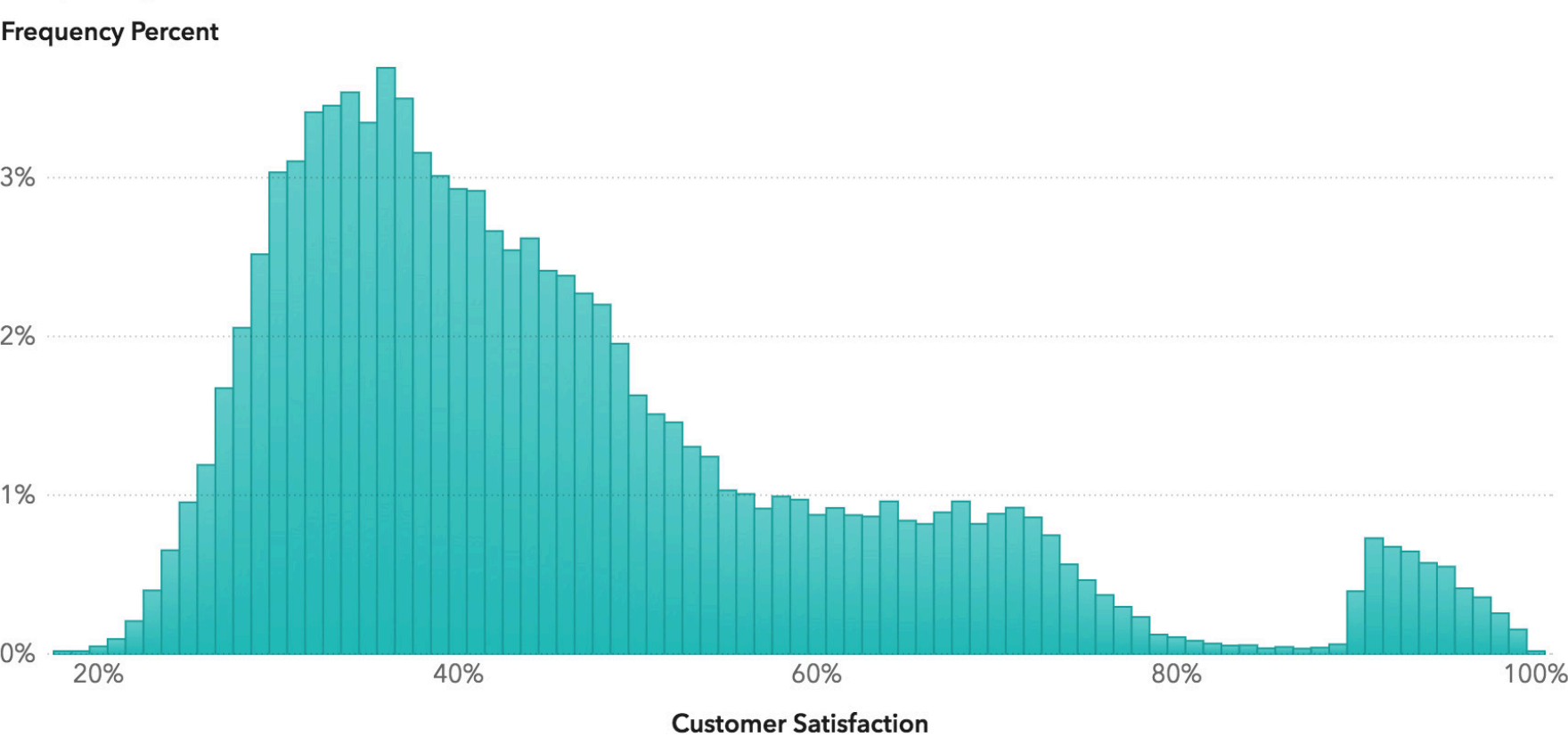
Continent



Frequency of Facility Continent



Frequency Percent of Customer Satisfaction



Data

INSIGHT_TOY_DEMO

Filter

+ New data item

- Transaction Weekday - 5
- Transaction Year - 15
- Unit - 166
- Unit Status - 1

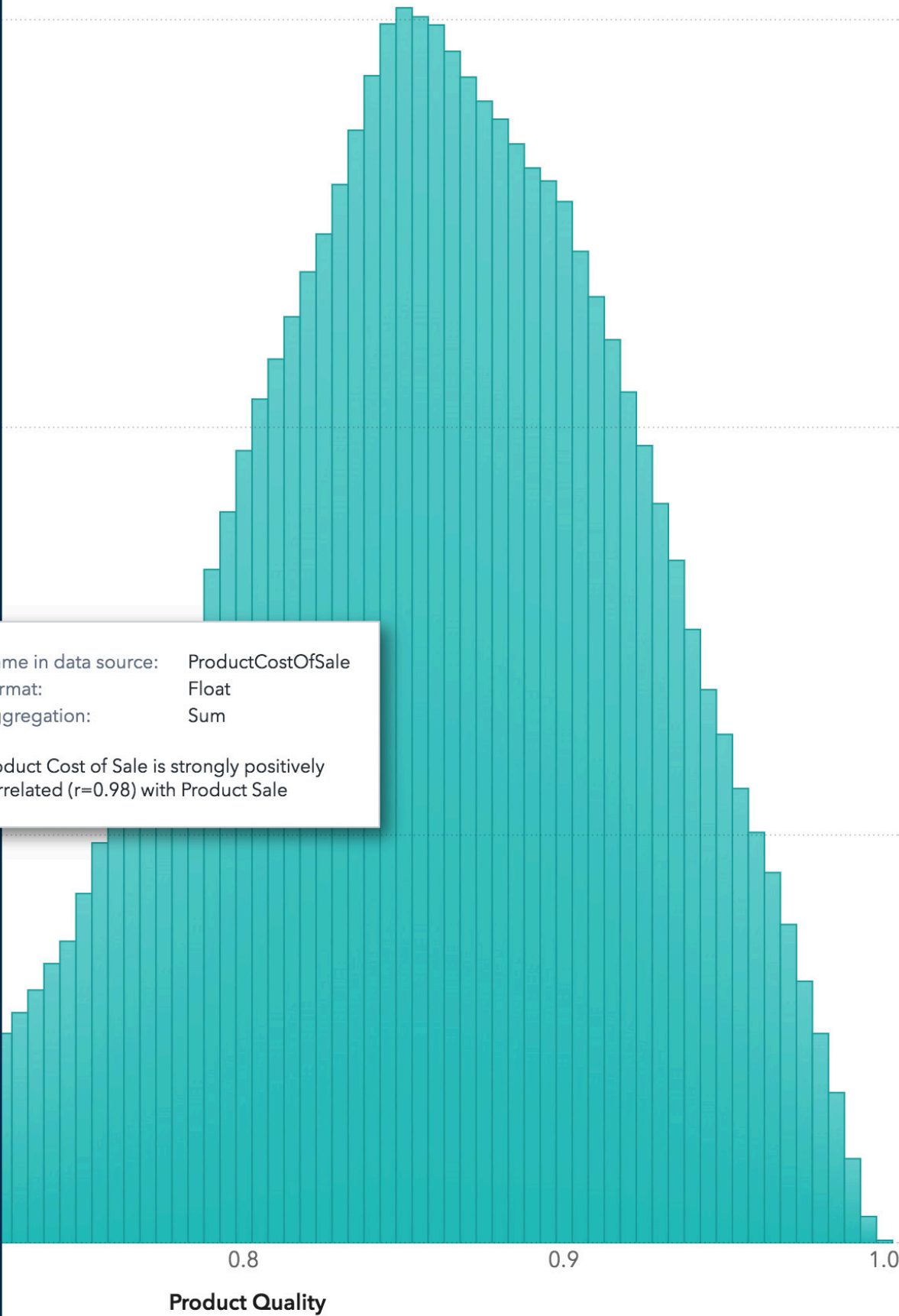
Measure

- Customer Distance
- Customer Satisfaction
- Facility Age
- Facility Efficiency
- Facility Employees
- Frequency
- Product Cost of Sale
- Product Material Cost
- Product Price (target)
- Product Quality
- Product Sale
- Sales Rep Customer Base
- Sales Rep Customers
- Sales Rep ID
- Sales Rep Rating
- Unit Actual
- Unit Age
- Unit Capacity
- Unit Discard Rate
- Unit Discards
- Unit Lifespan
- Unit Lifespan Limit

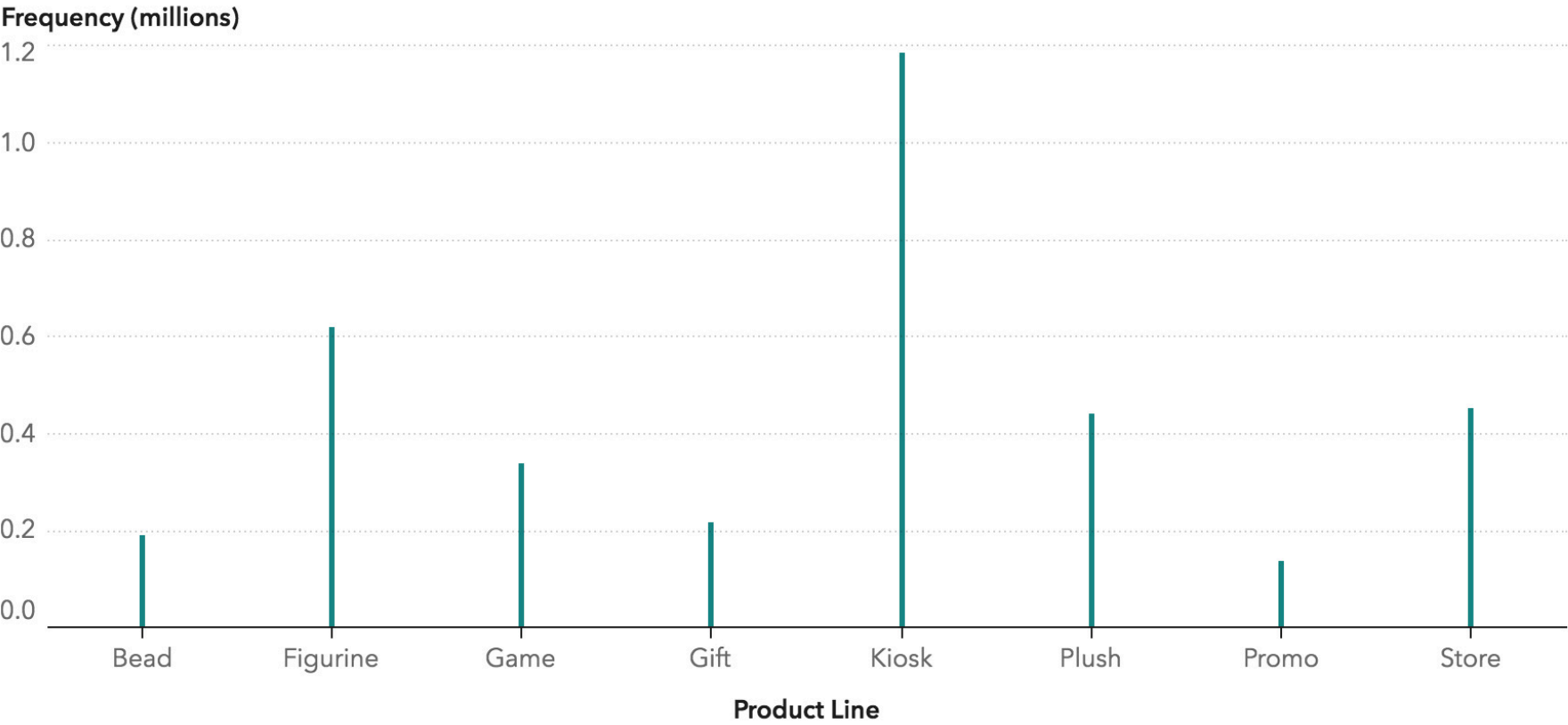
Clear selection



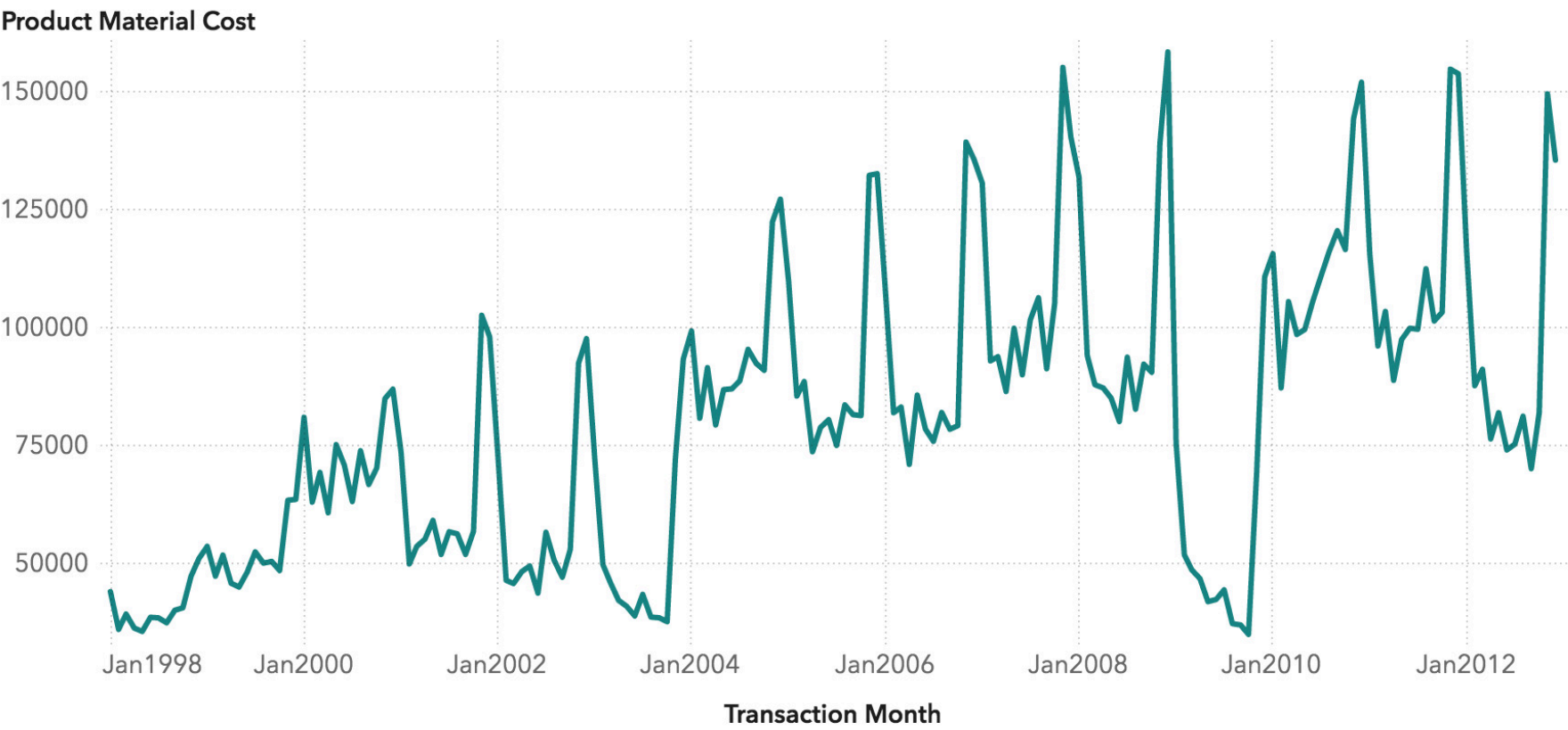
ity

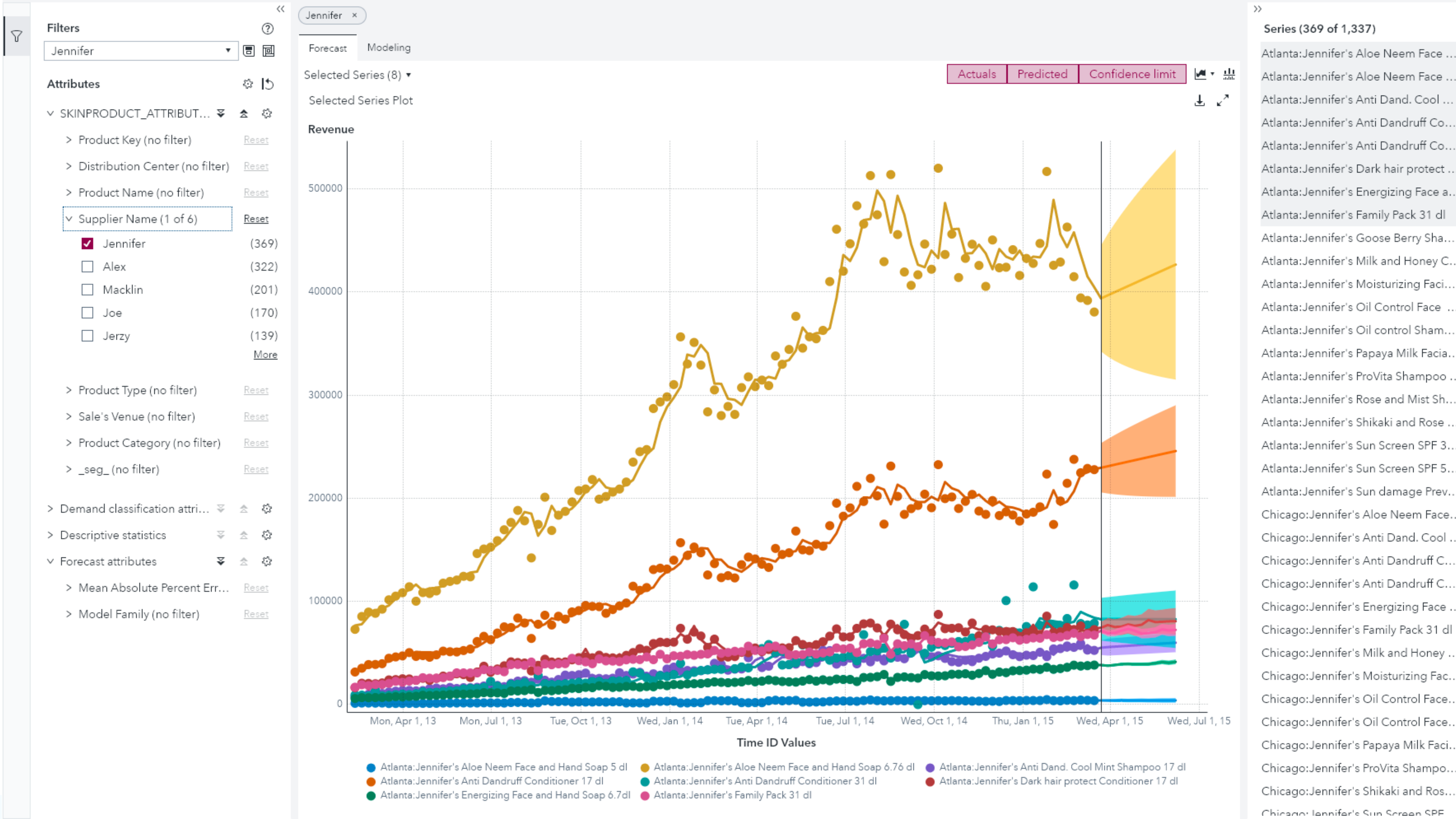


Frequency of Product Line

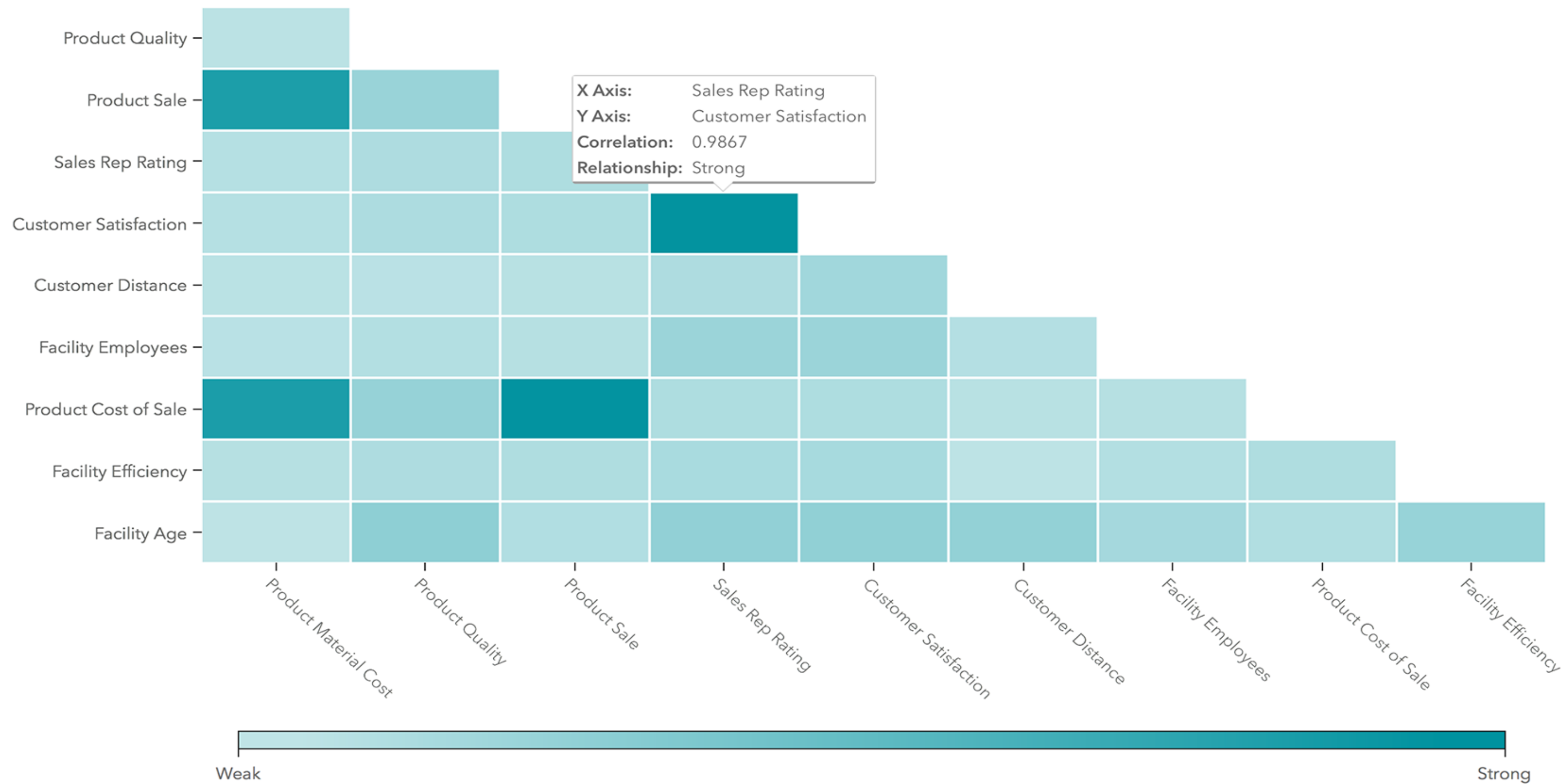


Product Material Cost by Transaction Month





Product Factors Relationships



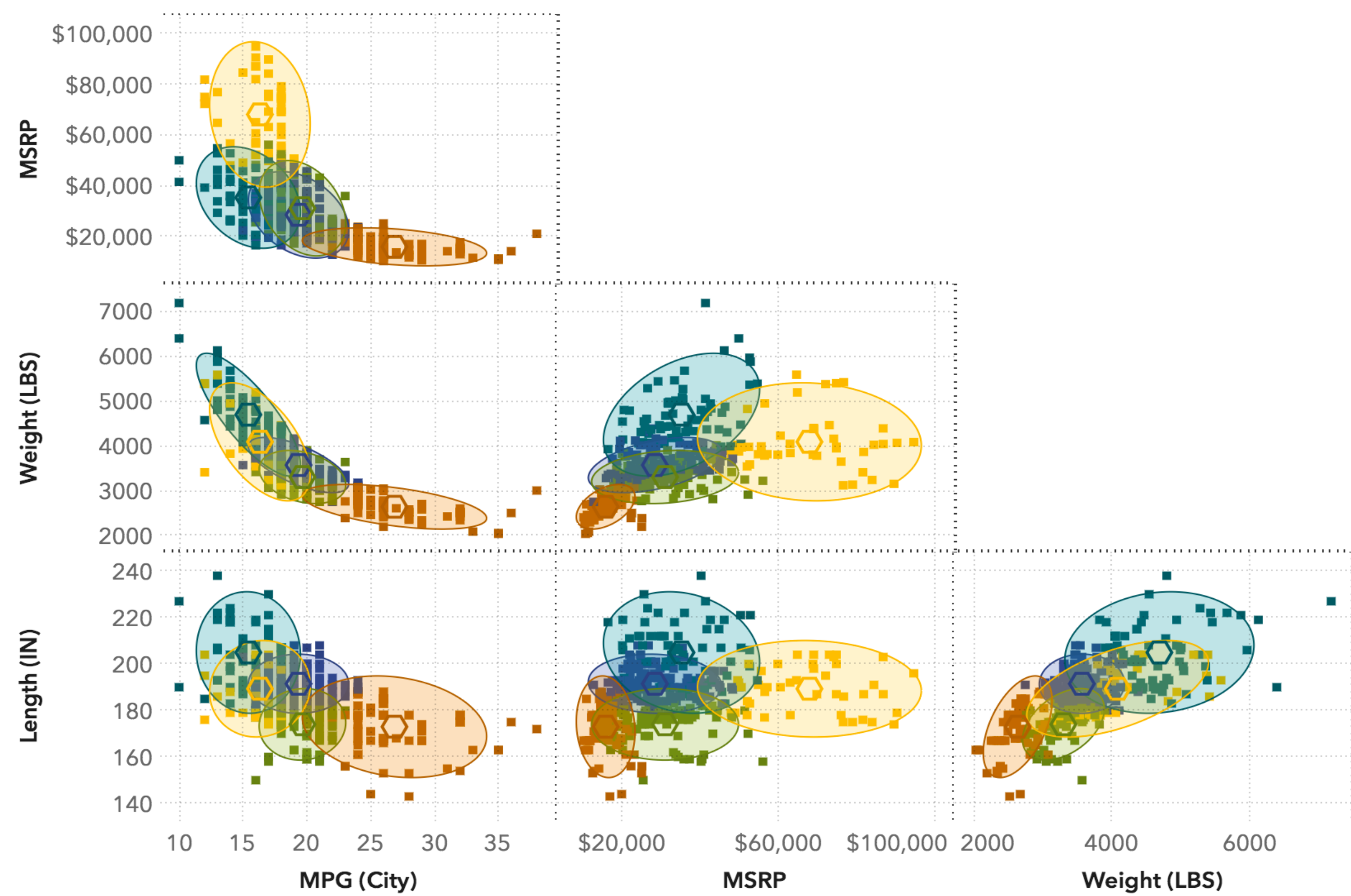
Regression Tree

Clustering



- Data
- Objects
- Outline

Cluster Observations Used 421 Polylines 199



Cluster Matri... Parallel Coor...

Options

General

Background

Cluster

Count:

5

Seed:

1,234

Initial assignment:

Forgy

Standardization:

Standard deviation

Layout:

Maximized

Cluster view

Parallel Coordinates

Layout

- Options
- Roles
- Actions
- Rules
- Filters
- Ranks

Decision Tree

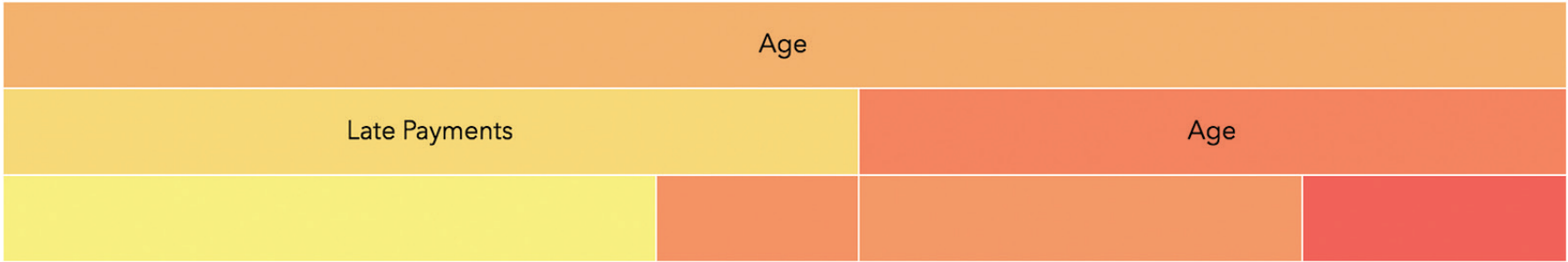
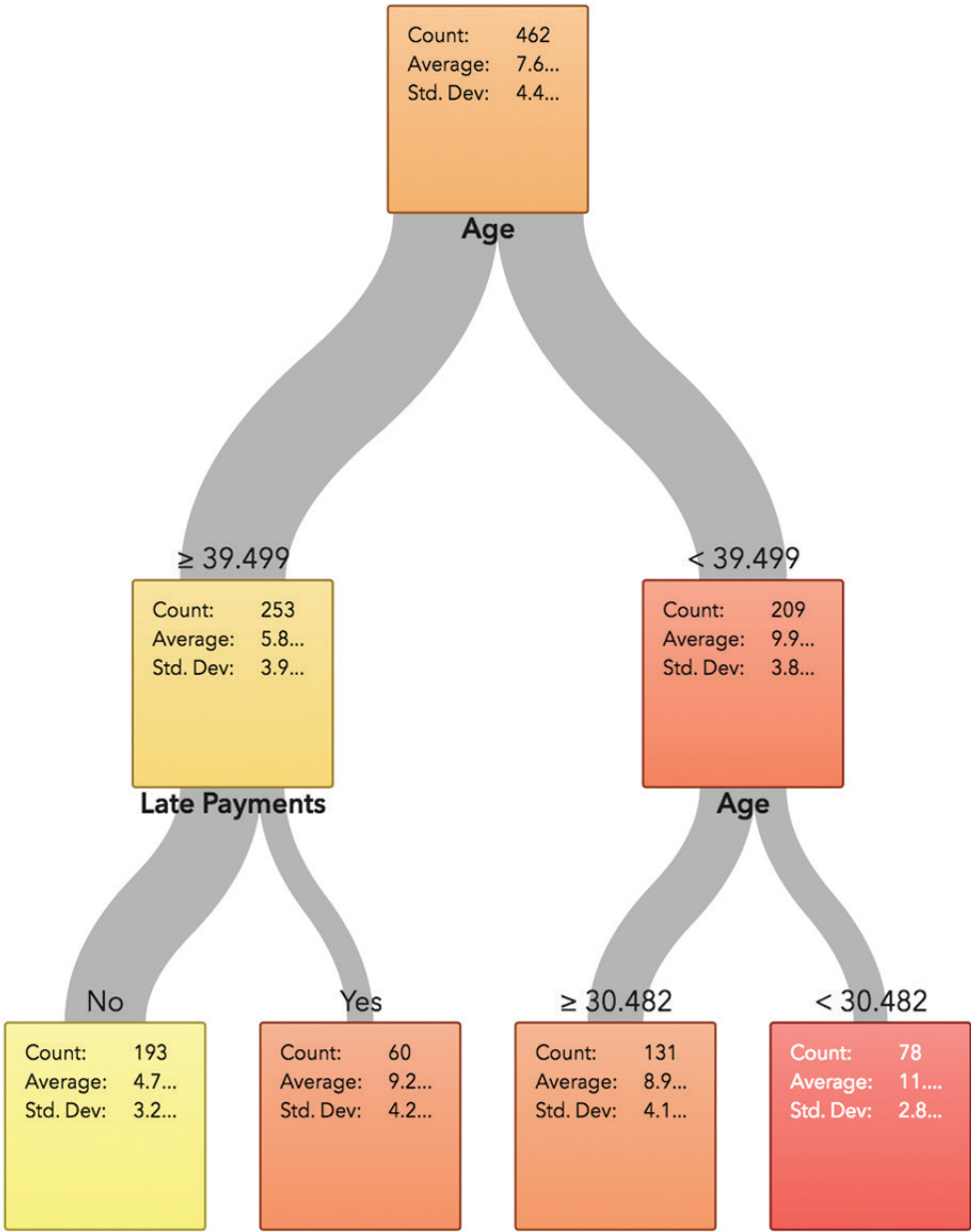
Write-Off Risk

ASE 0.0013

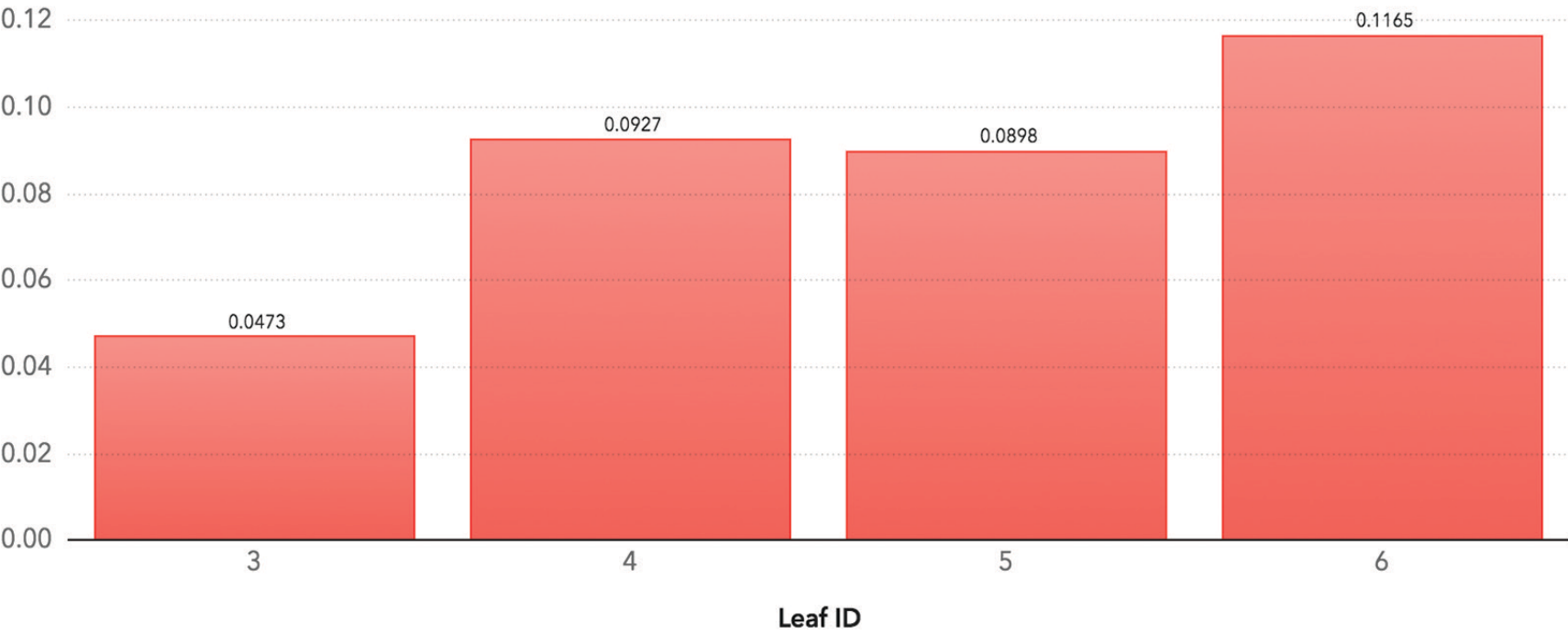
Observations Used 462

Create pipeline

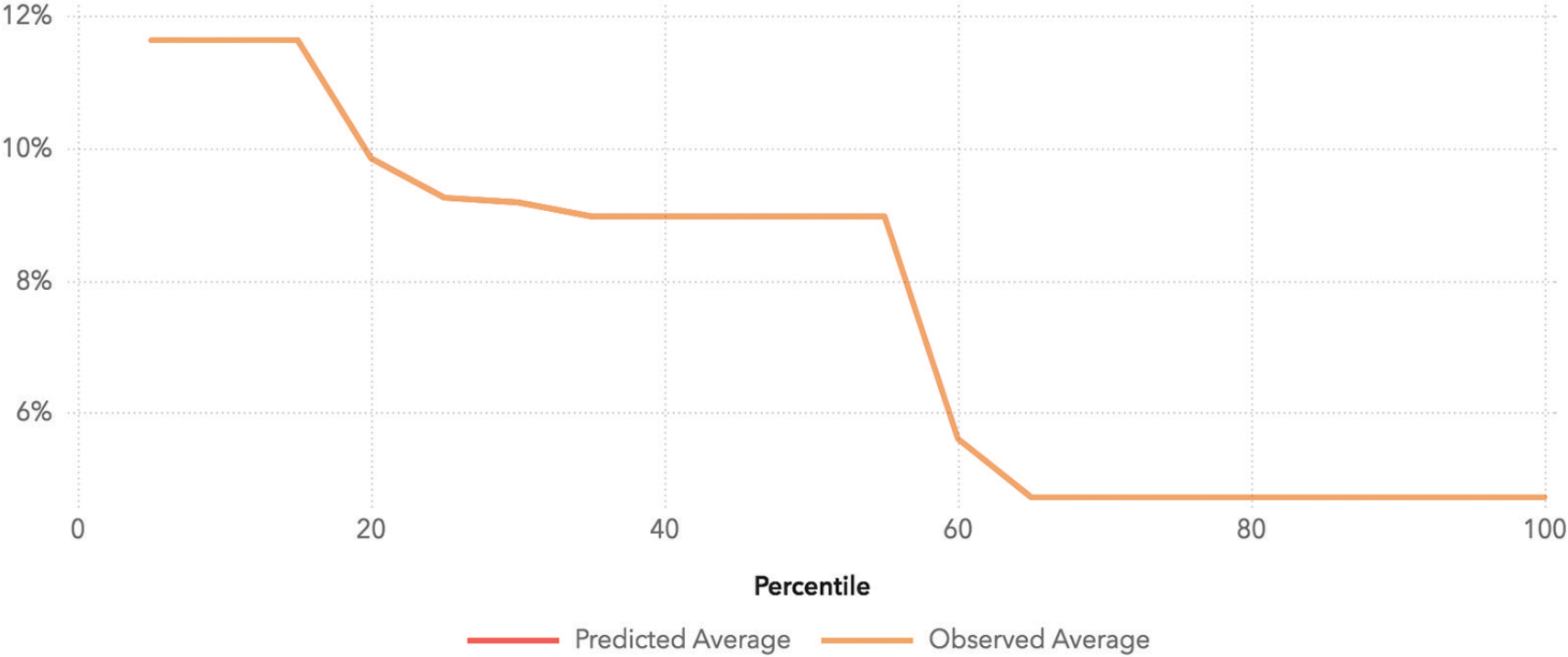
Tree



Leaf Statistics
Average

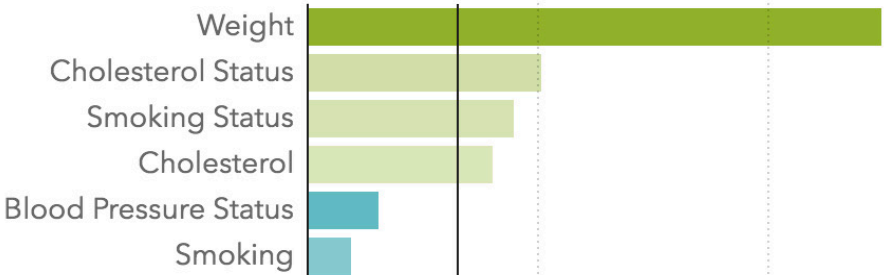


Assessment
Write-Off Risk

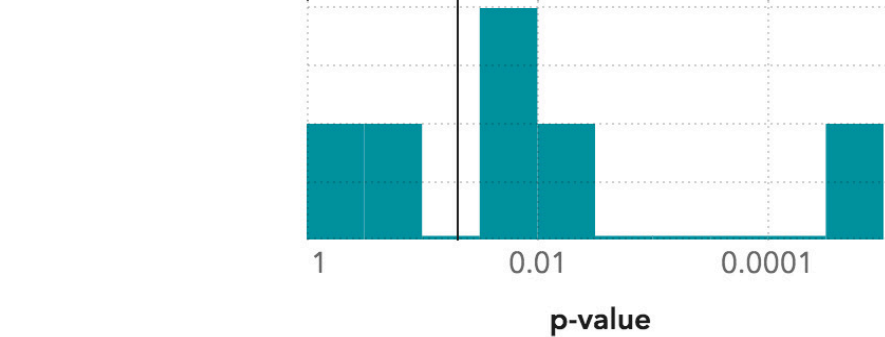
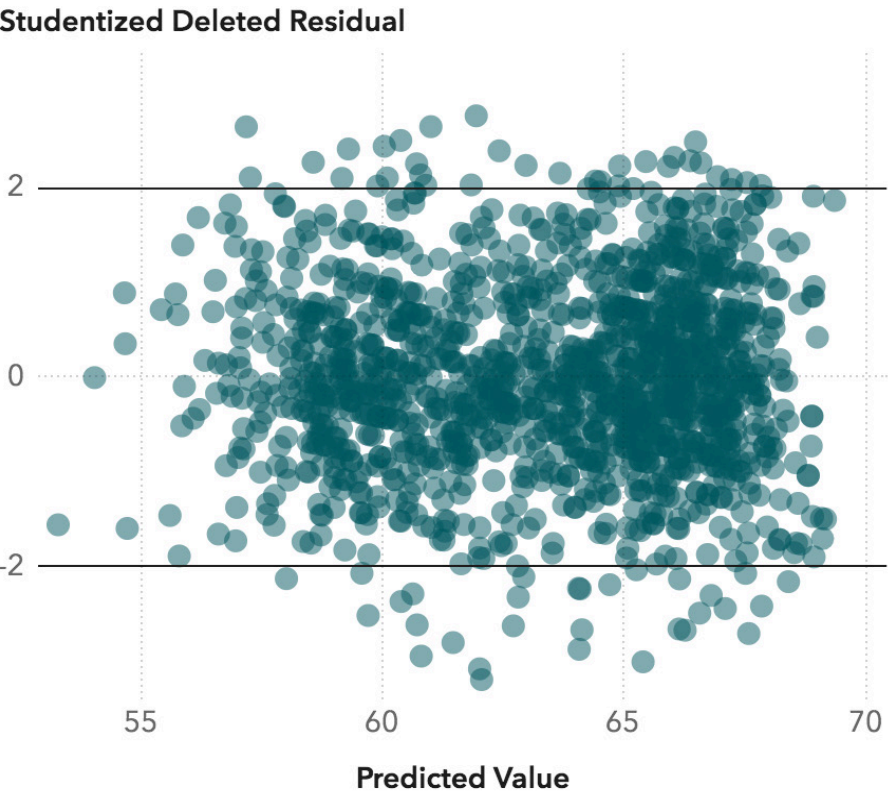


Linear Regression **Age CHD Diagnosed** Mean Square Error **89.7880** Observations Used **1,405** Unused **3,804**

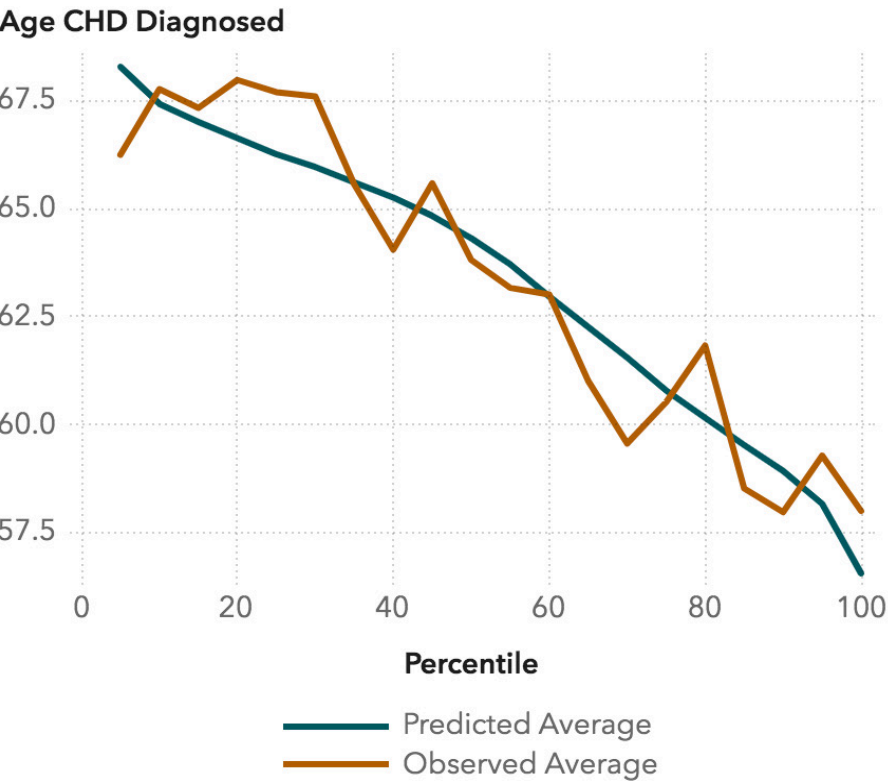
Fit Summary



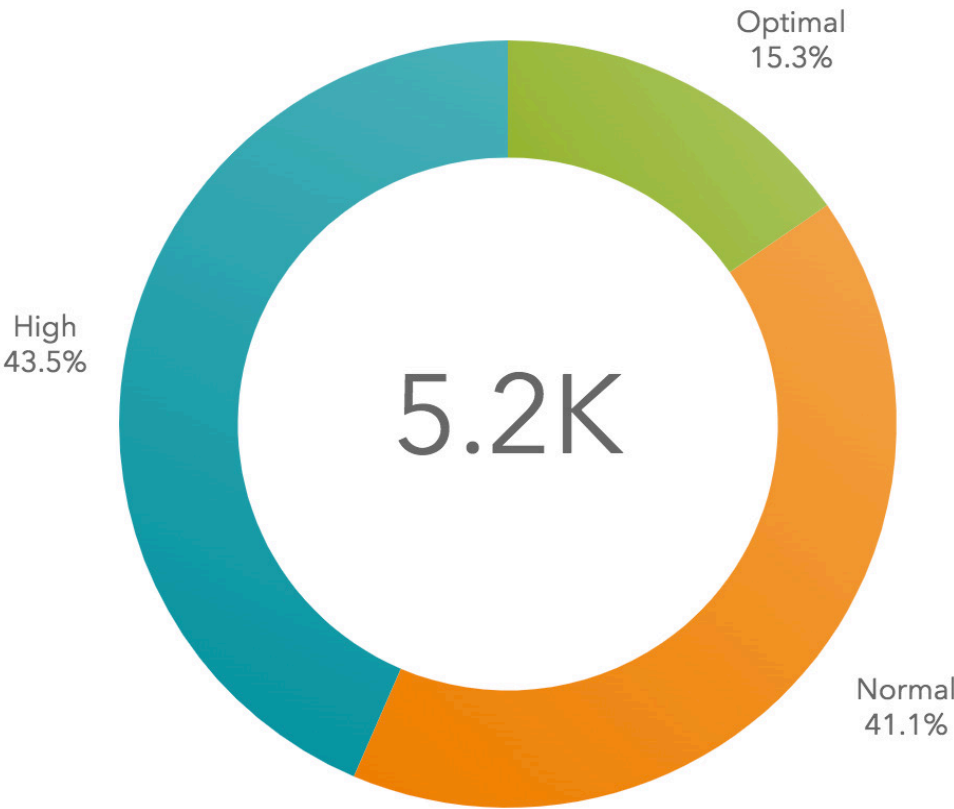
Residual Plot



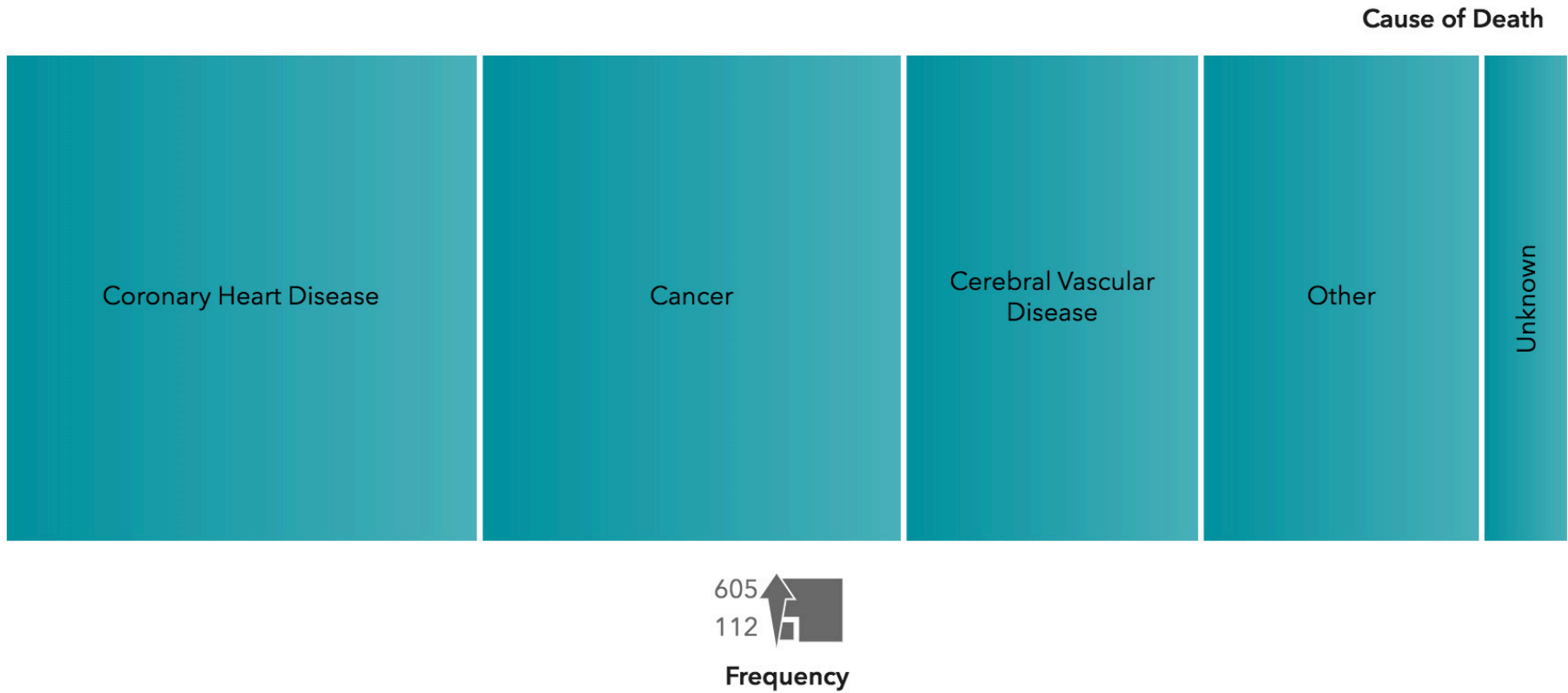
Assessment

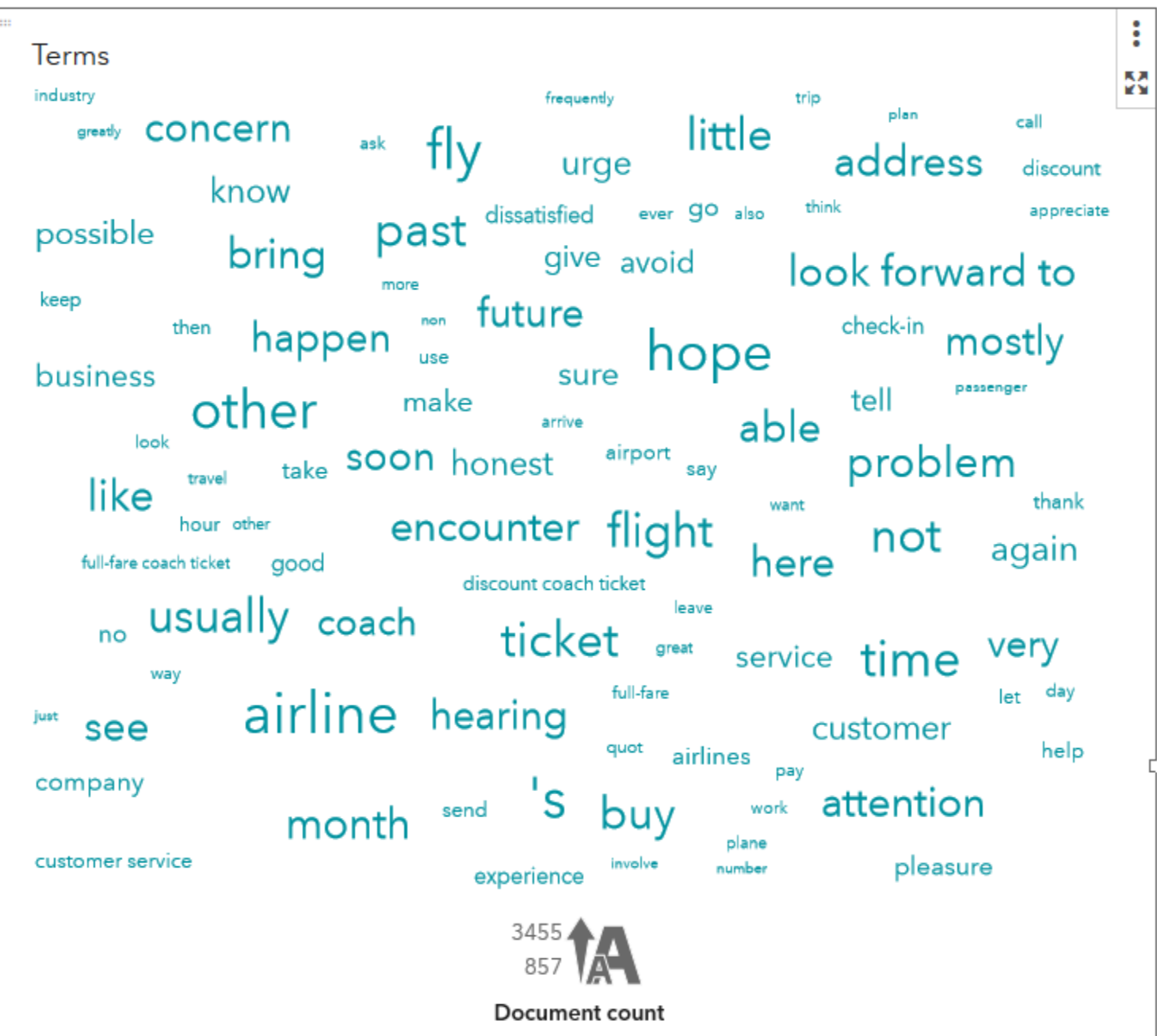


Frequency of Blood Pressure Status



Frequency of Cause of Death





Documents				
Relevance	Document	category	sentiment	Sent
	With complaints about air travel at an all-time high, I hope airlines such as yours are willing to listen to passengers like me. I would like to bring to your attention a...	value	-1	
	I would like to bring to your attention a problem I encountered with your airline's airport check-in. On my return from London, one of my suitcases was a four kilo...	check-in	-1	
	I would like to bring to your attention a problem I encountered with your airline's airport check-in. My daughter took a flight from BWI to STL on July 16, 2001. We...	check-in	-1	
	I would like to bring to your attention a problem I encountered with your airline's flight attendants. ON MONDAY, JULY 16TH 2001 I WAS ON AMERICA WEST FL...	flight attendants	-1	
	I would like to bring to your attention a problem I encountered with your airline's airport check-in. I was on a vacation gone too long. I was just looking to get ho...	check-in	-1	
	I would like to bring to your attention a problem I encountered with your airline's on-time performance. On Friday, June 22, 2001, we were very dismayed by the l...	on-time performance	-1	
	I would like to bring to your attention a problem I encountered with your airline's customer service (non check-in). I purchased a ticket through Priceline, without...	customer service	-1	
	I would like to bring to your attention a problem I encountered with your airline's airport check-in. Date: July 16, 2001 We are writing to request further compe...	check-in	-1	

Options

Text Topics - text 1

► Object

► Style

► Layout

Text Topics

▼ General

Term parsing and role identification:

Automatic

☒ Analyze document sentiment

☒ Identify term roles

▼ Topic Discovery

Maximum topics:

6

Model Display

► Text Topics

► Text Terms

► Document Table

»

Options

Roles

Actions

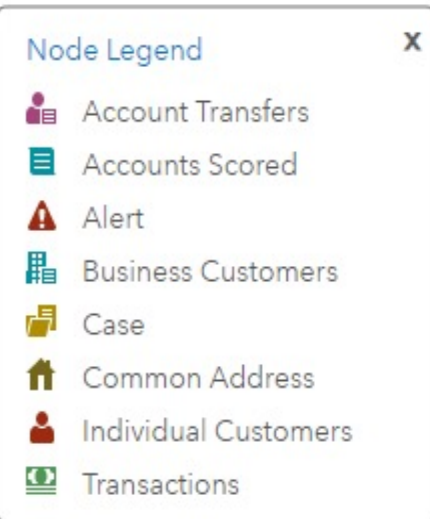
Rules

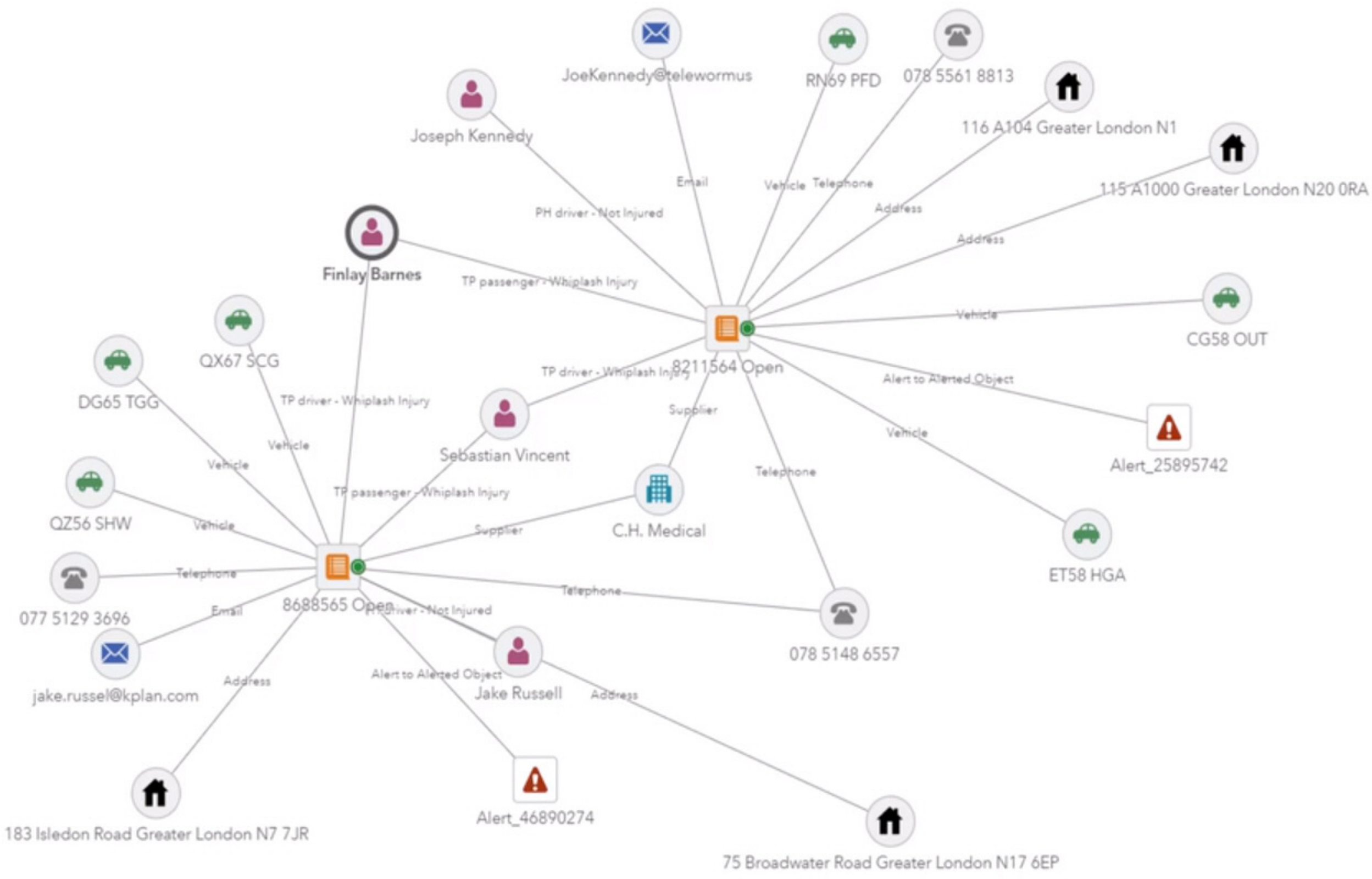
Filters

Ranks

Pin

Last updated date:
22/10/2019 13:33





Tools Network Properties

Apply layout to: Unadjusted nodes

- ☒ Stretch layout
- ☒ Contract layout [Reset layout](#)

Advanced Layout

- ☒ Show node annotation
- ☒ Show node labels
- ☒ Show link labels
- ☒ Show legend

Double-click on node to:

- ☒ Expand
- ☐ Open

Time slider range:

- ☐ Exclude nodes starting before

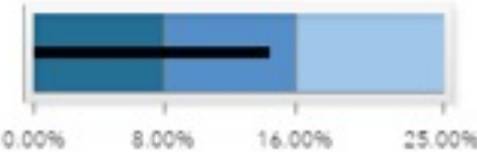
Node Legend

- Address
- Alert
- Claim
- Email
- Individual
- Supplier
- Telephone
- Vehicle



FAST

Marketing % of Sales at FAST
14.38%



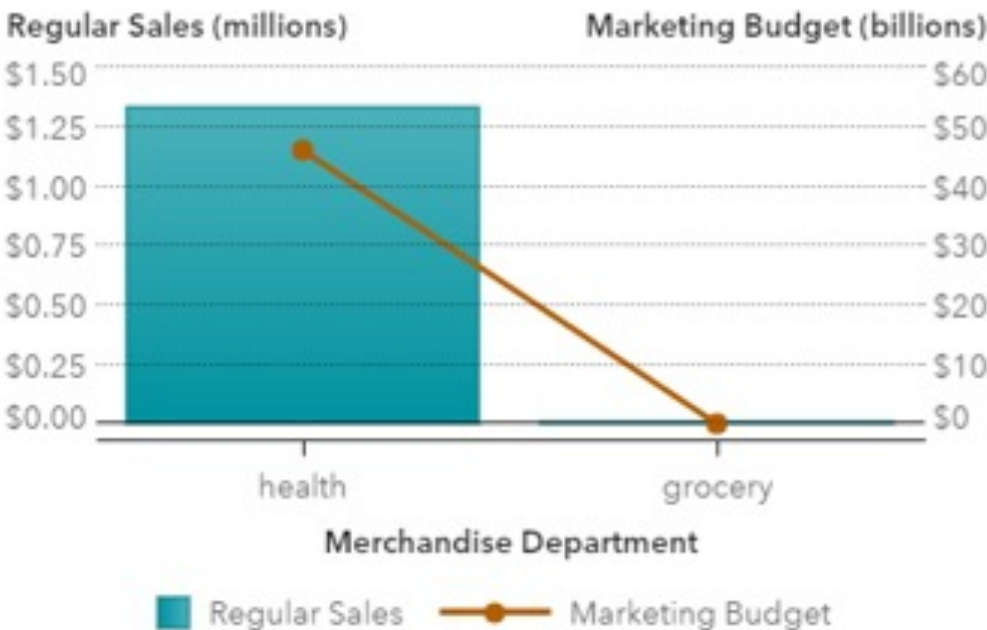
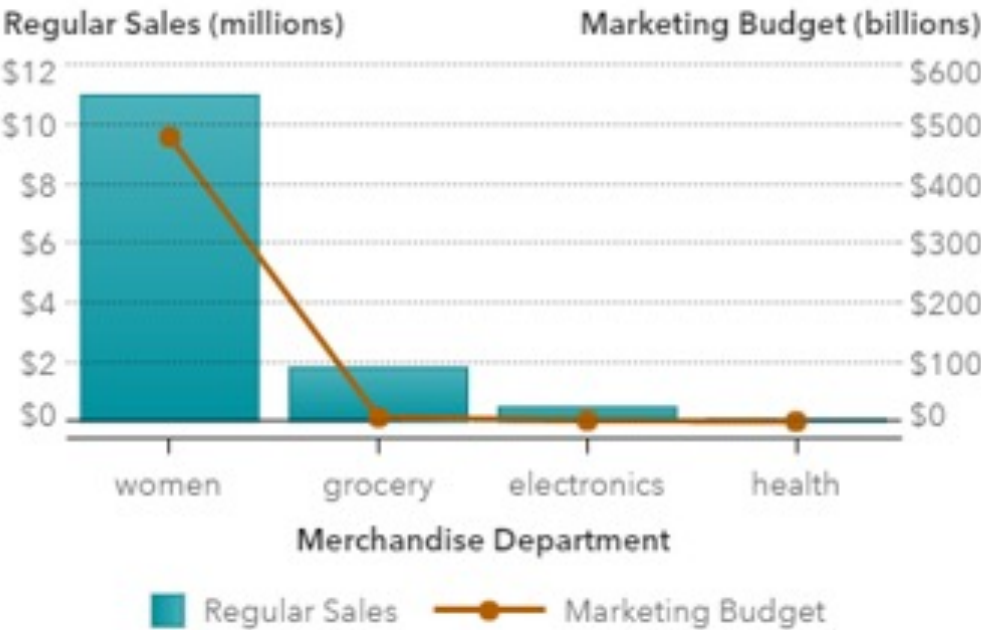
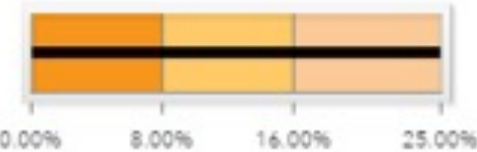
GRAND

Marketing % of Sales at GRAND
0.52%

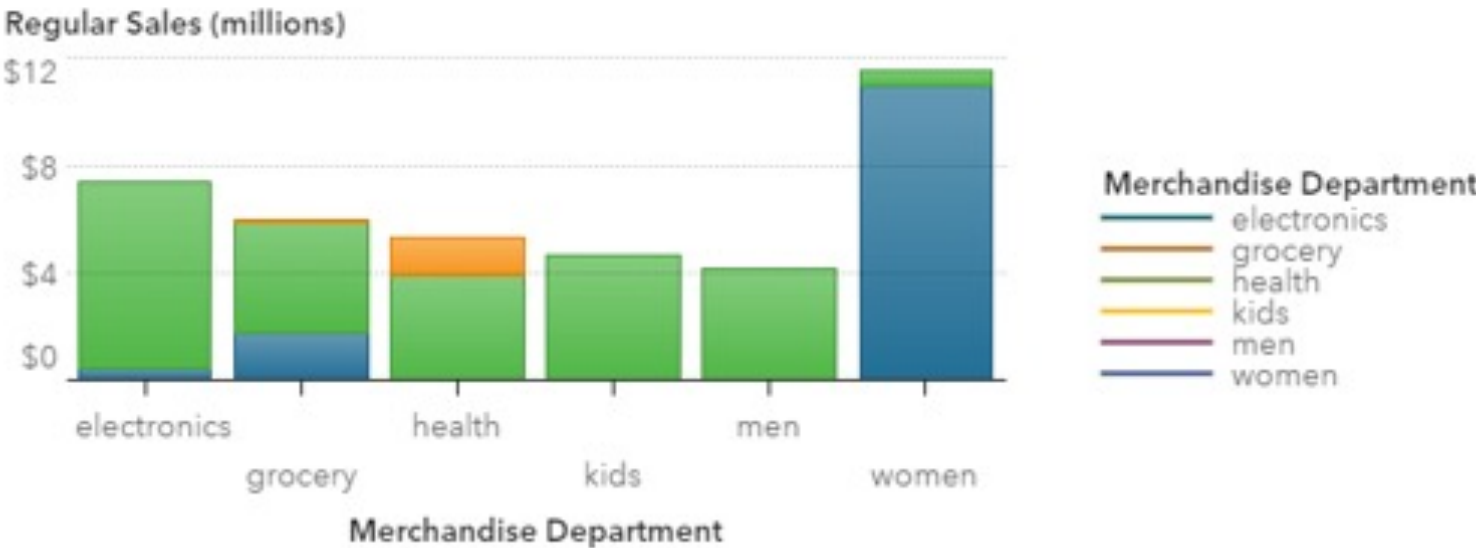


MODA

Marketing % of Sales at MODA
53.15%



All Store Banners



Study Site Identifier ▼

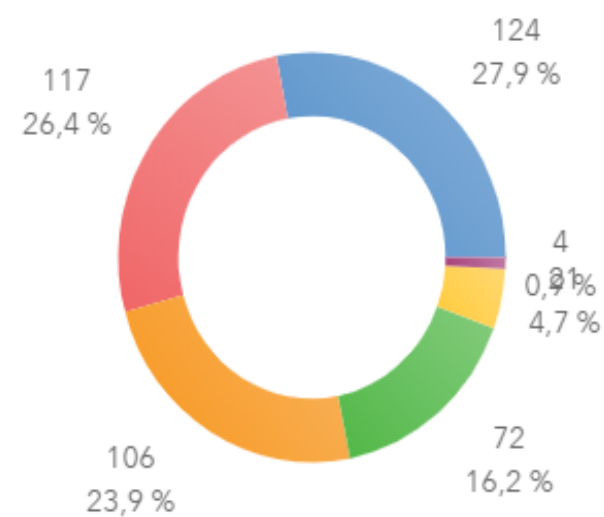
Subject Death Flag ▼



Subjects in the study

444

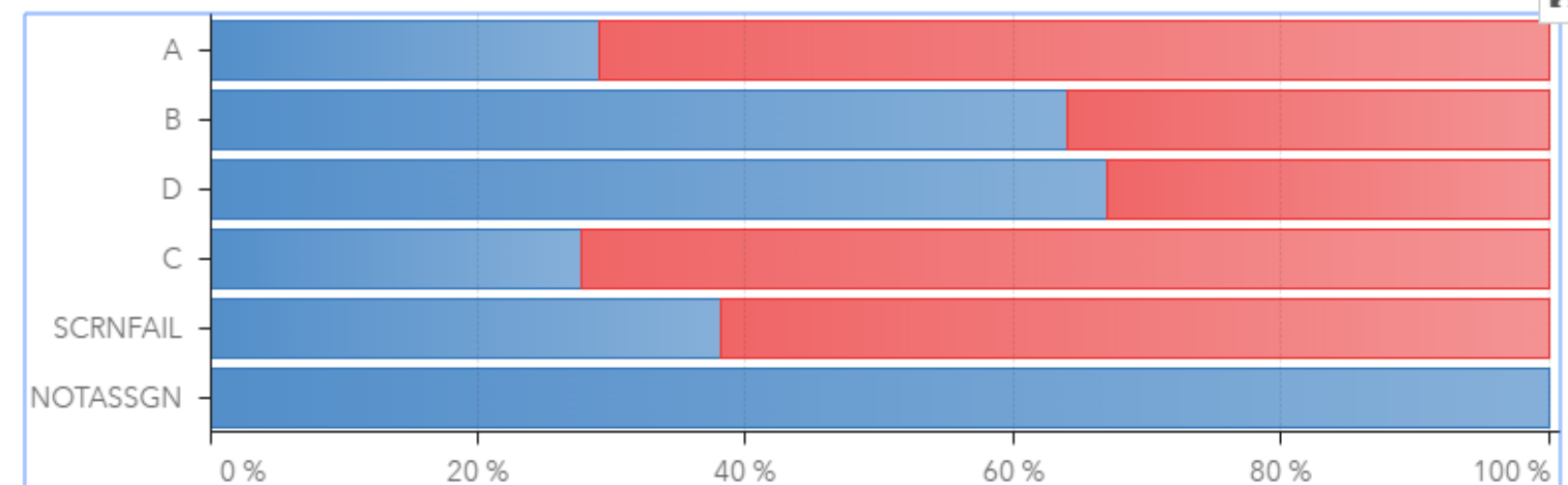
Count of Planned arm



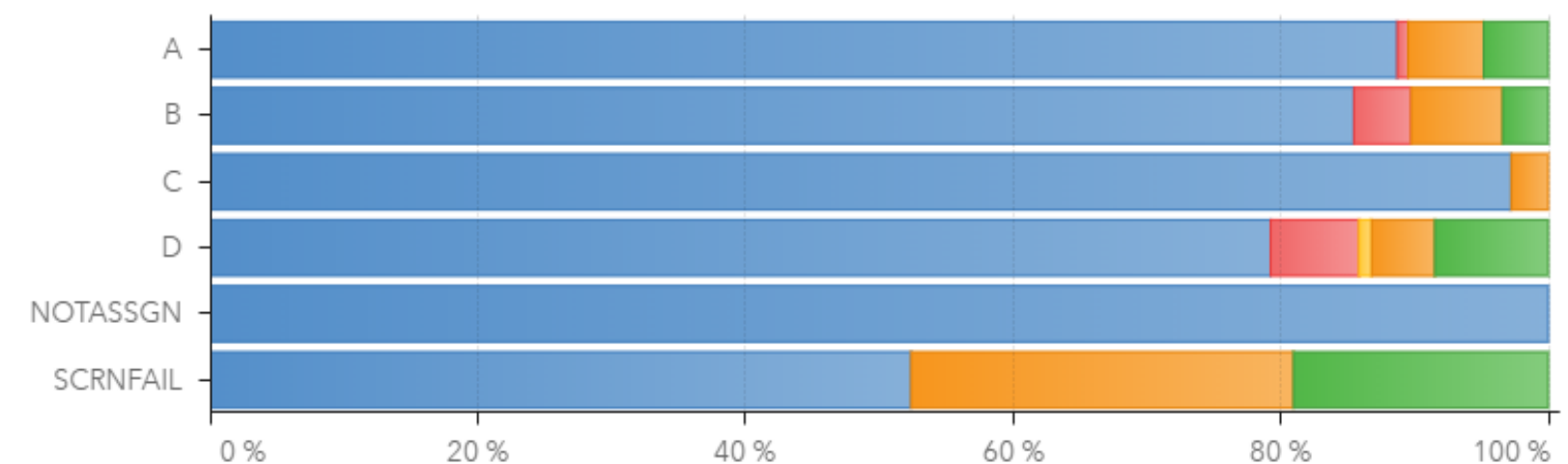
Count of Actual Arm



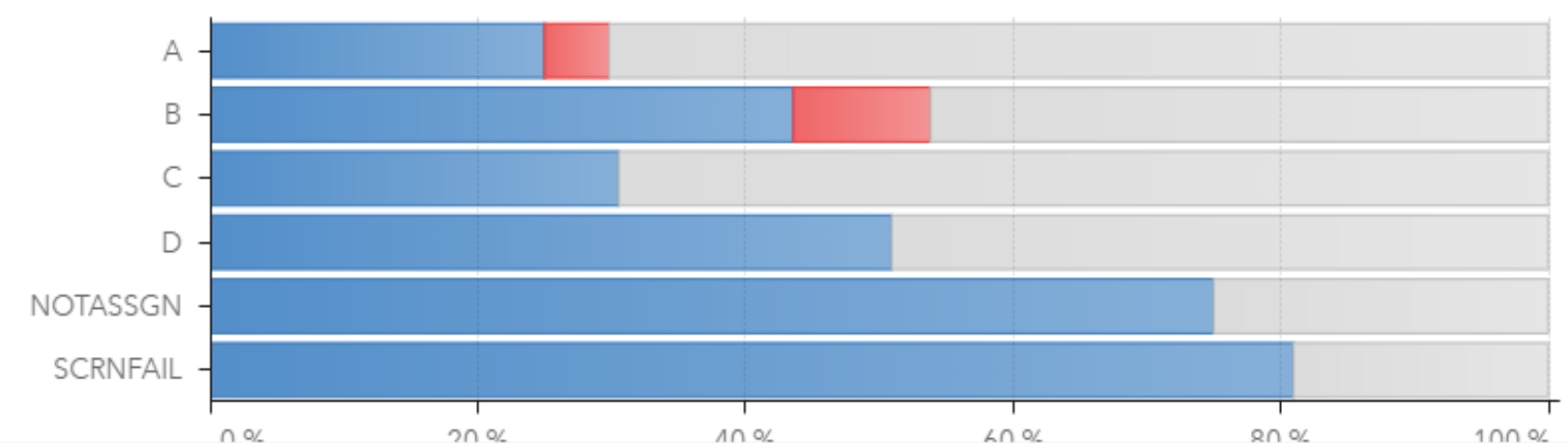
Gender Distribution



Race Distribution



Ethnic Distribution



Description of Planned Arm	Age	Unique Subject Identifier (Distinct Co...	Frequency Percent
Placebo/ProductX 600U	43,9	26	16,22 %
ProductX 600U	46,4	41	27,93 %
Not Assigned	47,5	4	0,90 %
Screen Failure	48,1	13	4,73 %
ProductX 800U	49,1	41	26,35 %
Placebo/ProductX 800U	49,3	29	23,87 %

Study Site Identifier	Subject Identifier for the Study	Unique Subject Identifier	Description of Actual Arm	Subject Reference Start Date/Time	Subject Reference End Date/Time	Date/Time of Informed Consent	Days of
642001	64200100016	STUDY1-6420010...		2018-09-26T...	2018-09-26	2018-09-03	20
616007	61600700001	STUDY1-6160070...		2018-08-07T...	2018-08-07	2018-07-06	20
792006	79200600018	STUDY1-7920060...		2018-03-27T...	2018-03-27	2018-03-06	20
840009	84000900002	STUDY1-8400090...		2018-07-17T...	2018-07-17	2018-05-24	20
792006	79200600015	STUDY1-7920060...		2018-03-02T...	2018-07-03	2018-02-21	20
792006	79200600021	STUDY1-7920060...		2018-04-26T...	2018-08-02	2018-04-12	20
840011	84001100008	STUDY1-8400110...		2018-08-06T...	2018-08-06	2018-07-16	20
642001	64200100014	STUDY1-6420010...		2018-08-29T...	2018-08-29	2018-08-07	20
840042	84004200003	STUDY1-8400420...		2018-09-27T...	2018-09-27	2018-09-11	20
380010	38001000009	STUDY1-3800100...		2018-03-22T...	2018-03-22	2018-02-13	20

SAS Visualisation Examples

COMMUNITIES

Community ▾

Learn ▾

Programming ▾

Analytics ▾

SAS Viya ▾

Administration ▾

Solutions ▾

Hubs ▾

Sign In

SAS Visual Analytics Gallery

A place to share and chat about interesting stories told through beautiful visualizations

Search the community

Knowledge base ▾

🔍

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Options ▾

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RSS Feed

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1

2

3

4

5

Next » >

DEATH OF OUR FORESTS

GLOBAL DEFORESTATION - DRIVERS AND IMPACT

BRAZIL
54.5 Mha
2000-2020

ANGOLA
11.1 Mha
2000-2020

INDONESIA
9.1 Mha
2000-2020

PARAGUAY
6.9 Mha
2000-2020

BOLIVIA
4.3 Mha
2000-2020

MALAYSIA
6.6 Mha
2000-2020

SAS viya

Death of our Forests-Visualizing drivers & impact of global deforestation with SAS Visual Analytics

Every year the world loses more than 5 million hectares of forest - or according to the science journal Nature, about 42 million trees a day. The biggest driver agriculture, causes forests to be cleared for growing crops, raising livestock or...

0

👍 2

The Rise of Megacities

Impact of Global Population Growth

By 2025 the world's population will sit at 8,155,884,000 people. While some regions, like Europe, will experience slow growth, many cities in Africa and Asia continue to grow in the 21st century. Latest world population estimates predict, Earth will be home to 10 billion people by 2025.

Largest Megacities

SAS viya

The Rise of Megacities - Visualizing global population growth with SAS Visual Analytics

Given data provided by United Nations, by 2025 the world's population will sit at more than 8 billion people. While some regions, like Europe, will experience slow growth, many cities in Africa and Asia continue to grow in the 21st century. Latest...

0

👍 1

Frequency of Topic Areas

200

Subtopic

Scientific, Cultural, Place, Technological, Food Drink, Government, History, Sport, Literature

Guesses by Article Title

35, 28, 22, 21, 21, 20, 20, 20, 19, 18, 17, 11, 10, 9, 8, 7, 6, 5, 4, 3, 2, 1

What happens when a writer tries his hand at data visualization?

Data visualization might seem daunting to the uninitiated. In the interest of breaking down that barrier, I turned myself into a test subject: a writer with zero data viz experience learning SAS Visual Analytics and putting it to work on some personal data.

0

👍 3

AIR QUALITY ANALYSIS UNITED STATES

Map of the United States showing air quality data.

SAS viya

REACHING FOR THE STARS THE HIPPARCOS-2 CATALOGUE

118,218

Map of the sky showing the Hipparcos-2 catalogue.

SAS viya

Queenslanders On The Move

Monitoring the states road traffic

Map of Queensland showing road traffic data.

SAS viya

REACHING FOR THE STARS THE HIPPARCOS-2 CATALOGUE

118,218

Map of the sky showing the Hipparcos-2 catalogue.

SAS viya

Use data for good through GatherIQ

Data visualization blog posts

Data visualization SAS Global Forum 2021 Proceedings

SAS Communities Library articles about SAS Visual Analytics

Designing Beautiful Reports - Best practices from SAS User Experience

👉

How to post in the gallery

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Premiering October 5, 11 am ET

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Thank You – Any Questions?