

An Analysis of Boba Yelp Reviews

MSA Share 20*

Violet Evans and Gloria Su





• •



6



The predictors of boba shop ratings of Raleigh, N.C. and New York City, N.Y. have ZERO overlap.



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About us





Violet Evans



Location

Raleigh, North Carolina

Boba Order

Medium black milk tea
with boba



Adjustments



Favorite Shop

Meetfresh Chapel Hill



About Us

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Conclusion



Gloria Su



Location

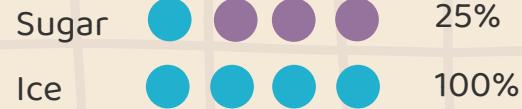
Chapel Hill, North Carolina



Boba Order

Medium salted caramel milk tea

Adjustments



Favorite Shop

Mixue



02

☰ Data ☰

Extraction



Category Variables

bubble tea | Raleigh, NC

Restaurants ▾ Home Services ▾ Auto Services ▾ More ▾

OM.Tea BOBA & BITES

4.5 (58 reviews)

Claimed • \$\$ • Bubble Tea, Coffee & Tea, Juice Bars & Smoothies

Open 11:00 AM - 9:00 PM See hours

Write a review Add photo Share Save

Order Food

Delivery Takeout

See all 173 photos

About Us

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Roadmap to Boba.csv

Yelp Fusion

Create App for API key



Preparation

Defining features for analysis



Api Wrapper

Import YelpApi from GitHub [@qfairchild](#)



Web Scraping

Used Python to make requests to Yelp API

Yelp Fusion API

Definition



Set of web services for access Yelp's data

Path



/businesses/search

Caveat



API does not return businesses without any reviews

Access Action



Create App for API Key

Limitations



500 API calls per day
3 reviews per business

Yelp Api Wrapper



Source

GitHub @gfairchild



Action

Clone YelpApi into remote repository for use



Wrapper

simplifies interaction
with the Yelp API



Use Case

Authentication
handling, response
parsing, and error
handling

Preparation

Defining key variables for extraction

- ❖ Location
- ❖ Radius
- ❖ Open_at
- ❖ Limit ≤ 20
- ❖ Price
- ❖ Attributes
 - Wifi_free
 - Hot_and_new
 - Liked_by_vegetarians

Note: Check for NAs!





Web Scraping



Action

Used Python to make requests to Yelp API



End Product

Boba.csv

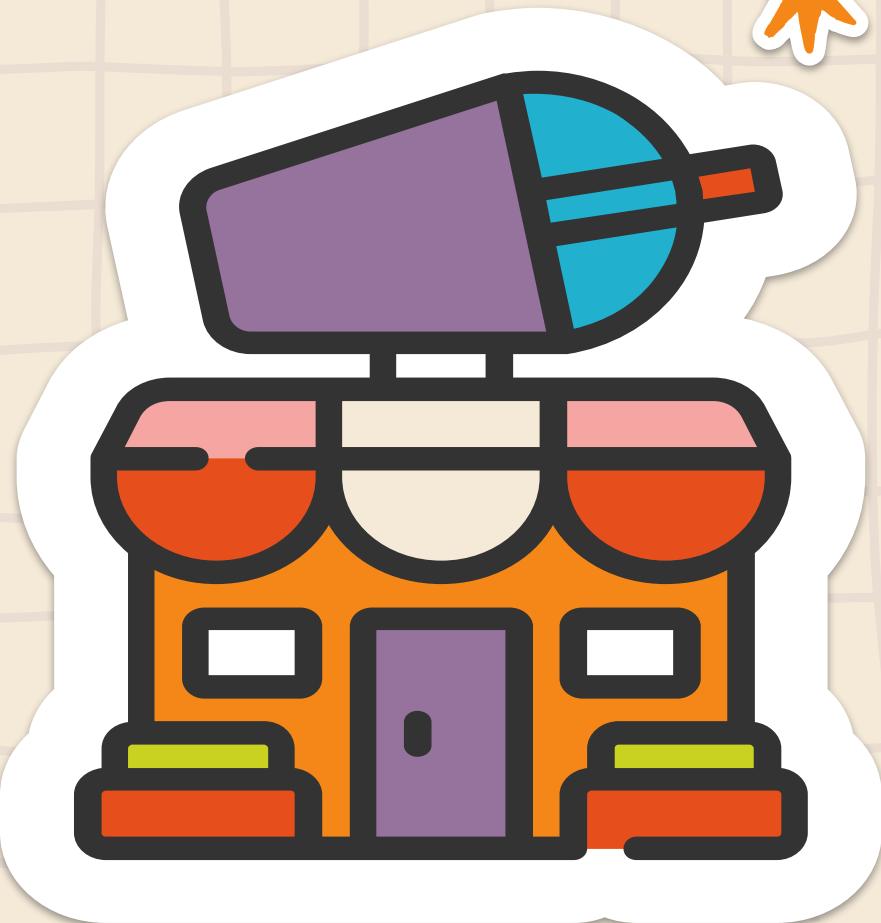


Extras

Creating additional variables



↗ Boba.csv: Order Received



Variables in Boba.csv

- ❖ **Name**
- ❖ Phone
- ❖ **Rating**
- ❖ **Address**
- ❖ Street Address
- ❖ City
- ❖ **Categories**
- ❖ Review Count
- ❖ Latitude
- ❖ Longitude
- ❖ **Reviews**
- ❖ **Source**
- ❖ **Authenticity ***
- ❖ **Restaurant ***
- ❖ Chain *
- ❖ Price

*indicates binary variable

Category Variables

bubble tea

Raleigh, NC

Restaurants ▾ Home Services ▾ Auto Services ▾ More ▾

OMTea Boba & Bites

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See all 173 photos

Write a review Add photo Share Save

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Delivery Takeout

About Us

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03

Data

Exploration



Statistical Assumptions

- ❖ Normality

($p = 3.841 \times 10^{-4}$)

- ❖ Equal Variance

($p = 0.813$)

- ❖ Independence



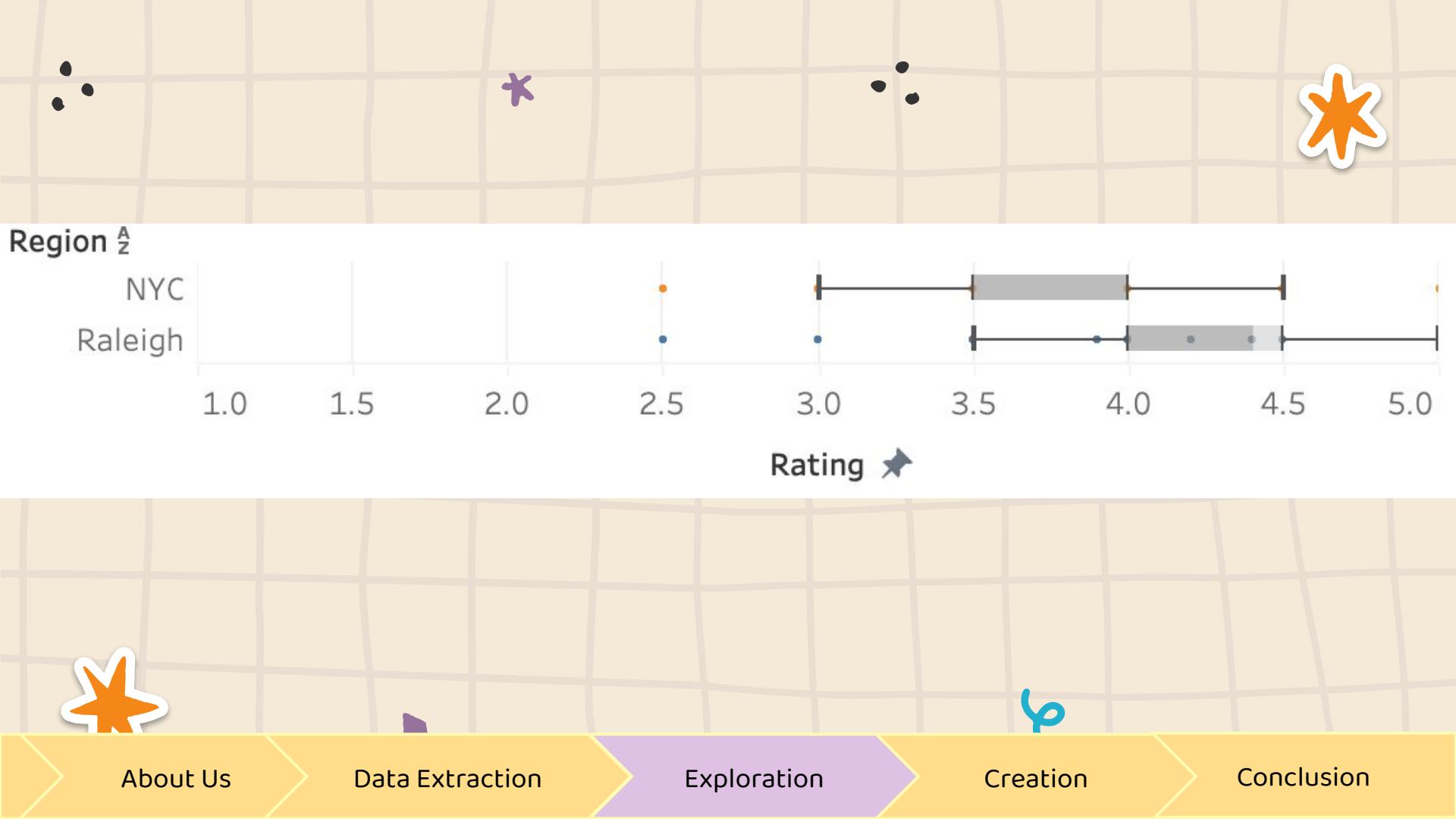
Raleigh

n= 44



New York City

n= 70



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Difference in Ratings

- ❖ Two Sample t-test

($p = 0.005$)

- ❖ Difference in Means:

$\bar{x} = 0.350$



Raleigh

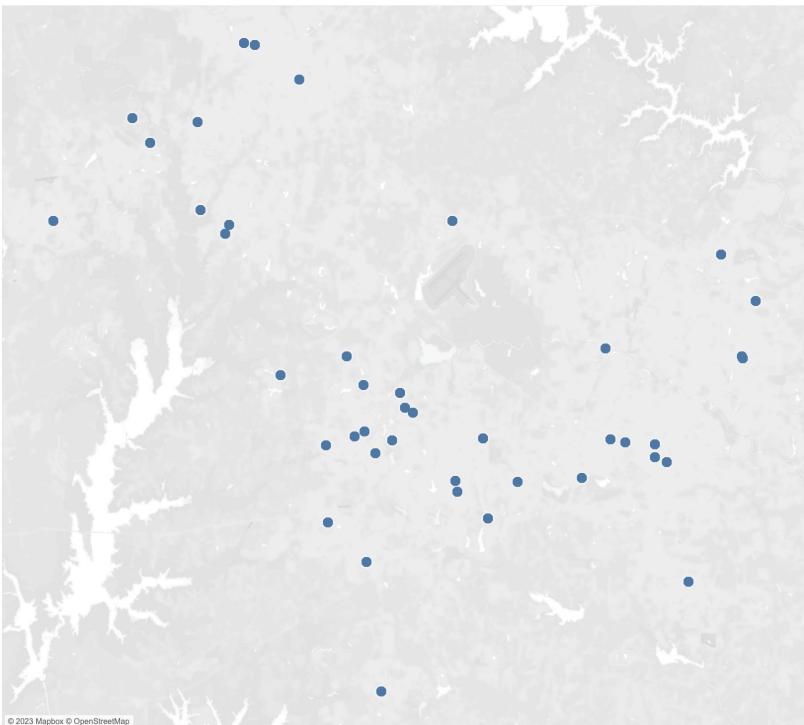
Mean rating: 4.159



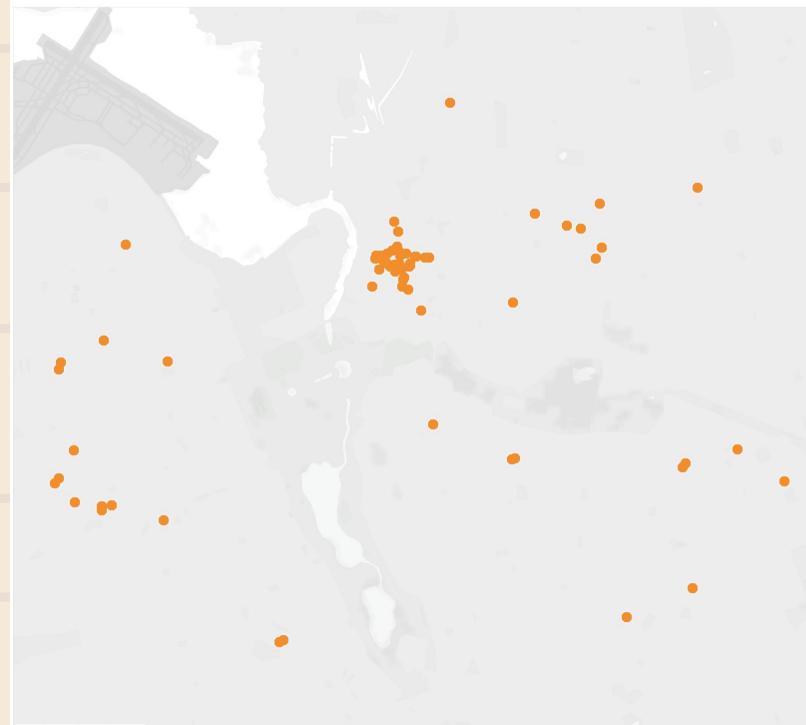
New York City

Mean rating: 3.836

Raleigh Boba Map



NYC Boba Map



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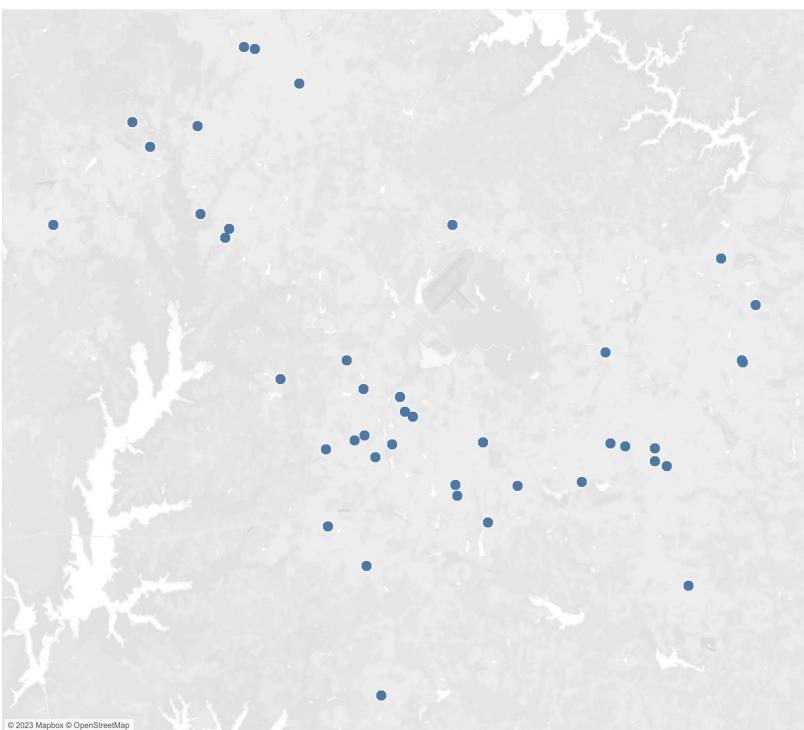
Data Extraction

Exploration

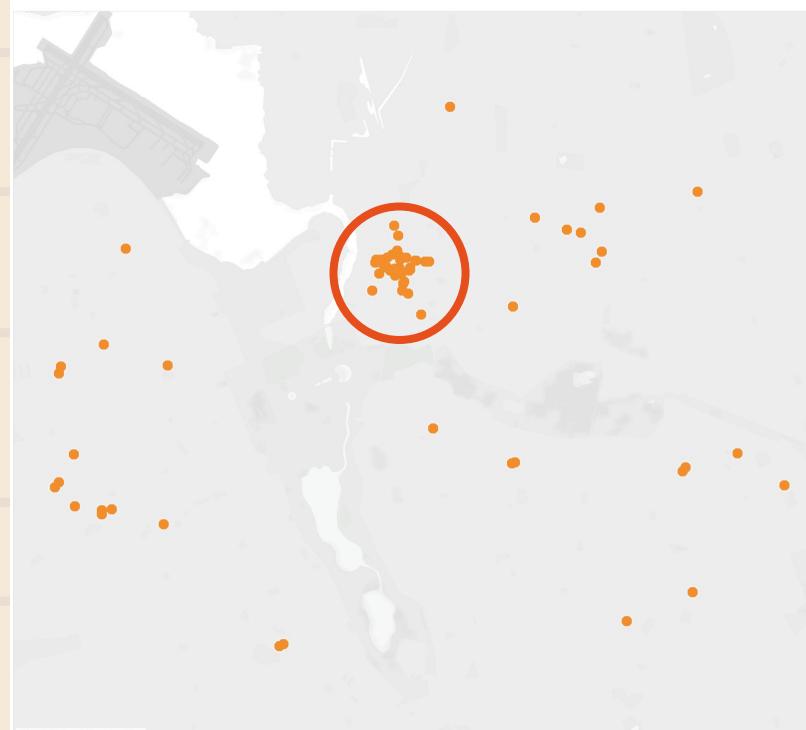
Creation

Conclusion

Raleigh Boba Map



NYC Boba Map



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04

Model Building



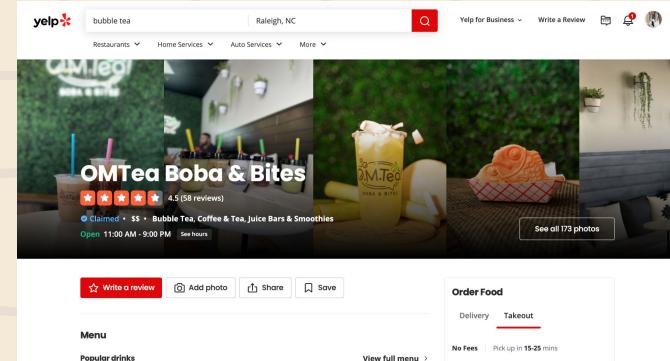
Raleigh, N.C.



Variables

AIC = 49.85

Rating ~ juice_bars_smoothies_ind + asian_fusion_ind +
coffee_tea_ind + bakeries_ind + tea_rooms_ind



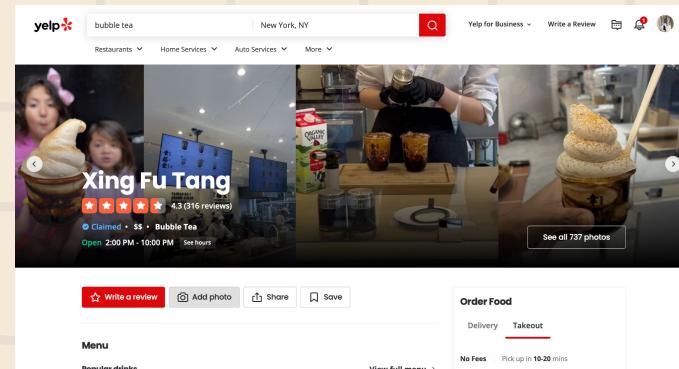
New York City, N.Y.



Variables

AIC = 19.72

Rating ~ custom_cakes_ind + Authenticity + chain





Raleigh vs New York City

- ❖ Comparison of predictors
- ❖ Welch's test found a **true difference in means** ($p= 0.004$)
- ❖ **Predictor variable differences:**

juice_bars_smoothies_ind, asian_fusion_ind, coffee_tea_ind,
bakeries_ind, tea_rooms_ind, custom_cakes_ind, Authenticity,
chain

05

Conclusion



What makes good ratings for a Boba Shop?



Raleigh

Asian fusion

Authenticity
not so much!

Bakeries

Having sweets
to eat w/ boba!

NYC

Authenticity

Make and
Taste-wise!

Custom cakes

Getting boba while
picking up a
birthday cake!



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About Us

Data Extraction

Exploration

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Thanks!

Do you have any questions?

Please feel free to reach out:

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gsu@ncsu.edu

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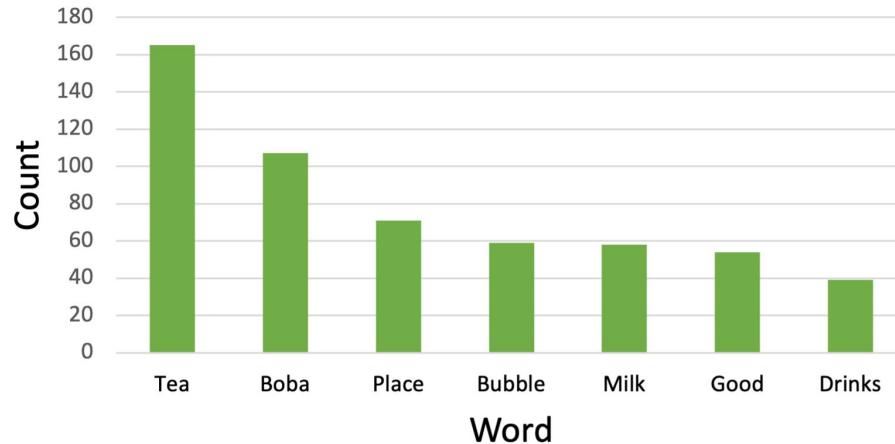
07

Appendix



Text Analytics

Top Words Across Reviews





What sets us apart?



Mercury

It's the closest planet to the Sun and the smallest one in the Solar System



Venus

Venus has a beautiful name and is the second planet from the Sun



Mars

Despite being red, Mars is actually a cold place. It's full of iron oxide dust



Guiding principles



Venus

Venus is the second planet from the Sun



Jupiter

It's the biggest planet in the Solar System



Mars

Despite being red, Mars is a cold place, not hot



Saturn

Saturn is a gas giant and has several rings



"This is a quote, words full of wisdom
that someone important said and can
make the reader get inspired."

—Someone Famous

Market share



Venus

Venus has a beautiful name

Mars

Mars is a cold place, not hot

Jupiter

Jupiter is the biggest planet

Mercury

Mercury is the smallest planet

Follow the link in the graph to modify its data and then paste the new one here. [For more info, click here](#)

Buyer journey

1 **Awareness** Venus is the second planet from the Sun

Despite being red, Mars is a cold place **Consideration** 2

3 **Decision** Jupiter is the biggest planet of them all

Sales funnel

Interest

Venus has a beautiful name

Purchase

Mars is a cold place, not hot

Awareness

Jupiter is the biggest planet

Decision

Mercury is the smallest planet



A picture
is worth a
thousand
words



Competitor analysis



Mercury



Mercury is the closest planet to the Sun

Mars



Mars is actually a very cold place, not hot

Jupiter



Jupiter is the biggest planet of them all

Venus



Venus is the second planet from the Sun

Neptune



Neptune is the farthest planet from the Sun

Saturn



It's composed of hydrogen and helium

SWOT analysis

S W O T

Strengths

Venus is the second planet from the Sun

Weaknesses

Despite being red, Mars is a cold place

Opportunities

Jupiter is the biggest planet of them all

Threats

Saturn is a gas giant and has several rings

Objectives

Short term

Goal 1

Venus has a nice name

Goal 2

Mercury is the smallest planet

Long term

Goal 3

Jupiter is the biggest planet

Goal 4

Mars is a cold place, not hot



Awesome words





Strategy

Goal

Key action 1

Key action 2

Mercury is the
smallest planet

Venus has a
beautiful name

Mars is a cold
place, not hot

Jupiter is the
biggest planet



Key action items

Key action 1

You can describe your items for the quarter here

Key action 2

You can describe your items for the quarter here

Key action 3

You can describe your items for the quarter here

First quarter

Second quarter

Third quarter

You can describe your items for the quarter here

You can describe your items for the quarter here

You can describe your items for the quarter here

Timeline

Day 1

Venus has a
beautiful name



Day 2

Mercury is the
smallest planet



Day 3

Jupiter is the
biggest planet



Day 4

Mars is a cold
place, not hot

Day 5

Neptune is far
away from us



g

*



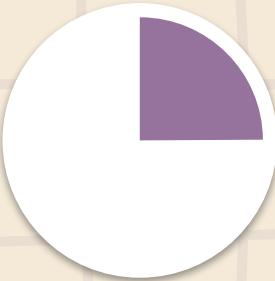


50,000

Big numbers catch your audience's attention

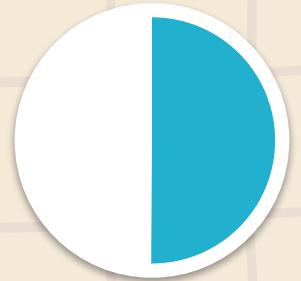


Budget



25%

Venus is the second planet
from the Sun



50%

Despite being red, Mars is a
cold place, not hot



75%

Saturn is a gas giant and
has several rings

KPI overview

25%

Venus

Venus has a
beautiful name

75%

Mercury

Mercury is the
smallest planet



The slide title goes here!

Do you know what helps you make your point clear?

Lists like this one:

- They're simple
- You can organize your ideas clearly
- You'll never forget to buy milk!

And the most important thing: the audience won't miss the point of your presentation





Our team



Susan Bones

You can speak a bit about
this person here

Timmy Jimmy

You can speak a bit about
this person here



Social media

You can replace the image on the screen with your own work. Just right-click on it and select "Replace image"



Icon pack: Bubble tea



Alternative resources

Here's an assortment of alternative resources whose style fits the one of this template:



Resources

Did you like the resources on this template? Get them for free at our other websites:

Photos

- Happy woman drinking green smoothie
- Mid shot woman drinking green smoothie
- Close-up woman sitting at table holding smoothie
- Smiling black man posing with laptop
- Woman in kitchen looking at the camera

Vectors

- Kawaii bubble tea set
- Kawaii bubble tea illustration
- Kawaii bubble tea collection illustration
- Hand-drawn bubble tea flavors

Icons

- Icon Pack: Bubble Tea

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#ffffff

#f5ead8

#f5a6a2

#dec1e3

#95739c

#f48717

#c9d221

#21b0cd

#333333

how it works.



Pana



Amico



Bro

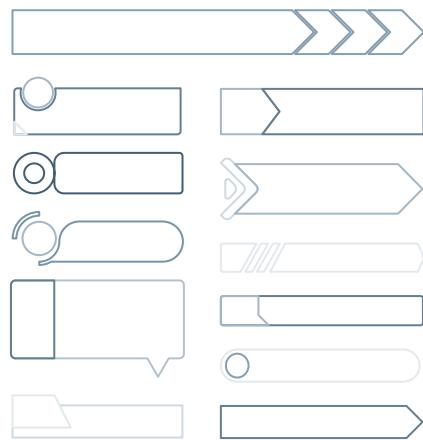


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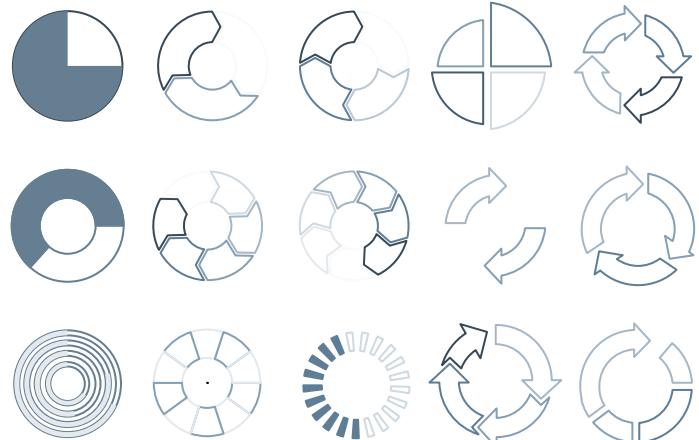


Cuate

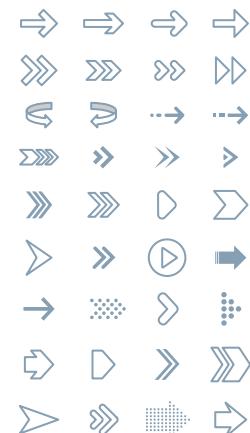
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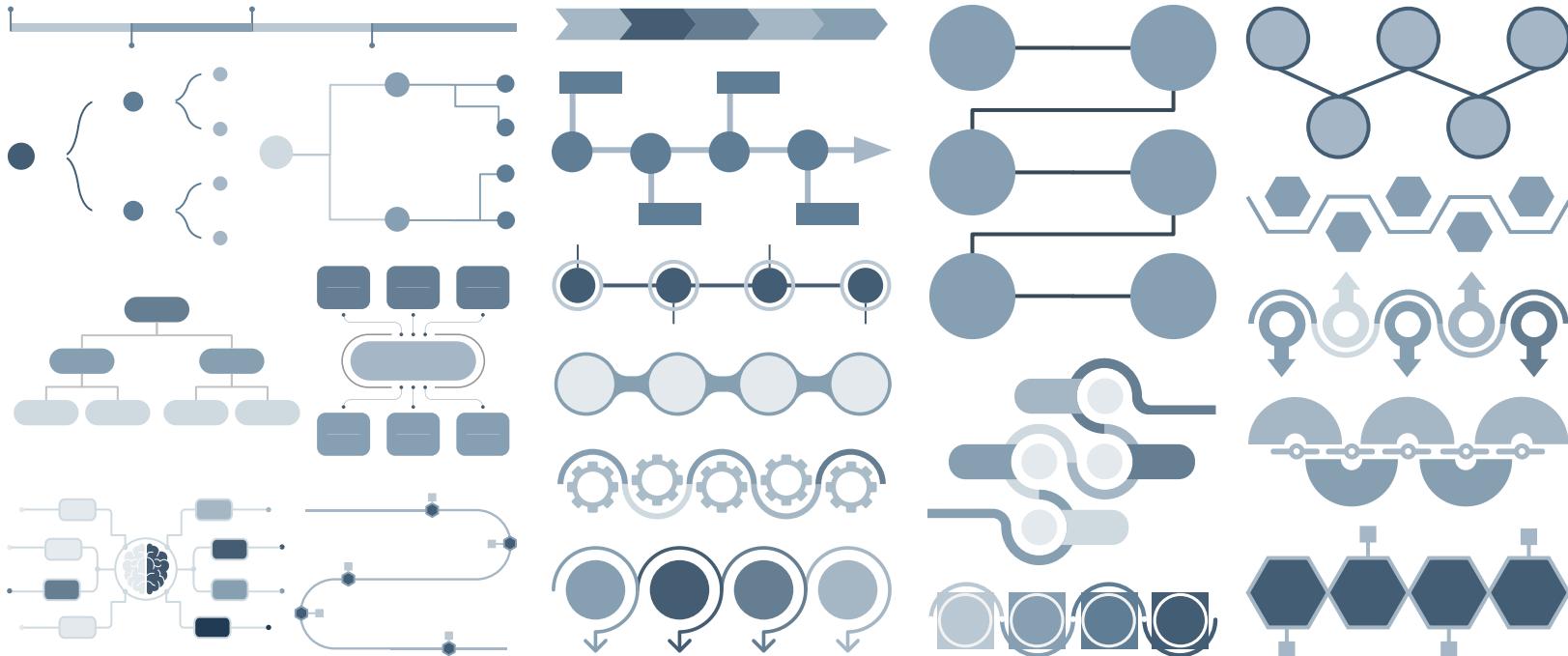
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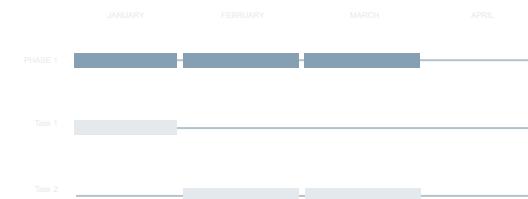
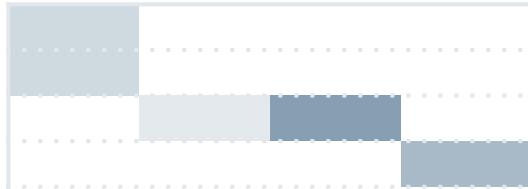
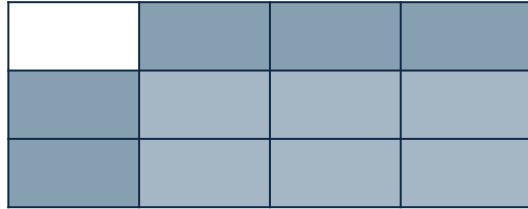
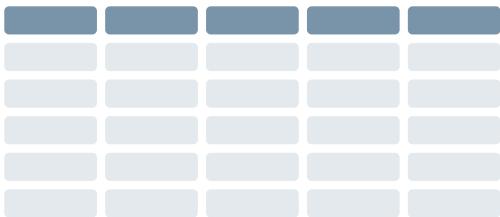
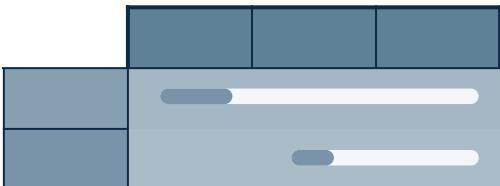
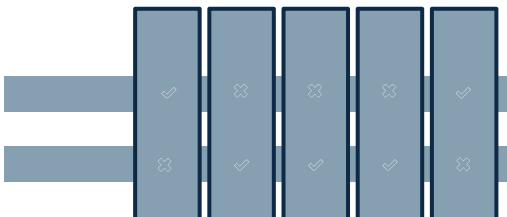
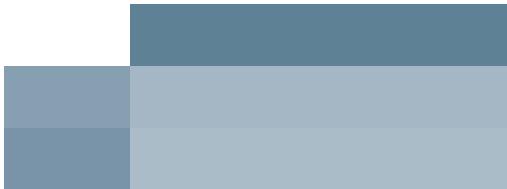
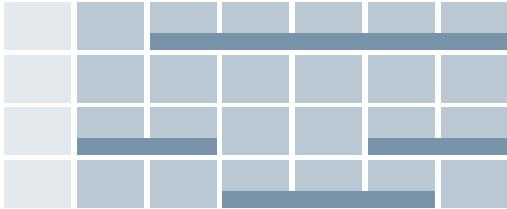


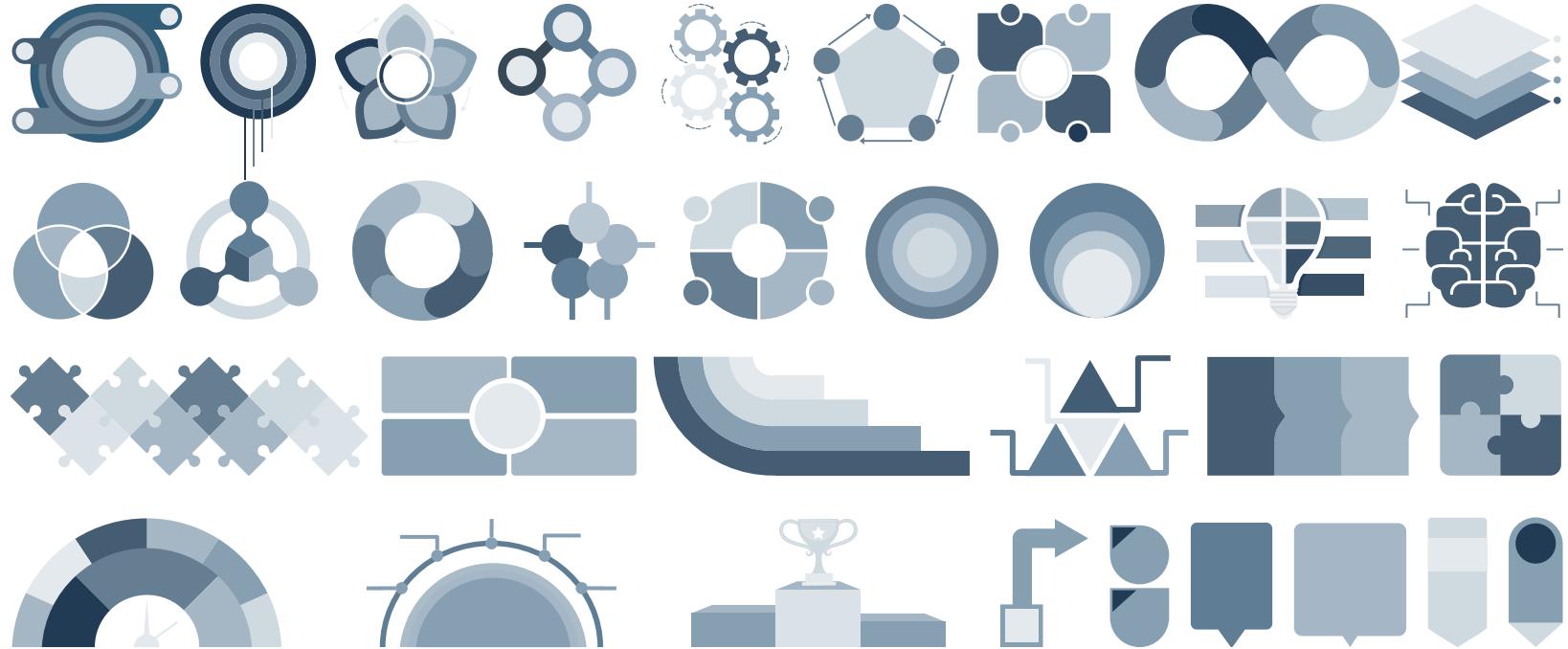
infographics

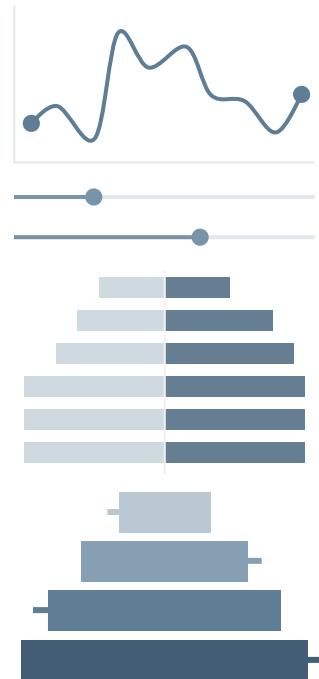
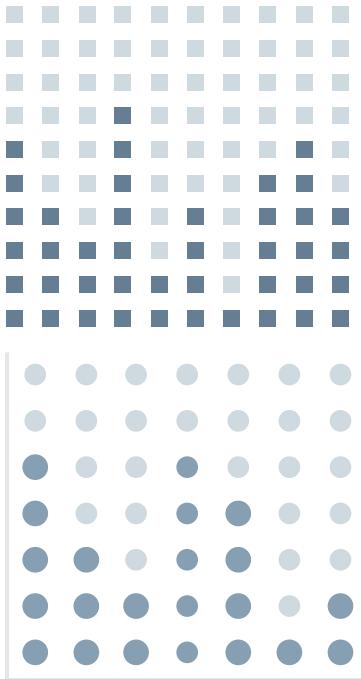














resize
change the stroke and fill color
Flaticon's extension



