Survey Analysis

- Terry Wei, Hsin-Li (Cindy) Kan, Yvonne Hsu, Gautam Devadiga
- Instructed by Prof. David Steier

Deloitte.

X

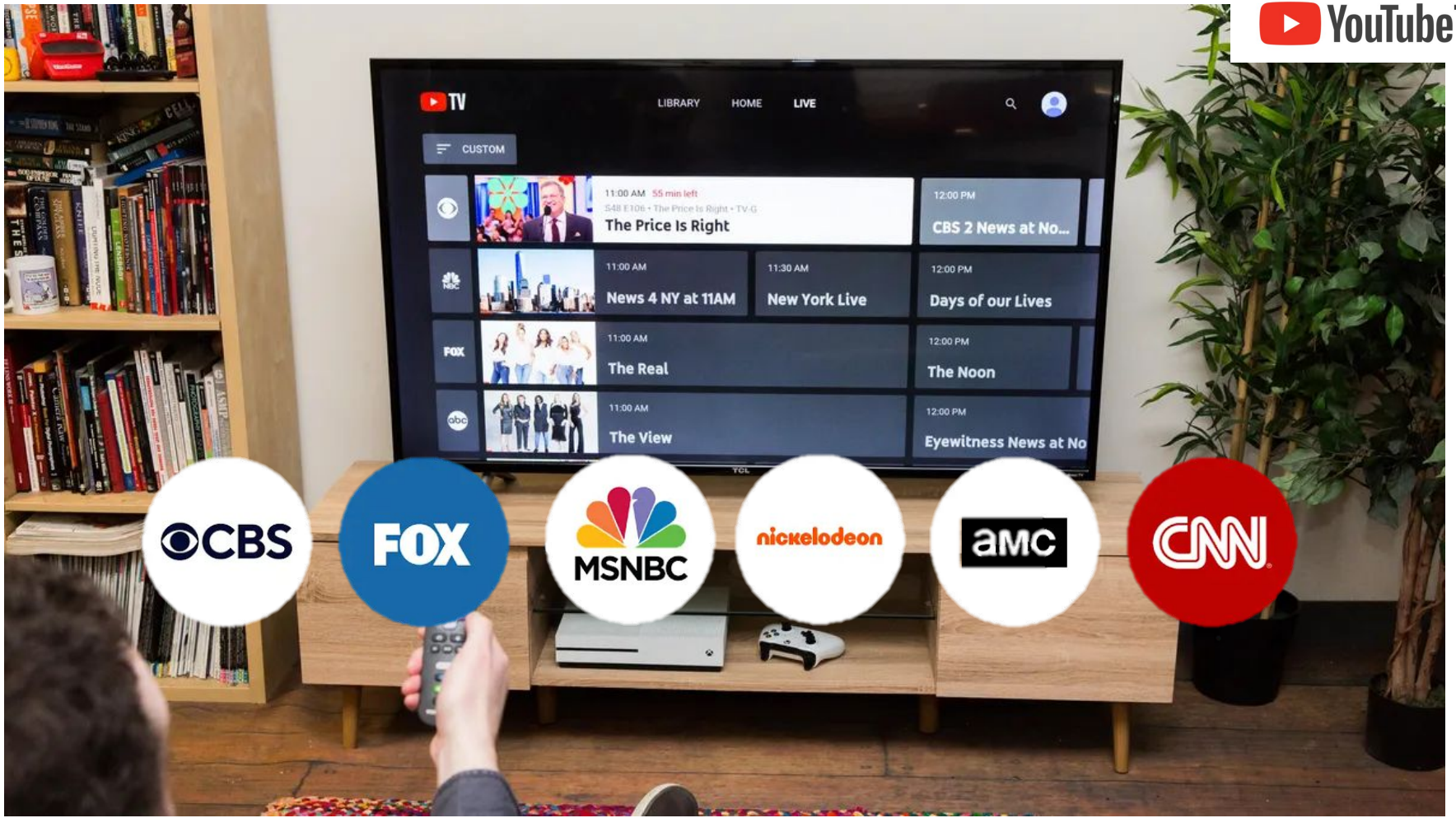
YouTubeTV

Agenda

1. Problems Statement
2. Data Cleaning & PCA
3. Exploratory Data Analysis
4. Customer Segmentation
5. Tailored Marketing Strategy & Recommendations

YouTube TV

2024


YouTubeTV
TV
LIBRARY
HOME
LIVE
CUSTOM
11:00 AM 55 min left
548 E106 • The Price Is Right • TV-G
The Price Is Right
12:00 PM
CBS 2 News at No...
11:00 AM
News 4 NY at 11AM
11:30 AM
New York Live
12:00 PM
Days of our Lives
11:00 AM
The Real
12:00 PM
The Noon
11:00 AM
The View
12:00 PM
Eyewitness News at No
CBS
FOX
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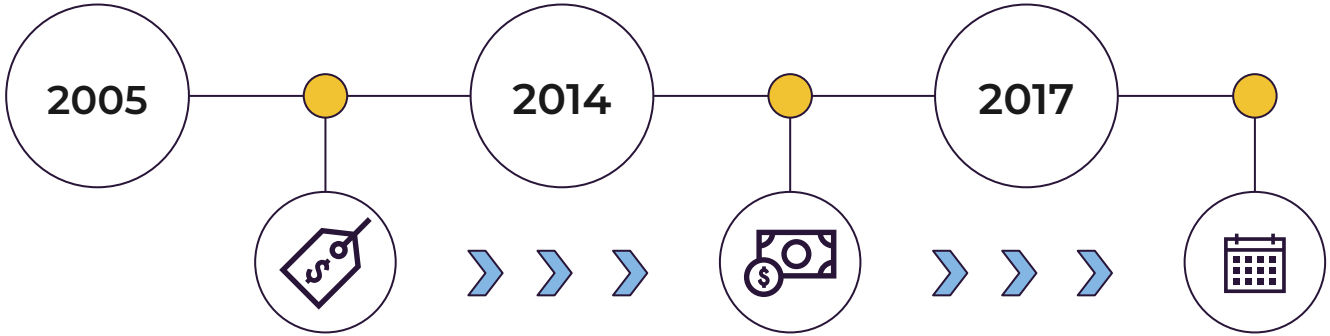
nickelodeon
amc
CNN


BACK
TO
THE FUTURE
OUTATIME

YouTube TV

2017

YouTube product launch time



YouTube

Premium

No advertisement

YouTubeTV

Live TV
Major broadcast networks
Popular cable network

Problem

Who  We are PMs of YouTube TV

Goal  YouTube TV wants to enter the market

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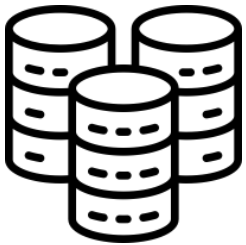
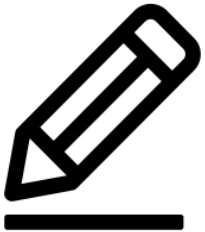
Problem 

- WHO should we target?
- HOW should we treat them?

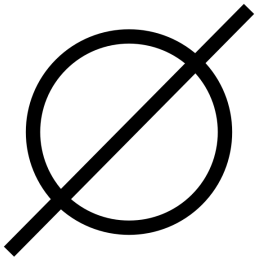
Data Cleaning



Merging
DS11 & DS10



Renaming
Columns

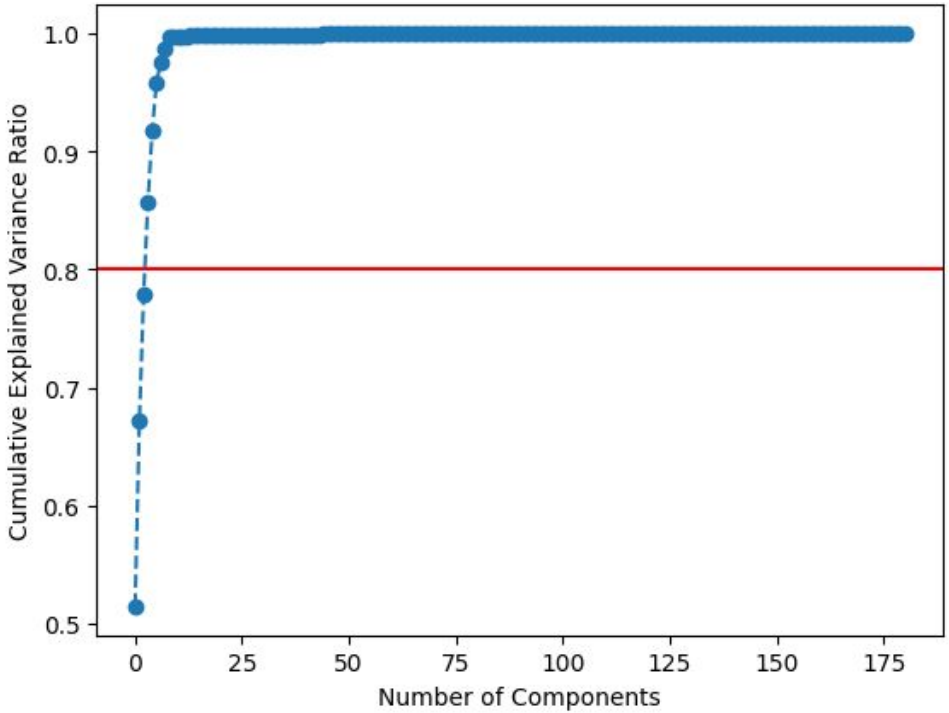


Handling
NULL

Converting
Categorical to Numeric

PCA prep

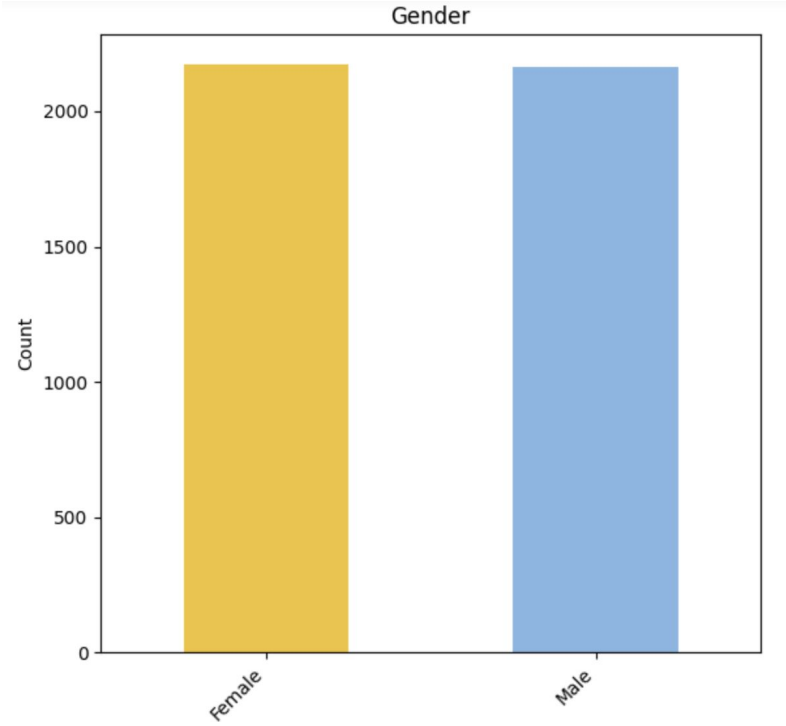
4336 rows x 181 cols

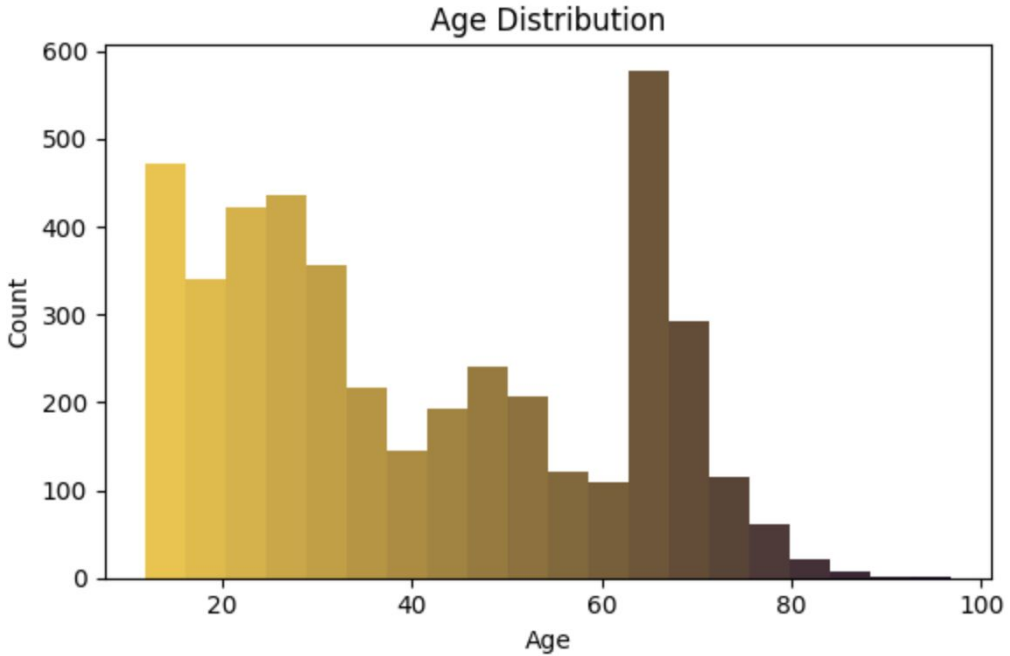


EDA

Before clustering, what do we find in the EDA?

Who are in our Data?





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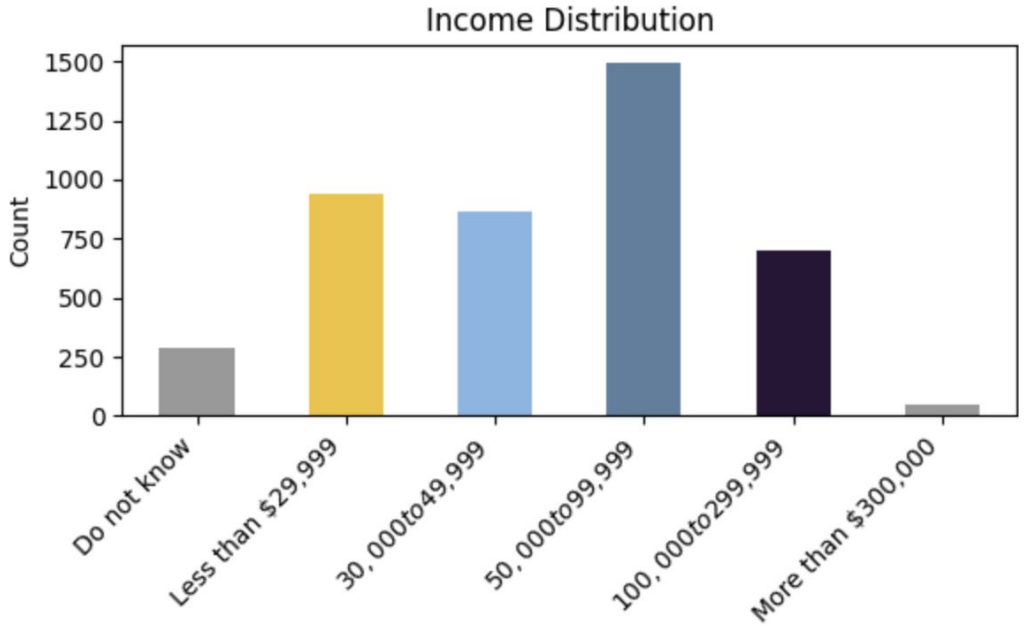

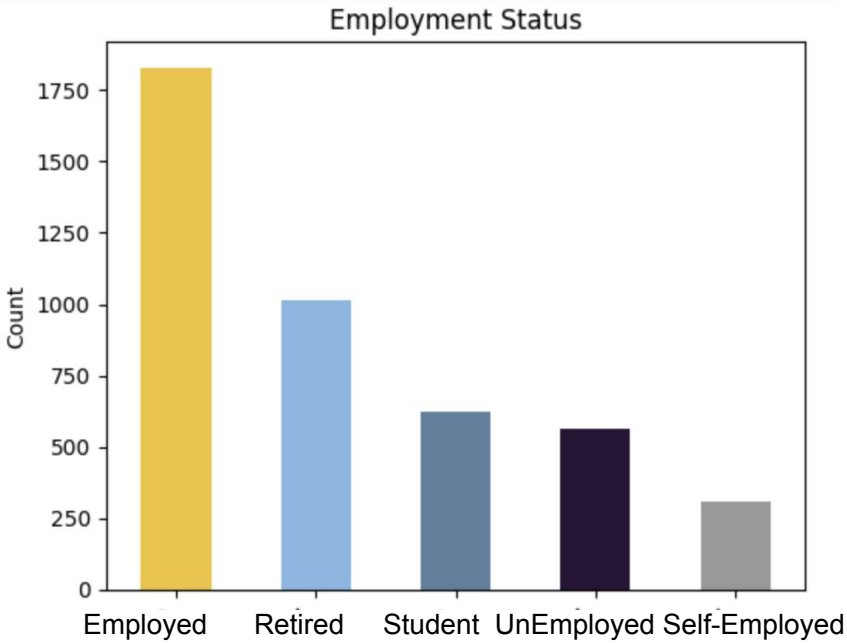

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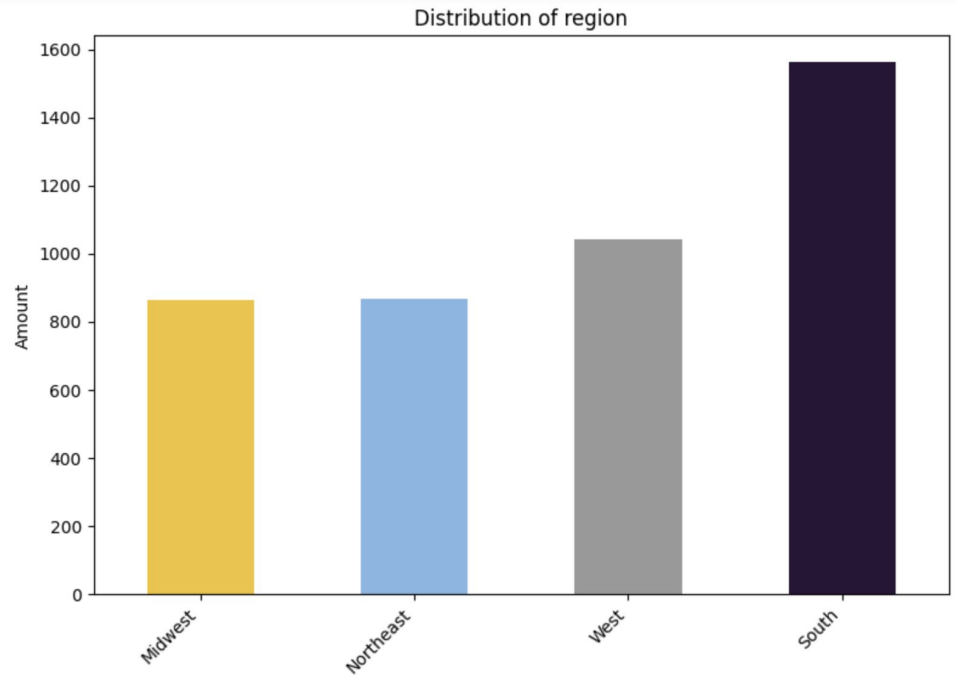

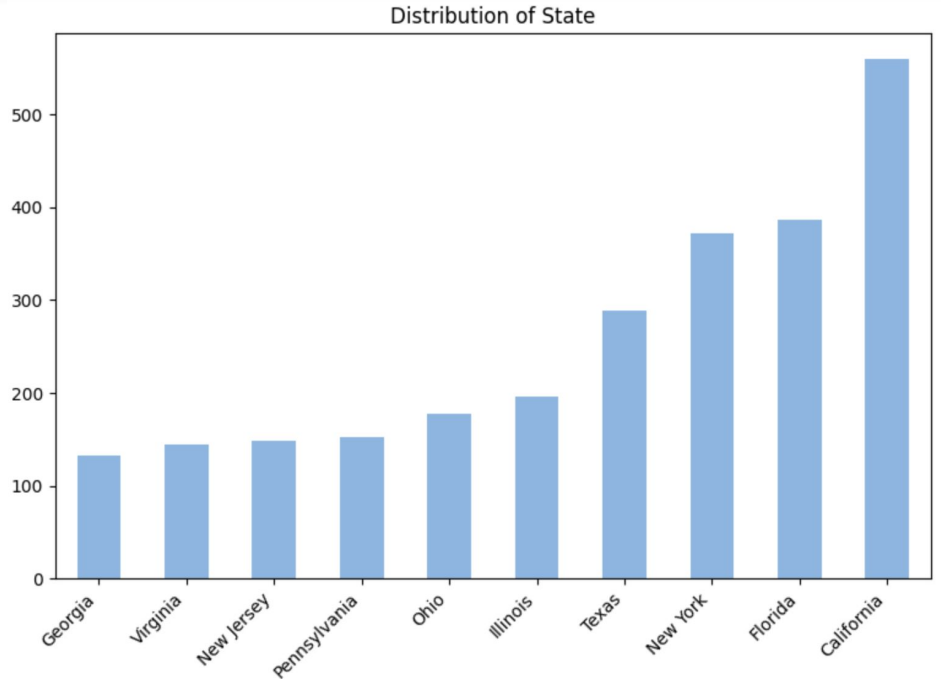

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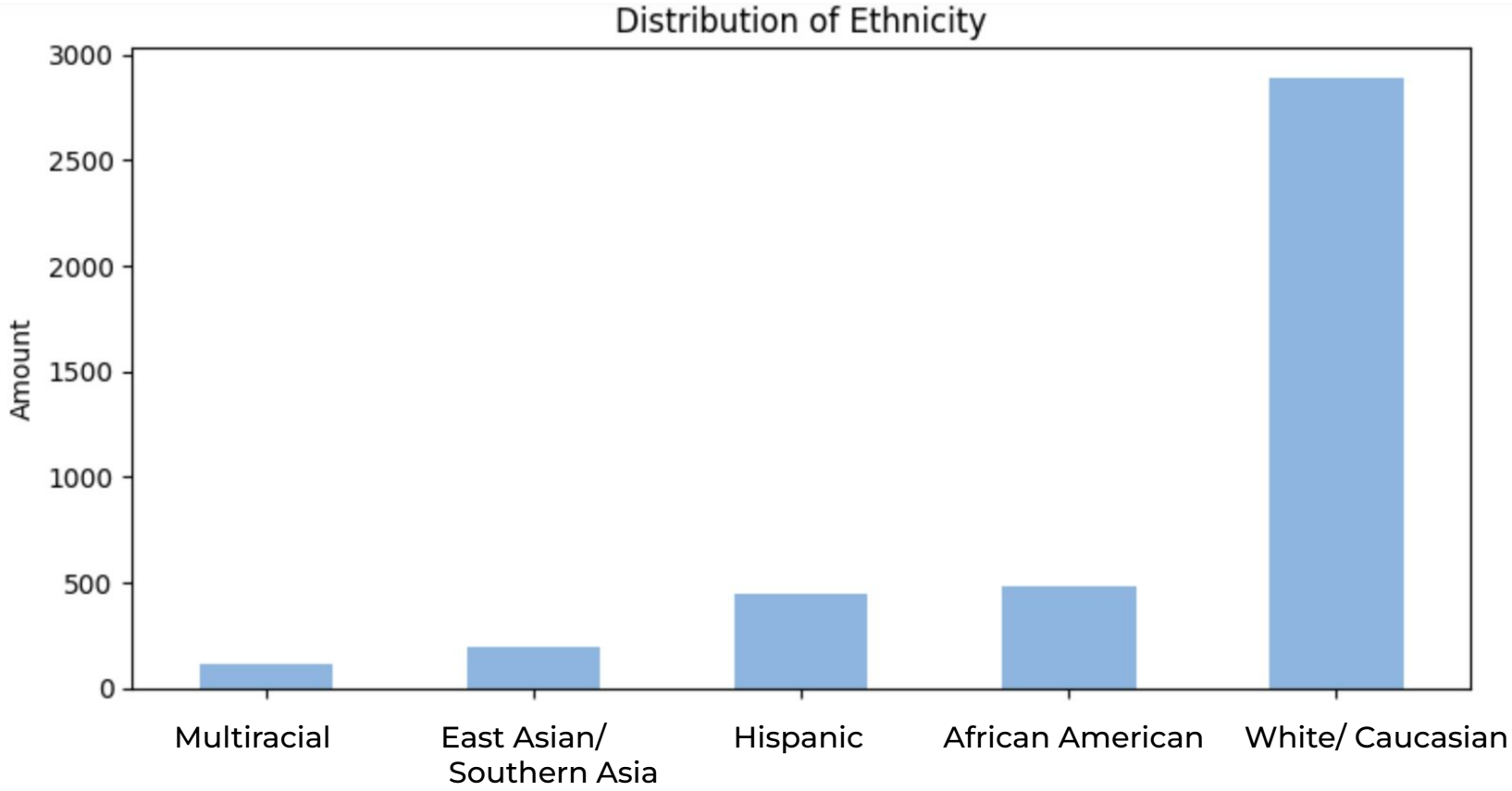
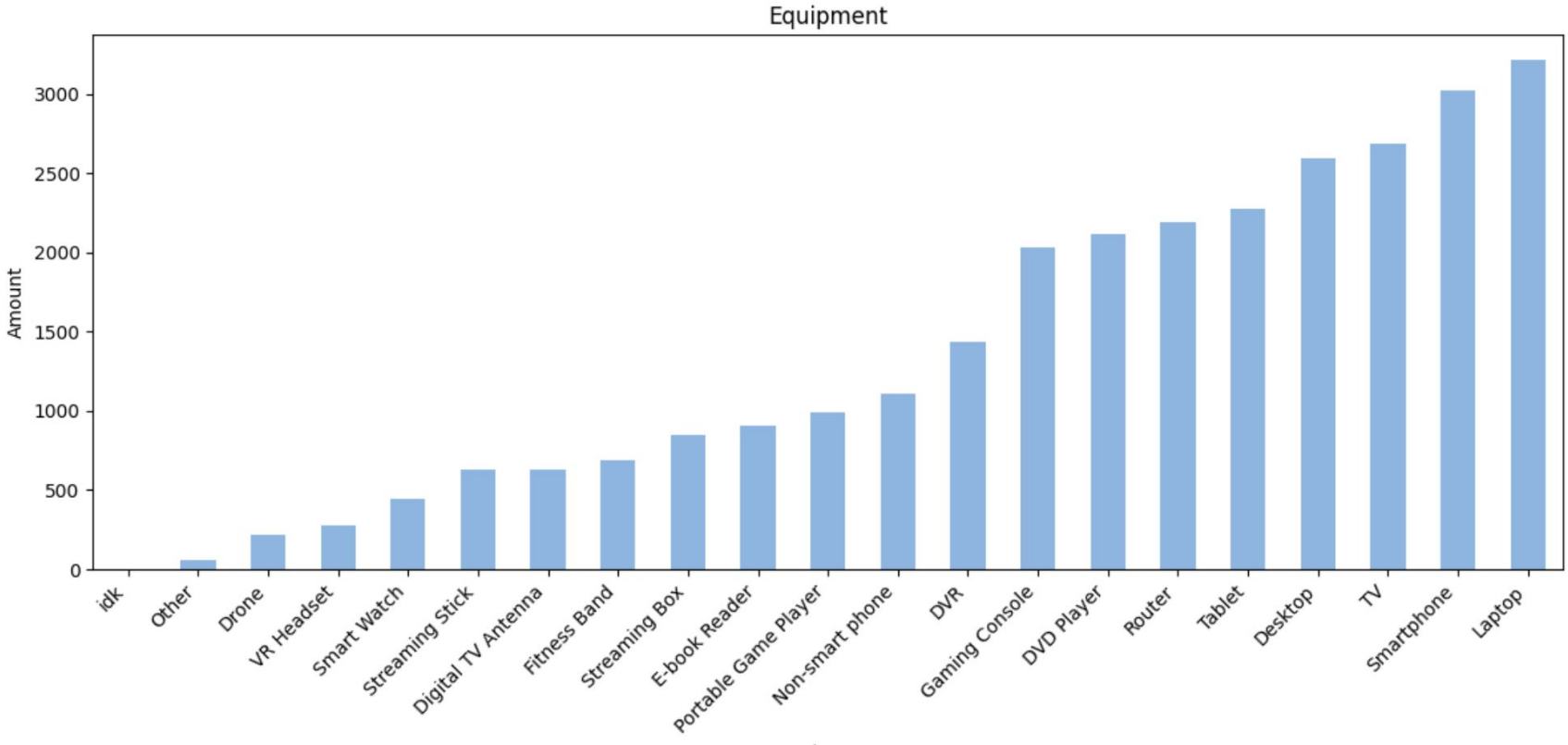


What Product are we asking about?



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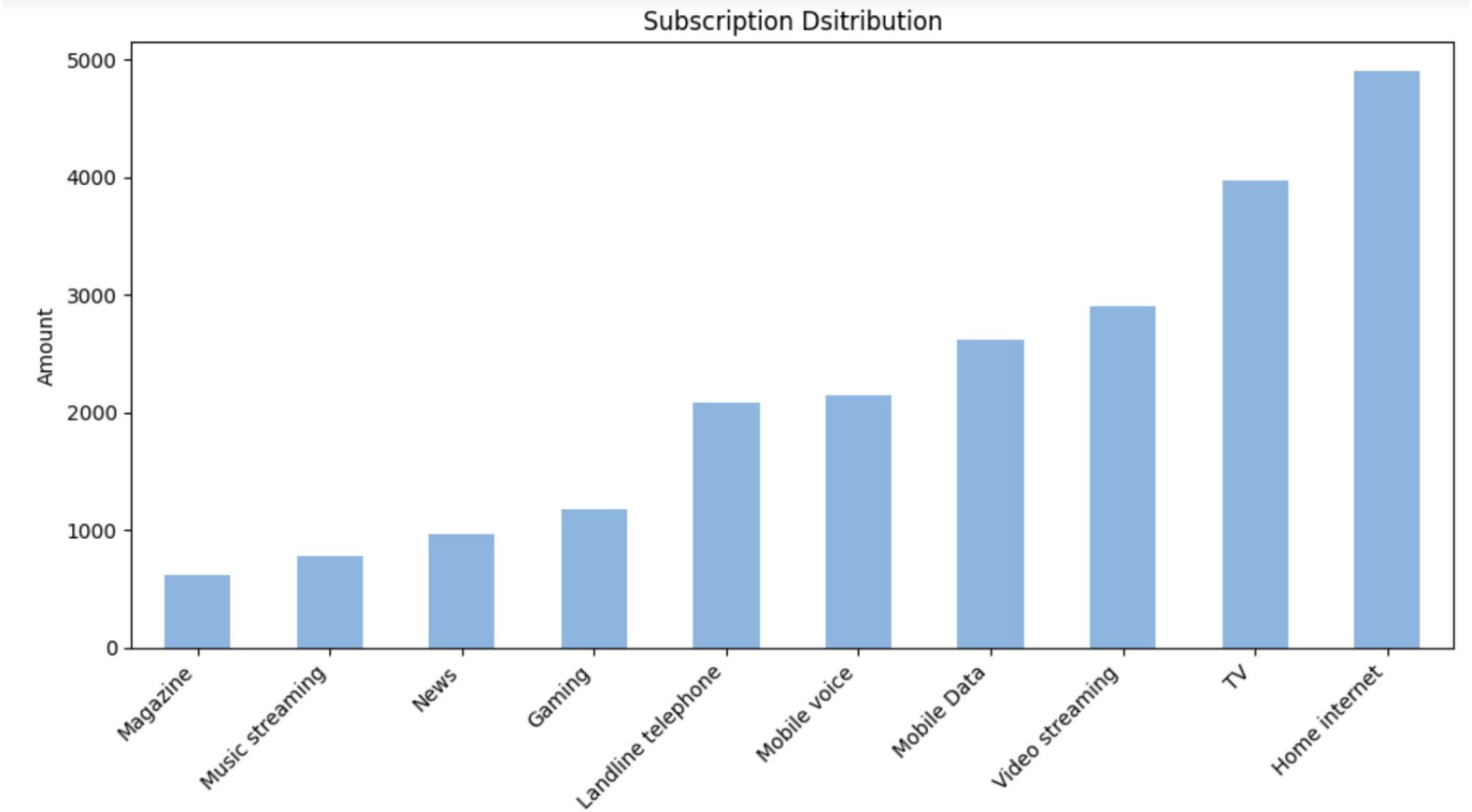

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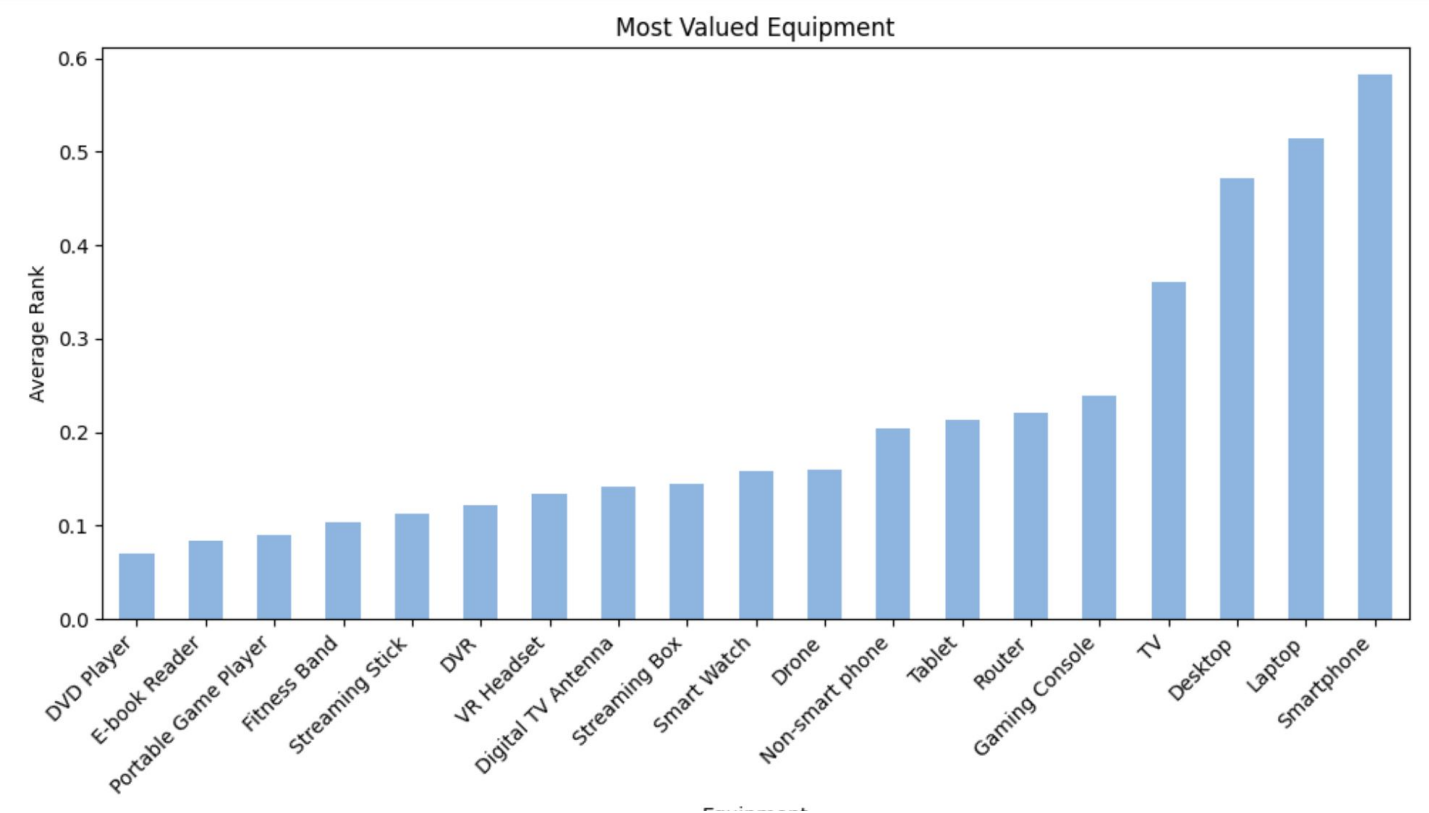

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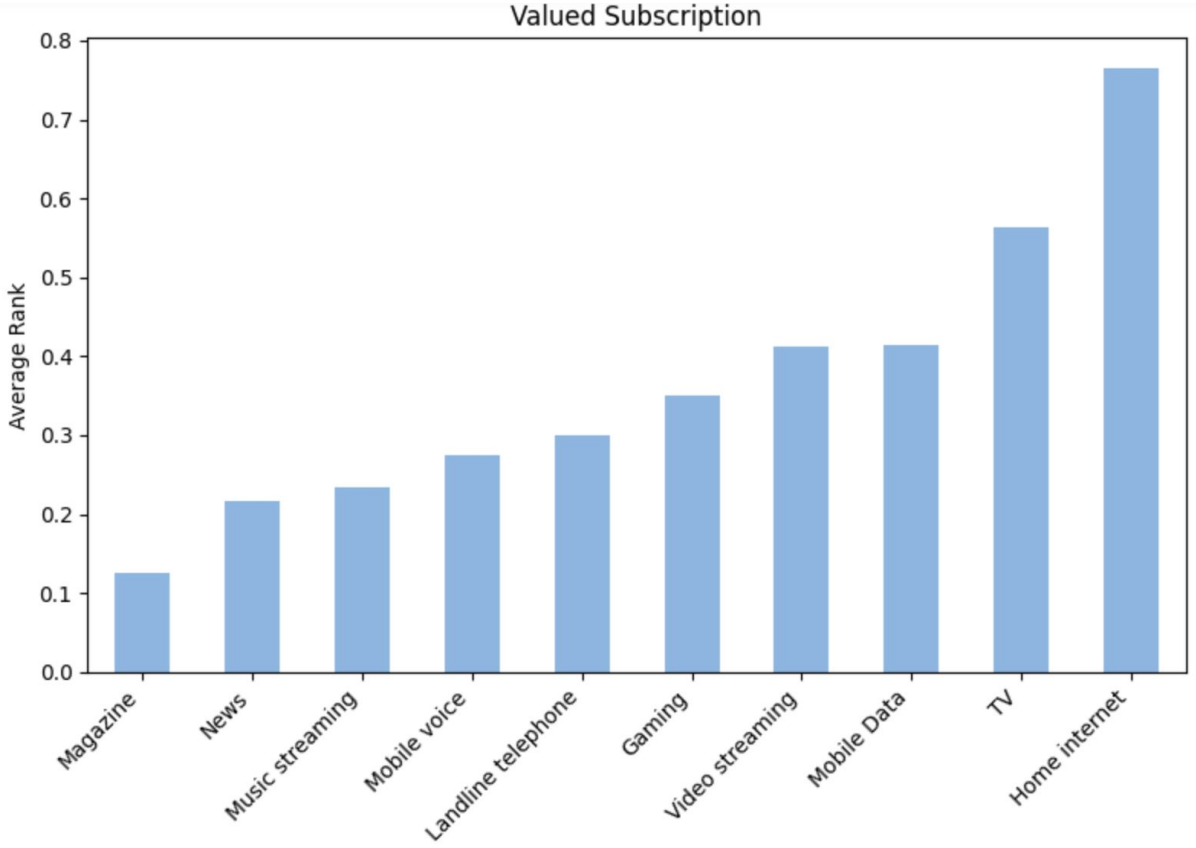
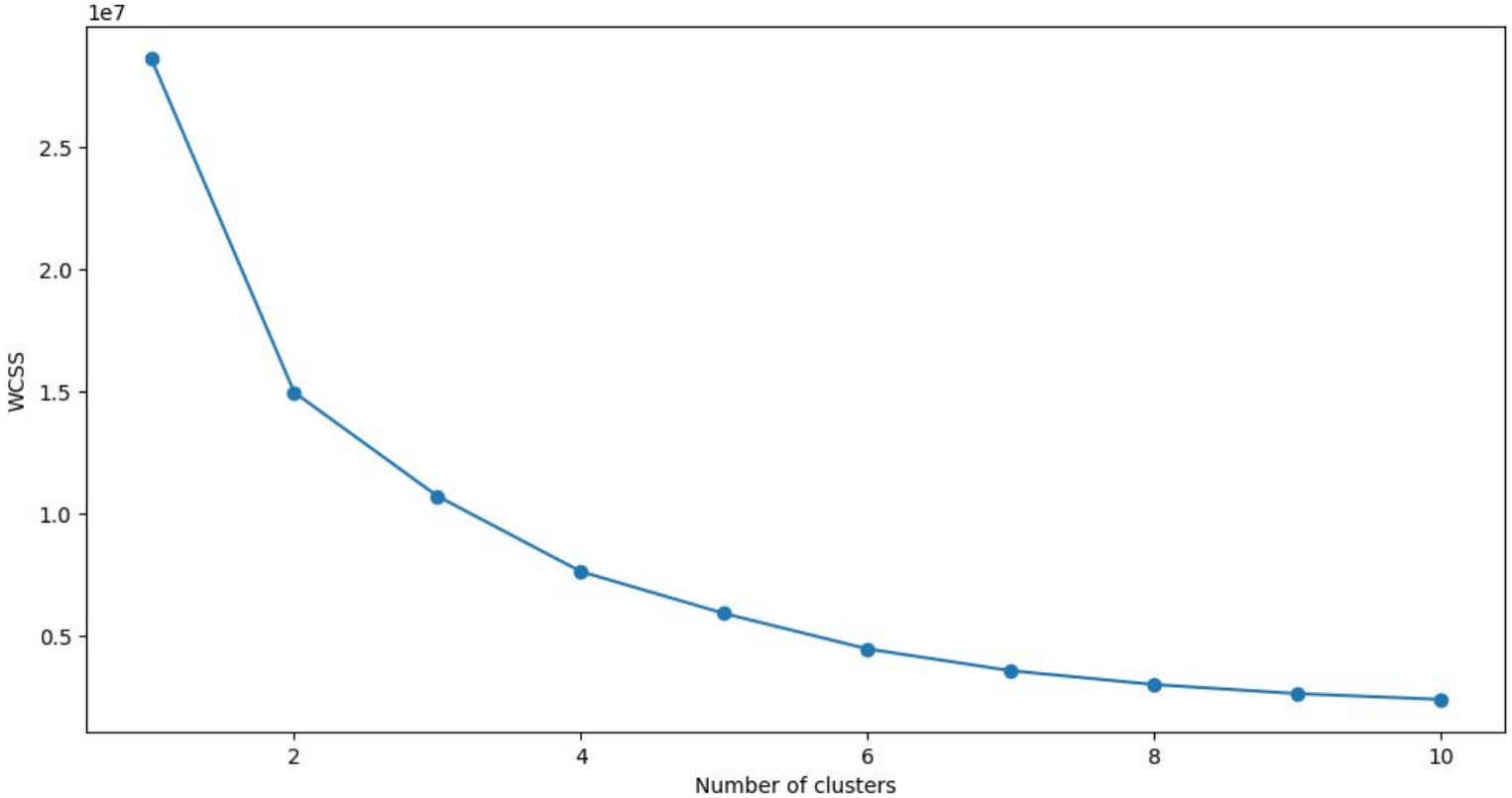


YouTubeTV

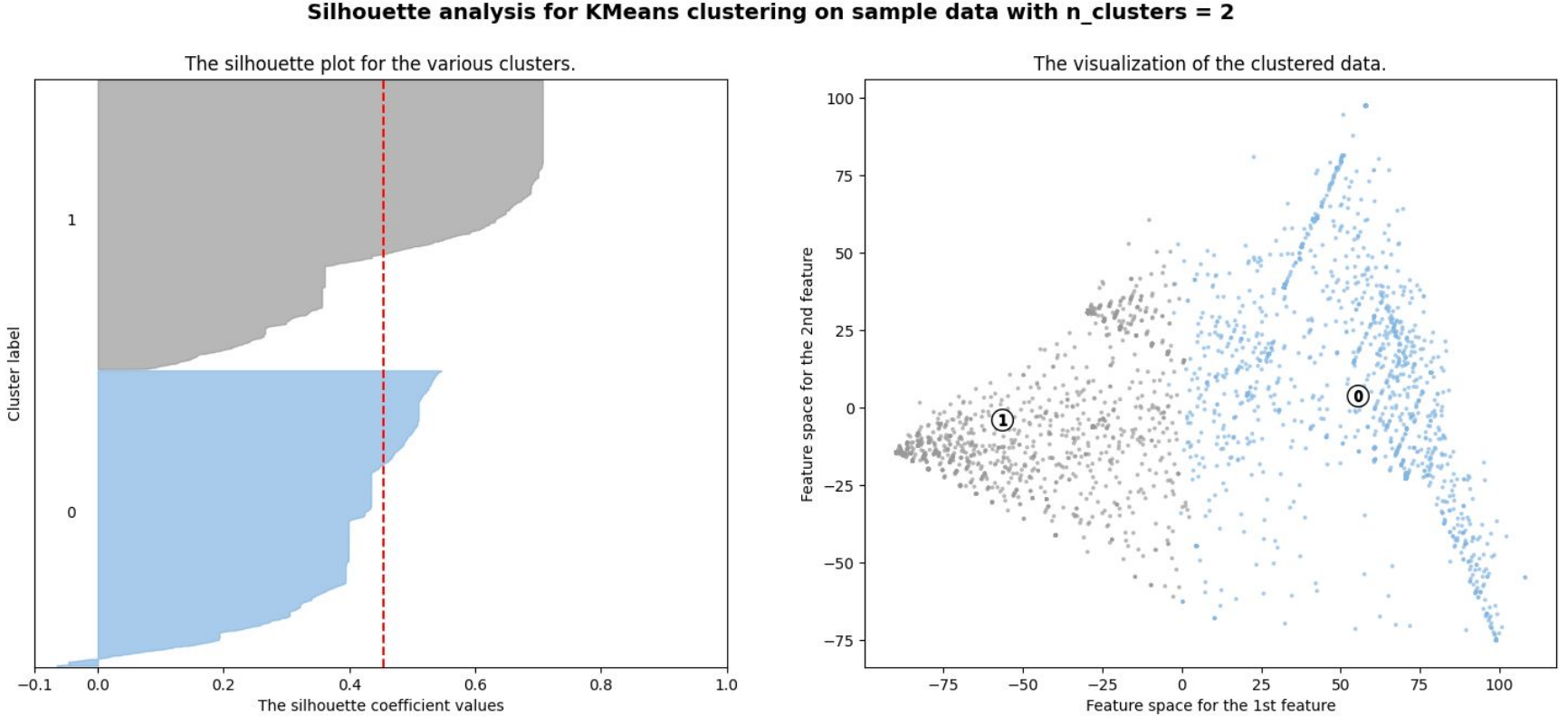
Customer Segmentation

Who should we target?

K-Means with elbow method



How many customer groups?



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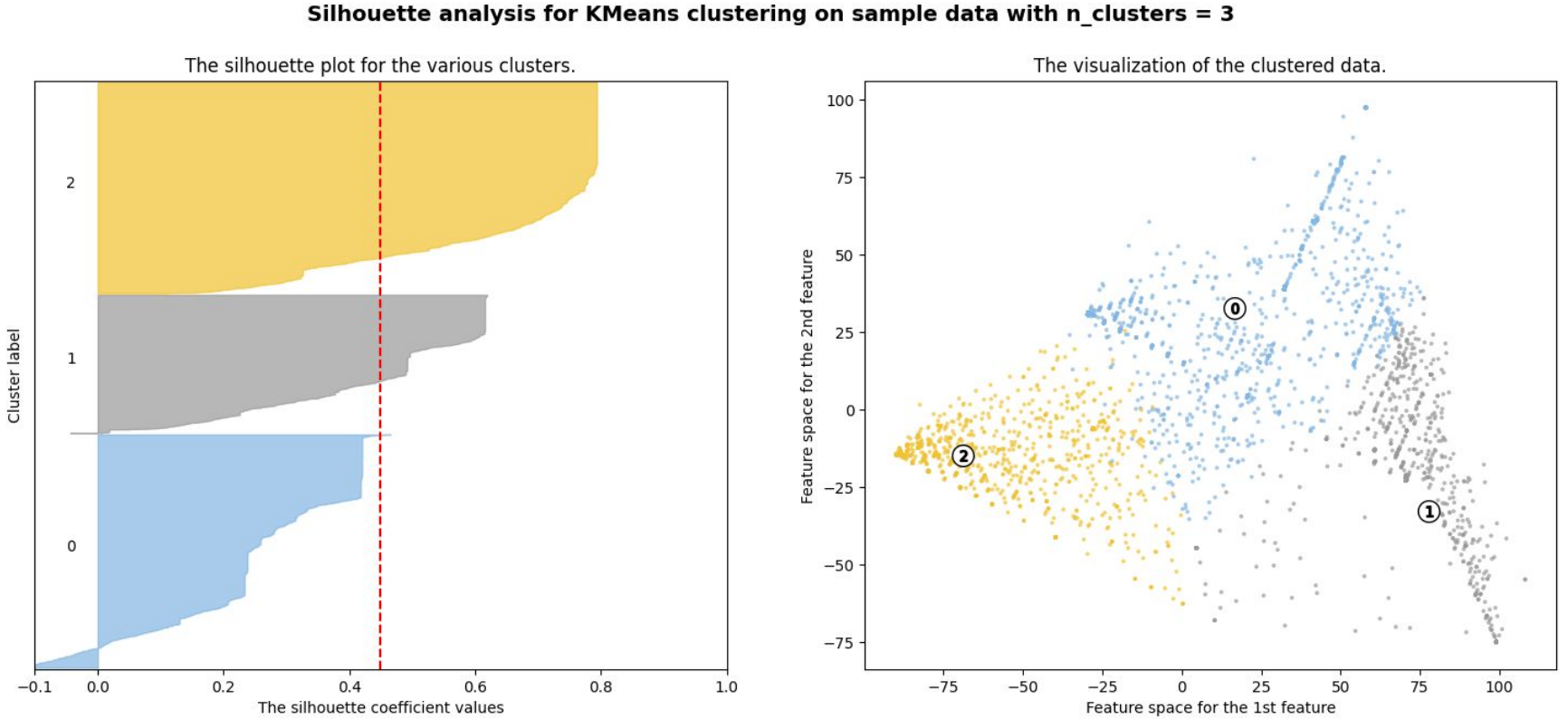

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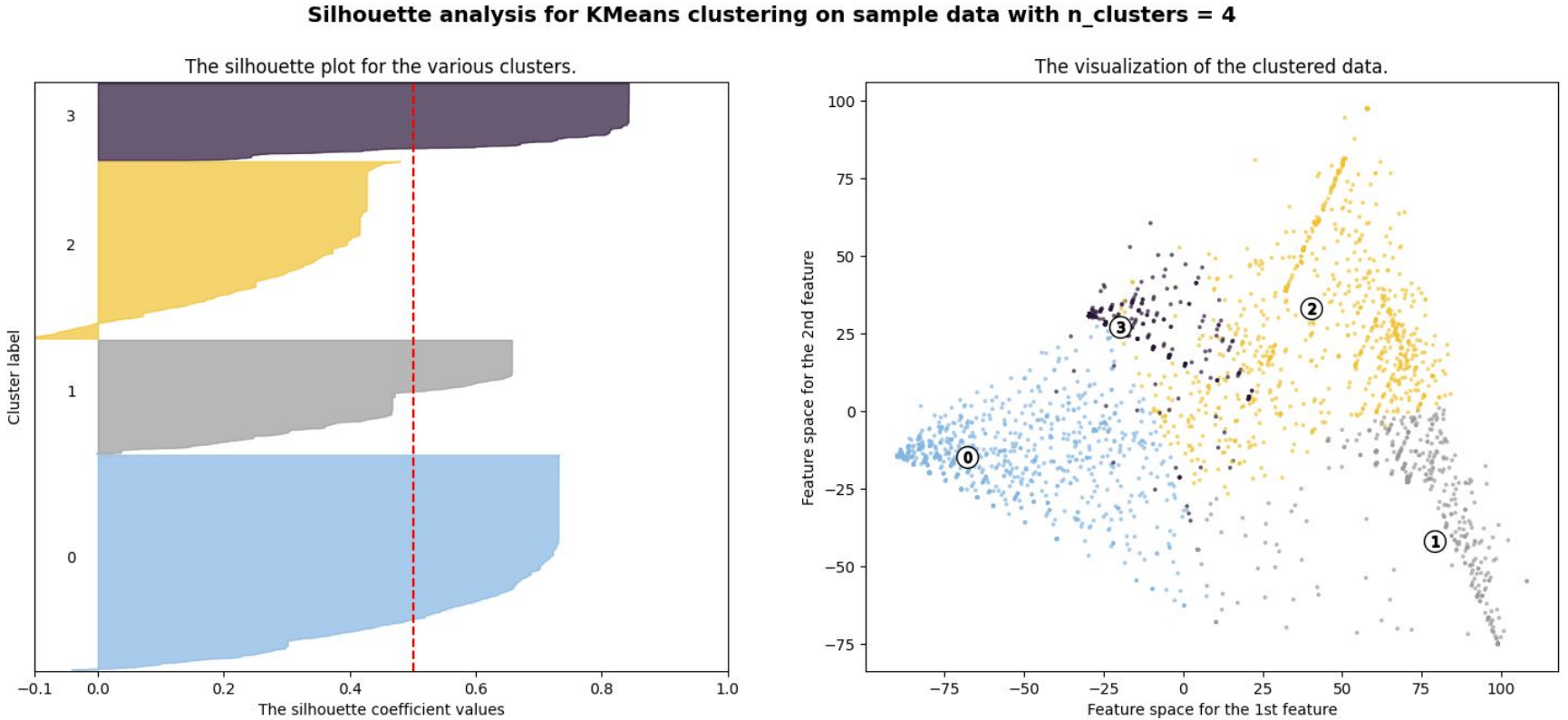
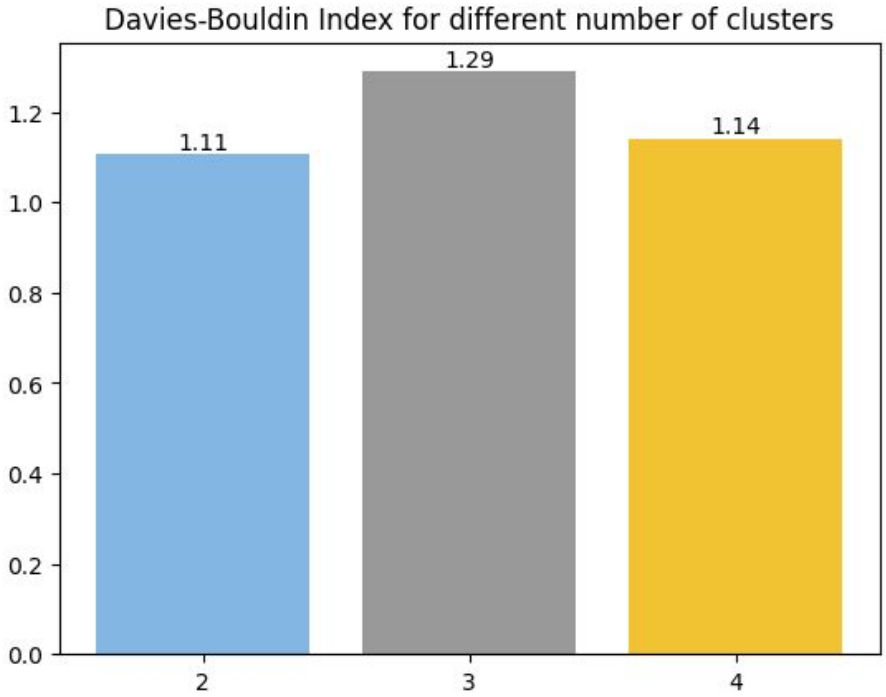
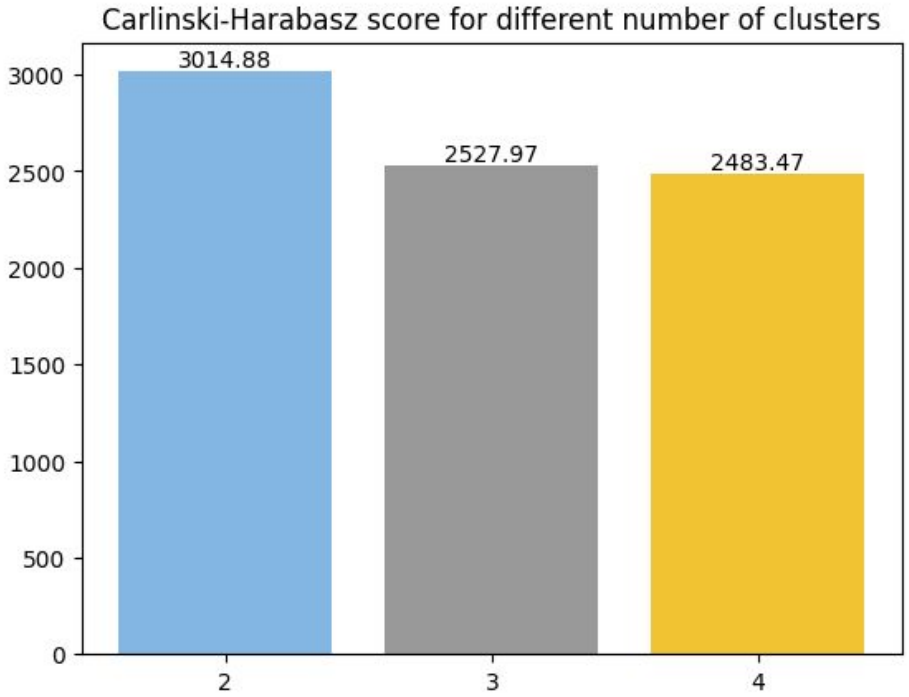


How many customer groups?

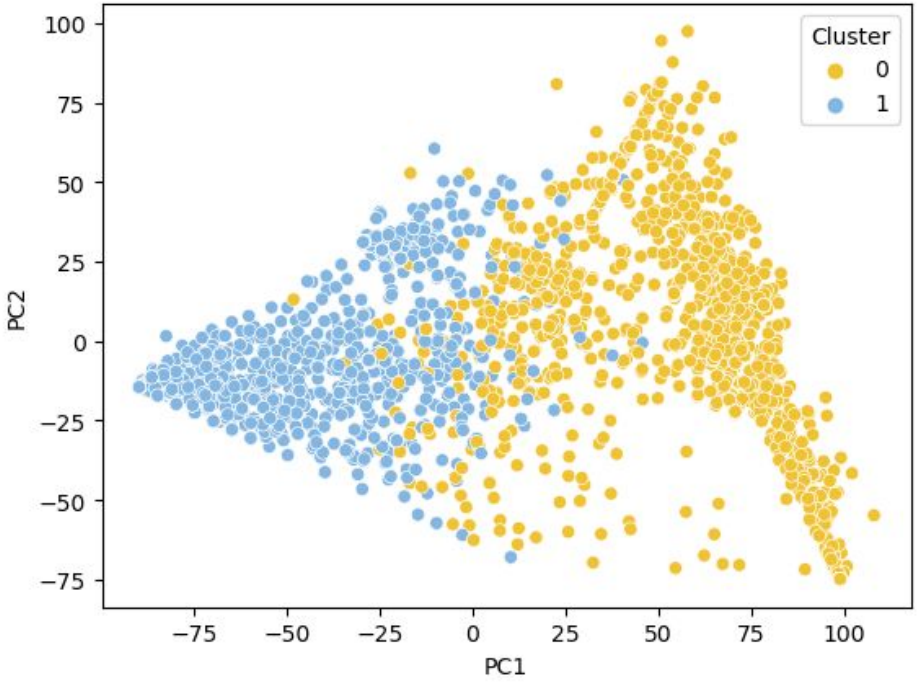


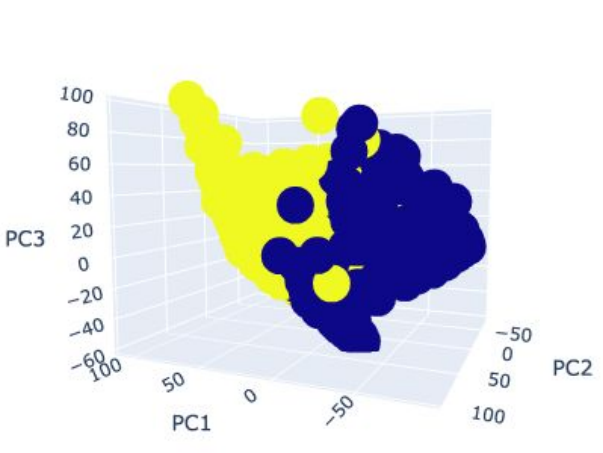
Lower is better



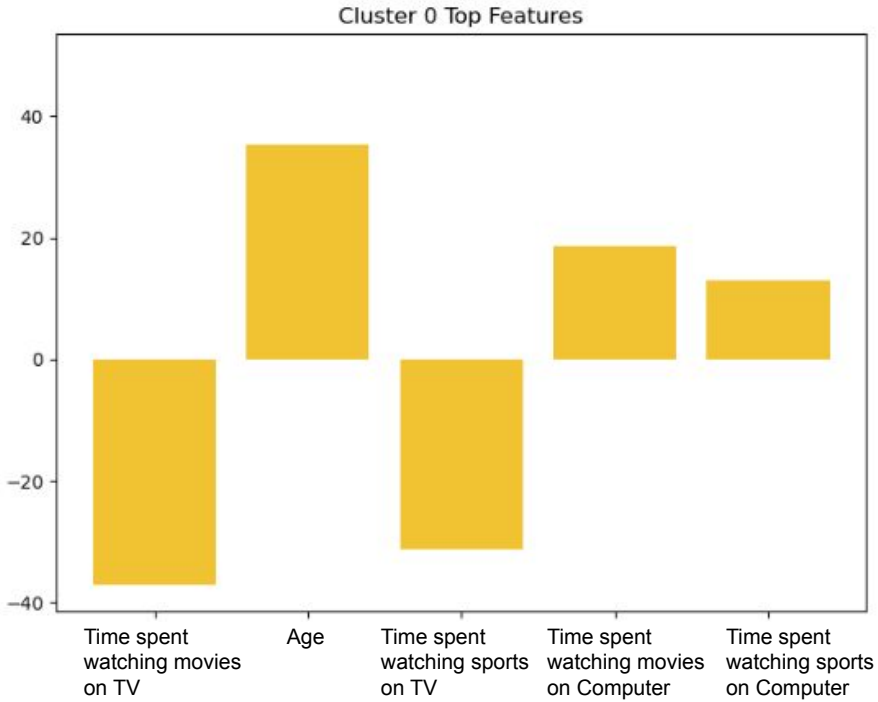
Higher is better

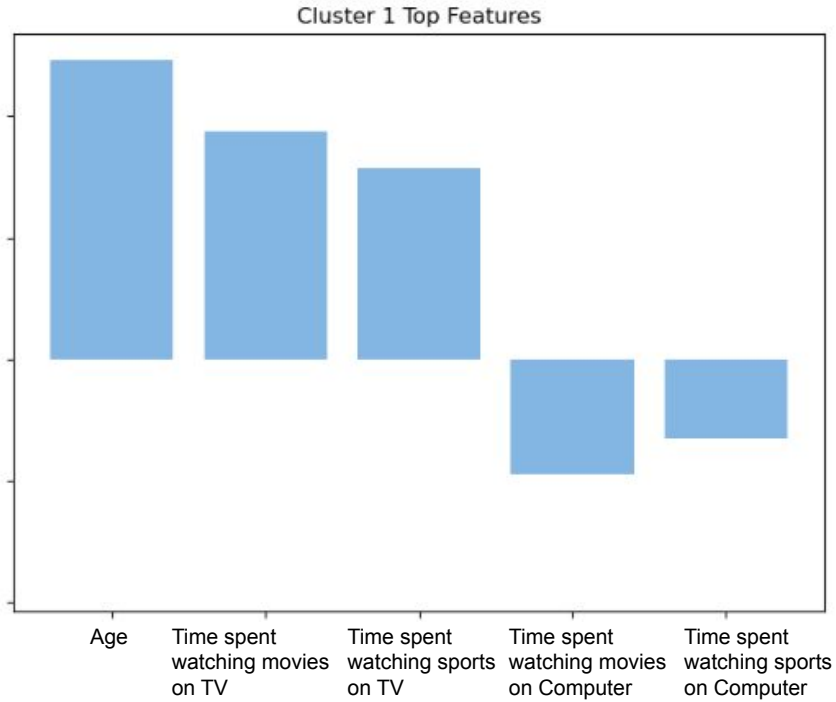
Segmenting Our Potential Customer Base into Two Groups



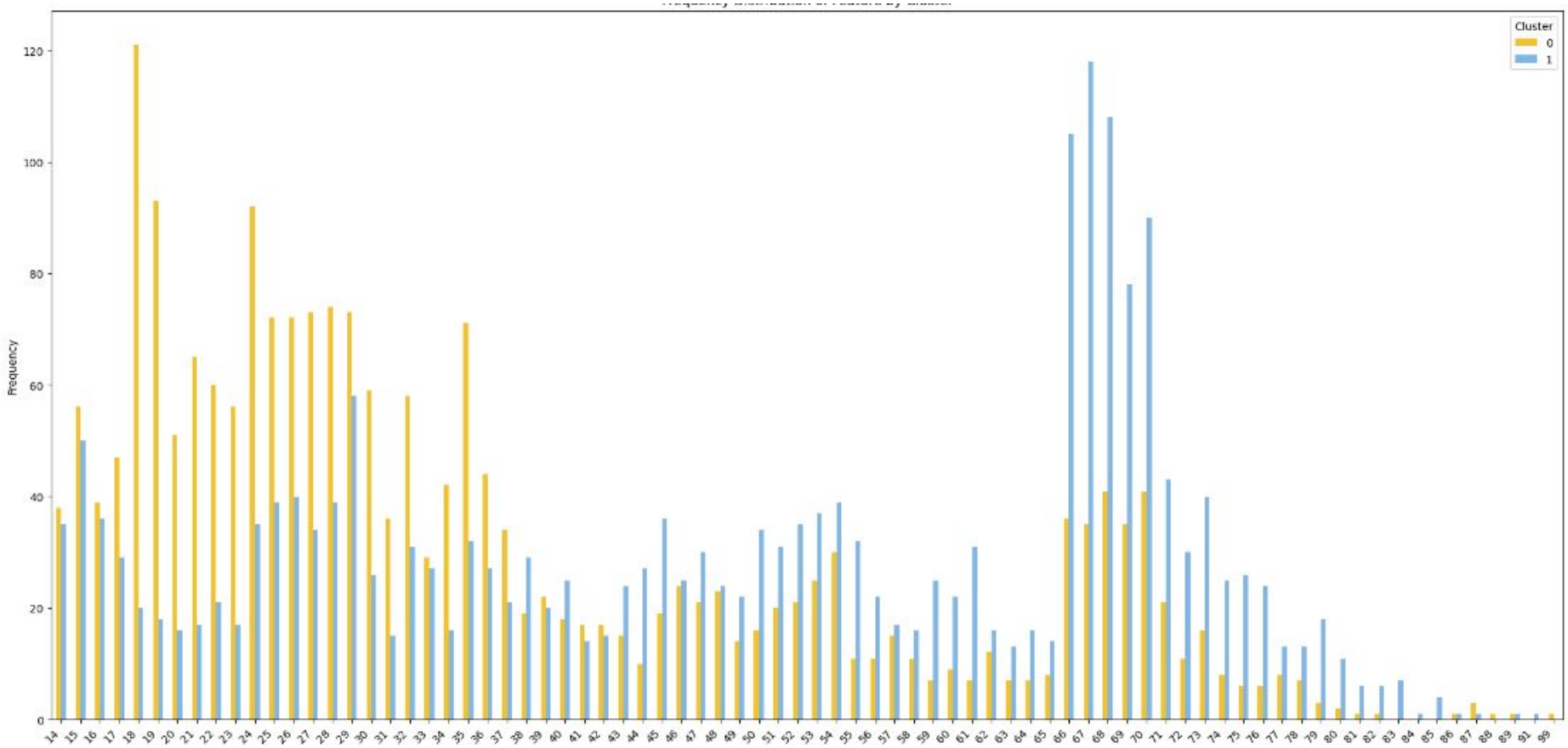


Key Characteristics Distinguishing Consumer Clusters

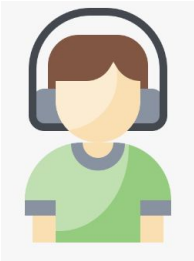




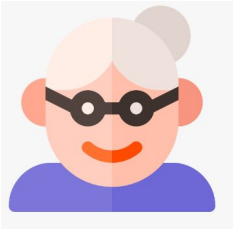
Age Distribution Across Clusters



Our Valued Customers



Customer Group 0
“Young”



Customer Group 1
“Old”

YouTubeTV

8%

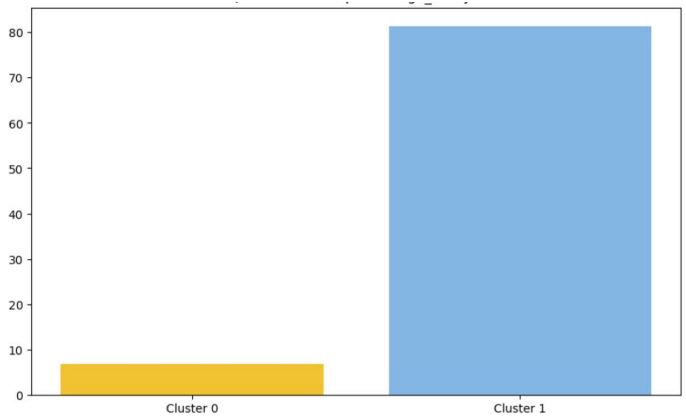
Customer Group 1
has a higher average annual income than
Customer Group 0

150%

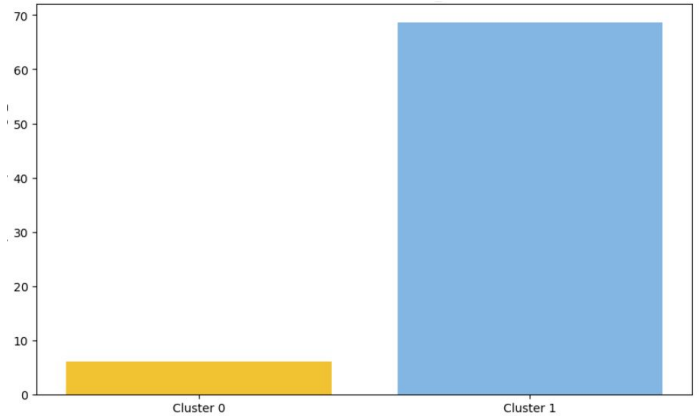
Customer Group 1
has more retired people than
Customer Group 0

Media Consumption Patterns

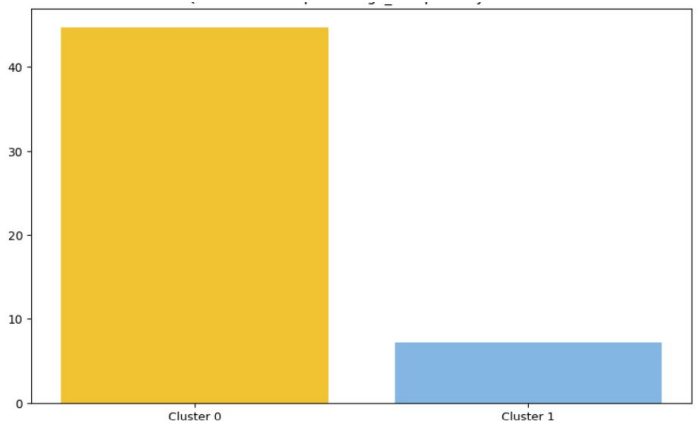
Mean percentage time spent watching movies on TV



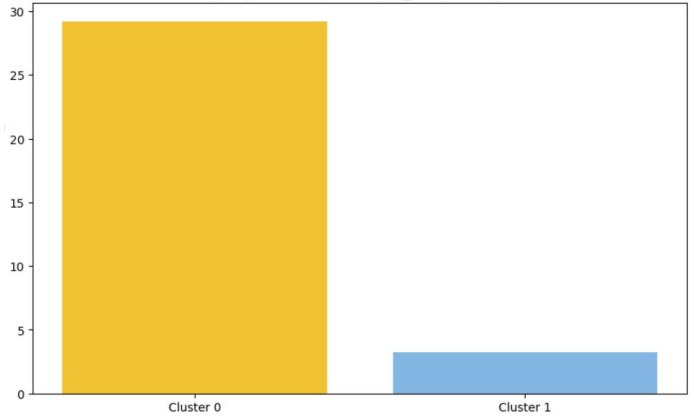
Mean percentage time spent watching sports on TV



Mean percentage time spent watching movies on Computer

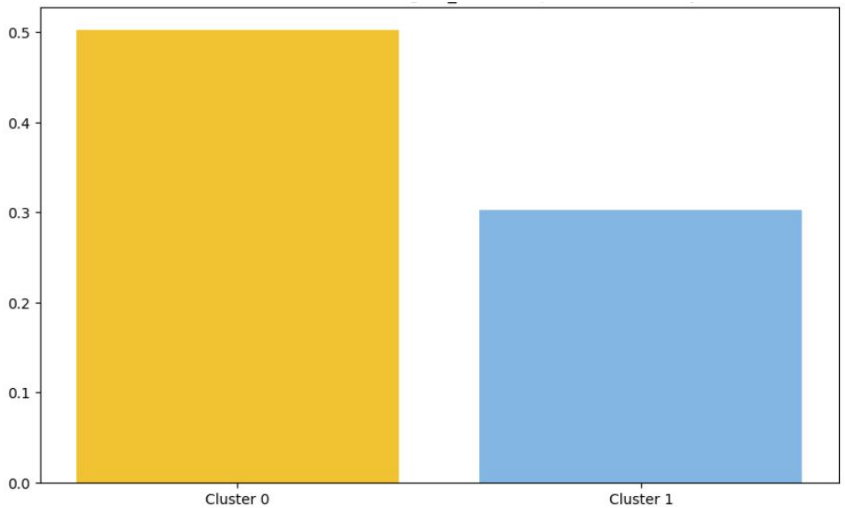


Mean percentage time spent watching sports on Computer

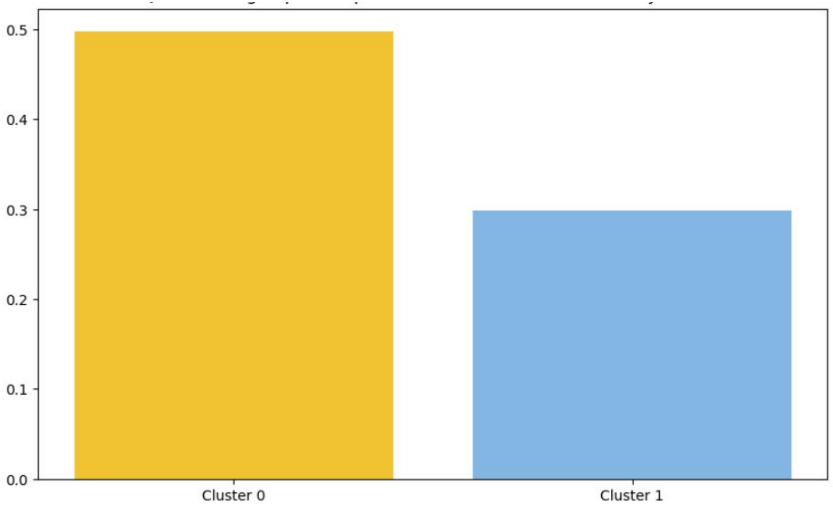


Consumer Engagement Behaviors

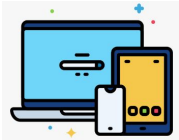
Multitasking when watching TV to purchase products online



Mean willingness to provide personal info for customized ads



Viewer Engagement Strategies



70% - watch time

- Interactive Content
- Second-Screen Experience

74% - watch time

- High-Quality Broadcasts
- Simplified User Interface

Aspirers

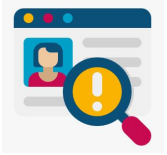
- Value-Oriented Content Packages
- Loyalty and Referral Programs

Affluent

- Exclusive Events
- Priority Customer Service

Open

- Targeted Online Ads
- Multi-Channel Campaigns



Guarded

- Direct Response TV
- Privacy Assurance

Contributions

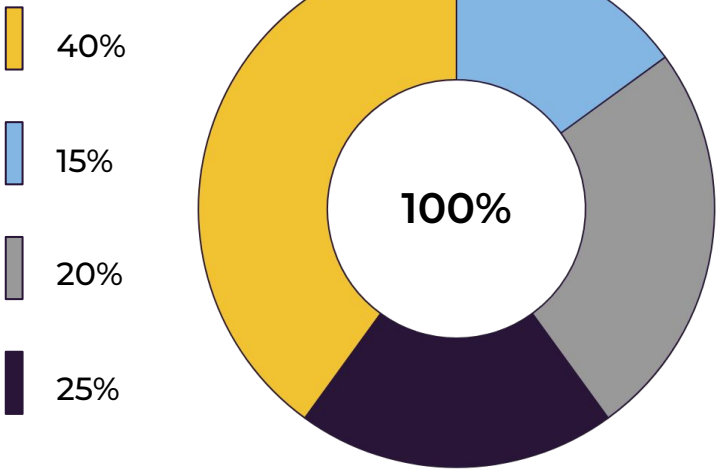
- Data cleaning: Terry Wei
- EDA: Hsin-Li (Cindy) Kan, Yvonne Hsu, Gautam Devadiga
- Clustering: Terry Wei, Gautam Devadiga
- Problem brainstorming & Recommendations: All of us

Thank you!

YouTubeTV

Q&A

Annual Report Infographics



Mercury

It’s the closest planet to the Sun

Venus

Venus is the second planet from the Sun

Mars

Mars is actually a very cold place

Jupiter

Jupiter is the biggest planet of them all

Follow the link in the graph to modify its data and then paste the new one here. **For more info, click here**

Annual Report Infographics

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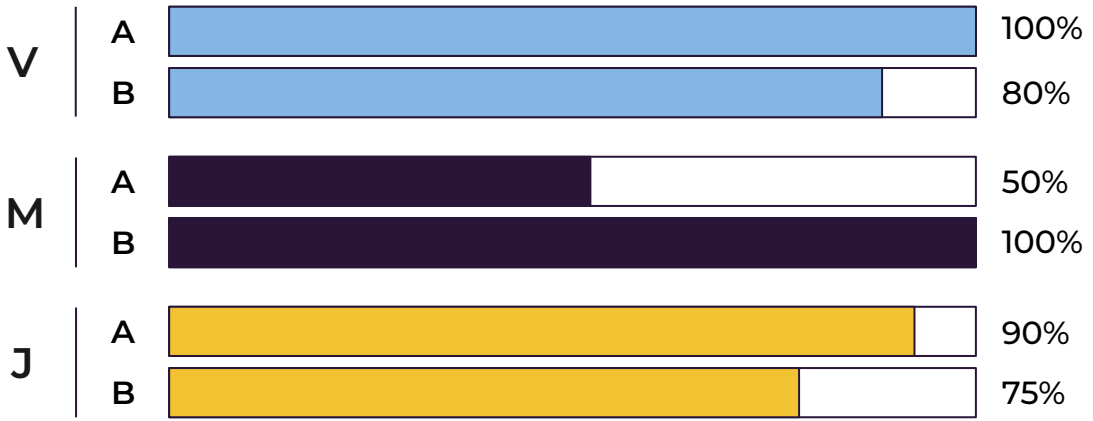

A Saturn has rings

B Saturn is a gas giant

Annual Report Infographics

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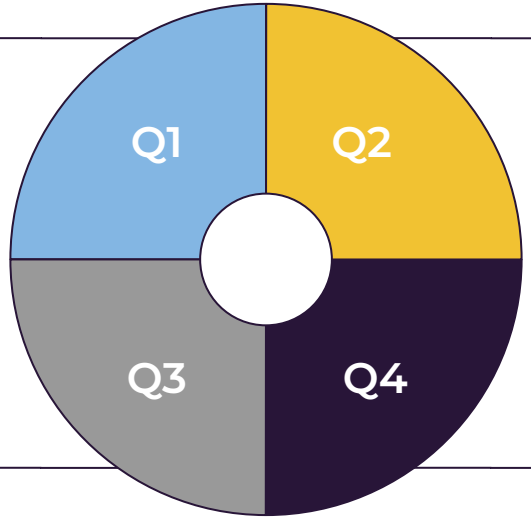

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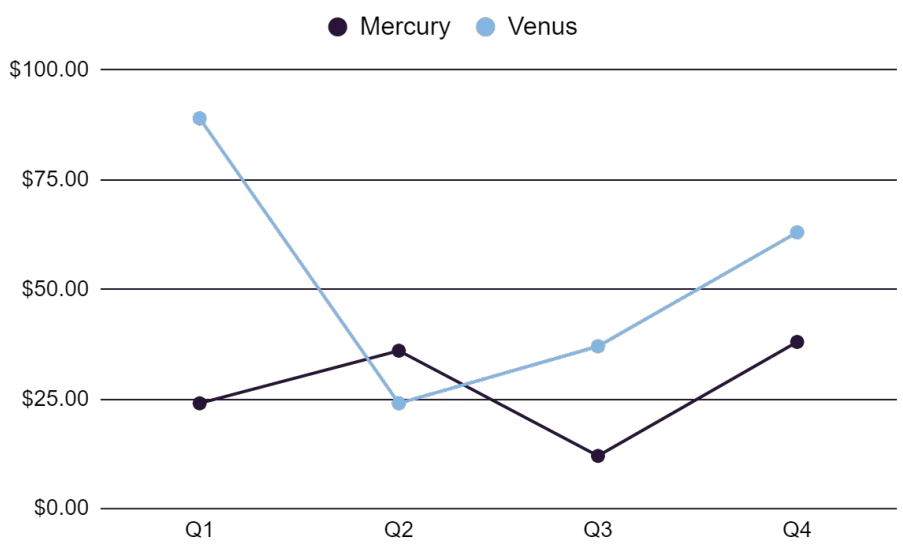
Annual Report Infographics



$100.00

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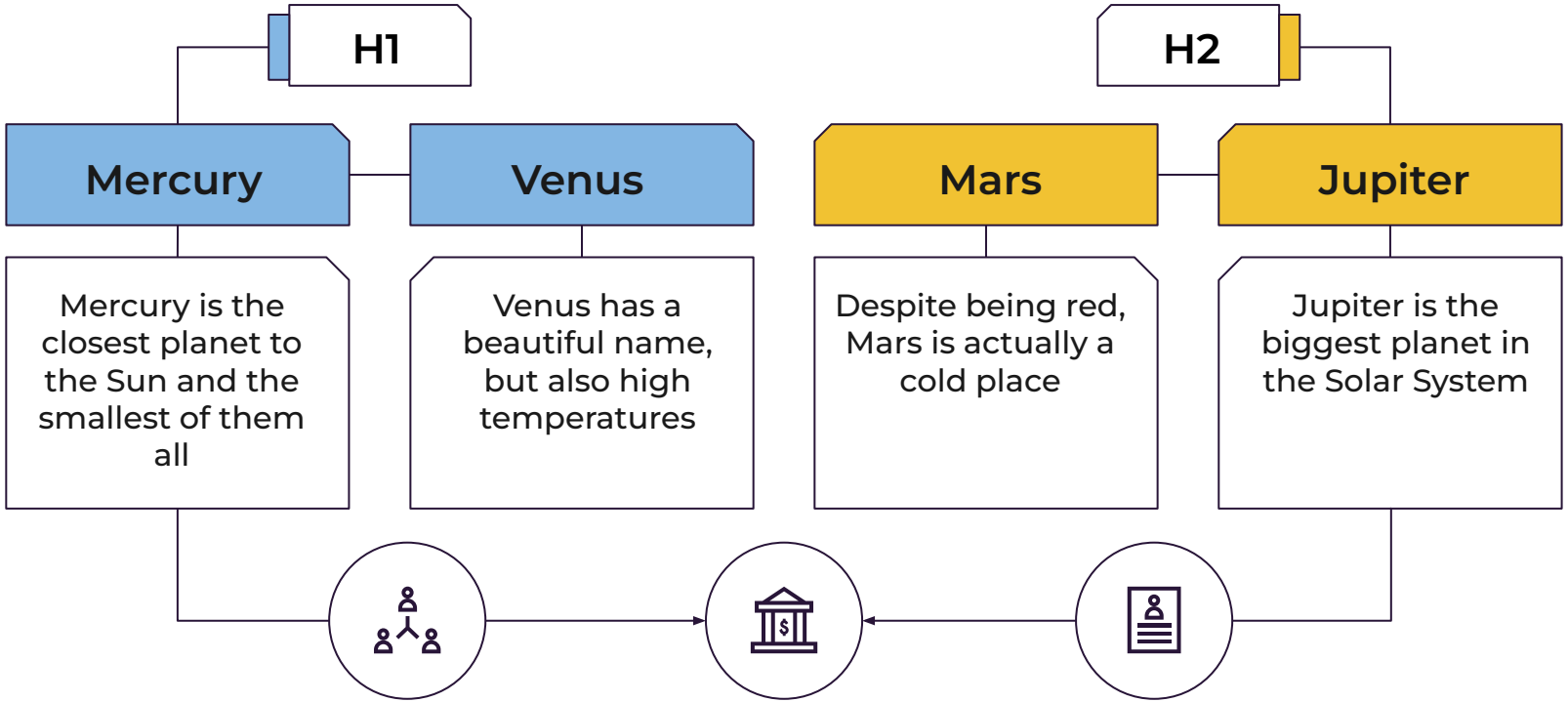
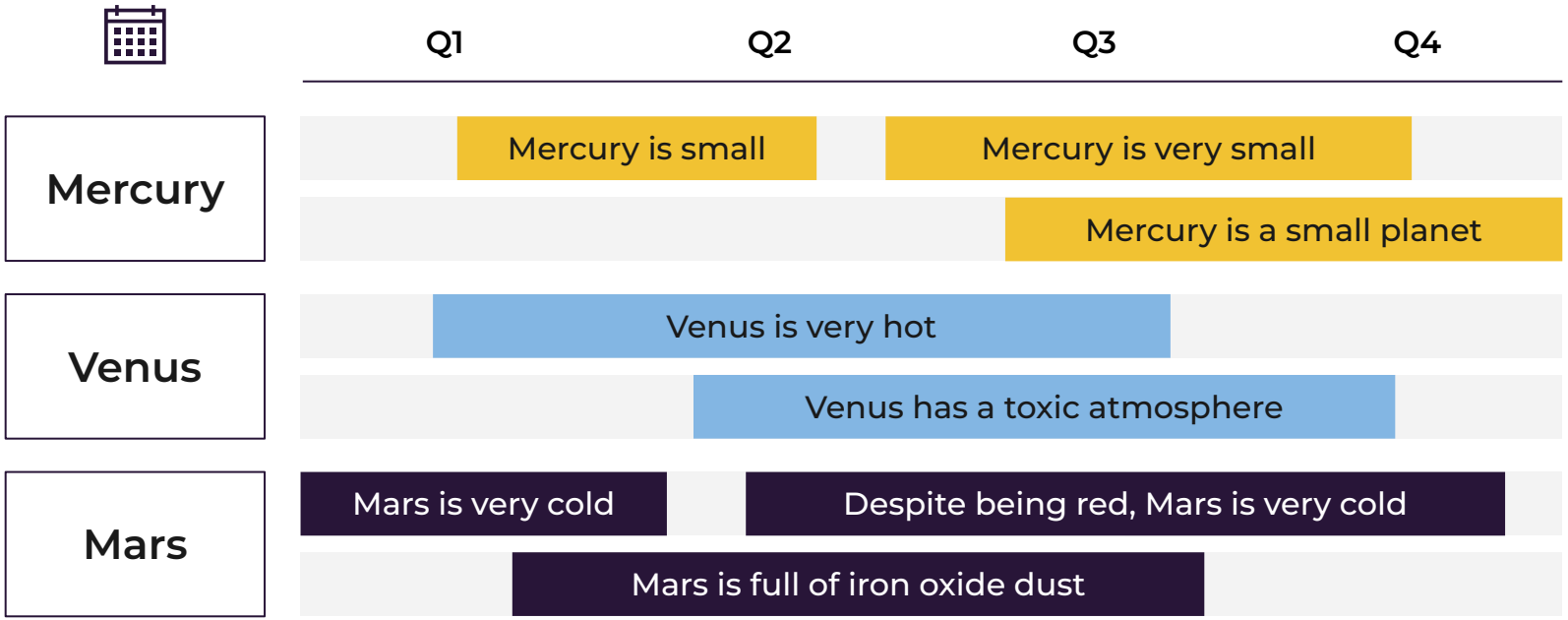
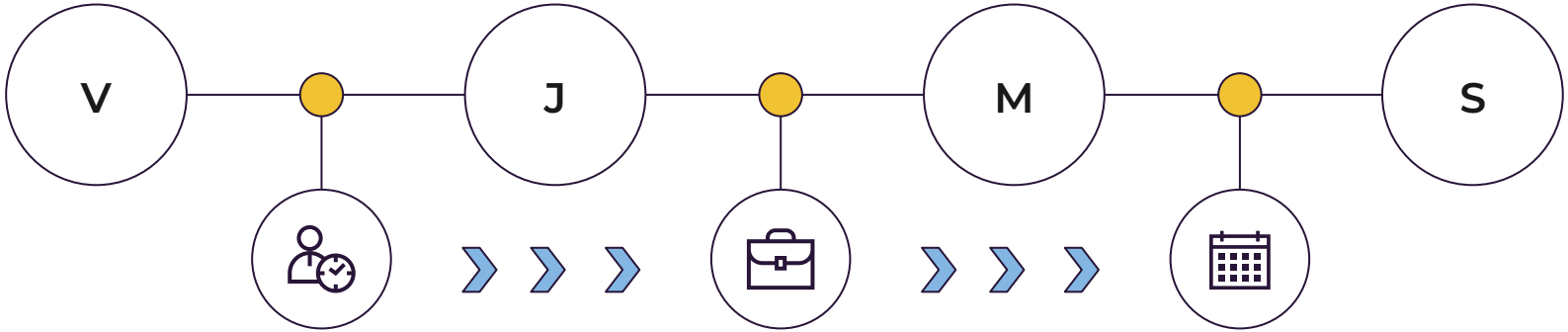
Annual Report Infographics



Annual Report Infographics



Annual Report Infographics



Venus

Venus is the second planet from the Sun

Jupiter

It’s the biggest planet in the Solar System

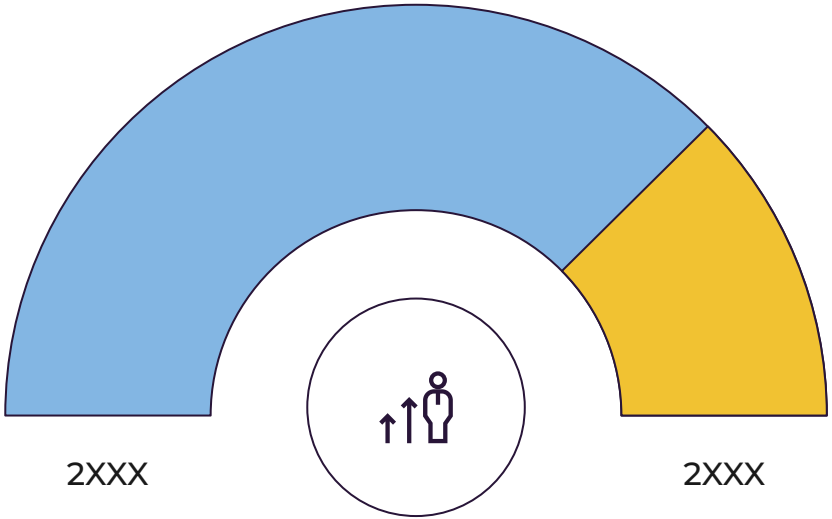
Mars

Despite being red, Mars is a cold place

Saturn

Saturn is a gas giant and has several rings

Annual Report Infographics



75%

25%

$ 123.00M

This year

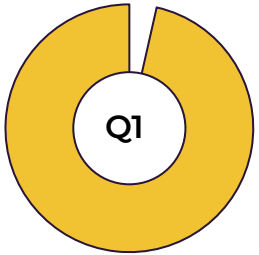
Mars is actually a very cold place

Last year

It’s the closest planet to the Sun

Annual Report Infographics

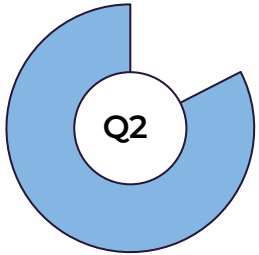
98%



Venus

Venus is the second planet from the Sun

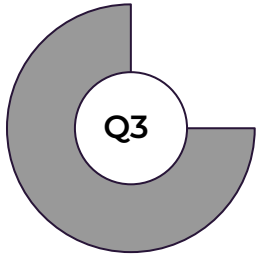
80%



Jupiter

It’s the biggest planet in the Solar System

75%



Mars

Despite being red, Mars is a cold place

50%

Saturn

Saturn is a gas giant and has several rings

Annual Report Infographics

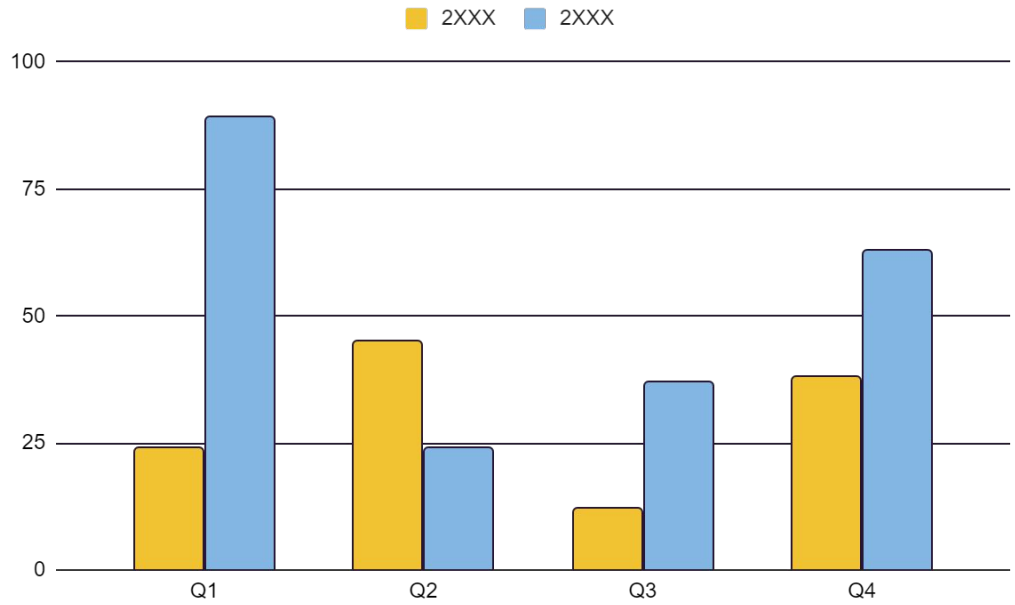
Venus has a toxic atmosphere

2XXX

Mars is actually a very cold place

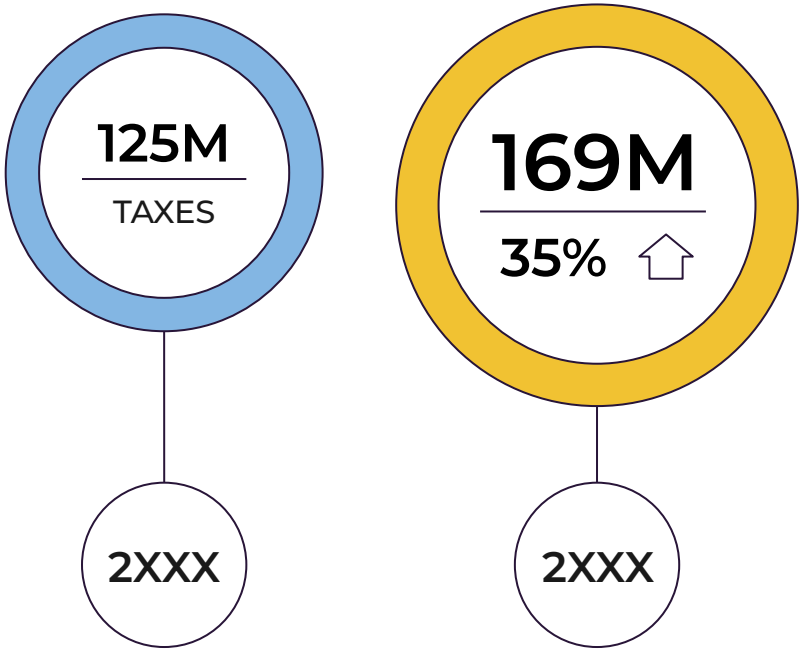
2XXX

It’s the closest planet to the Sun



Follow the link in the graph to modify its data and then paste the new one here. **For more info, click here**

Annual Report Infographics



FY2XXX

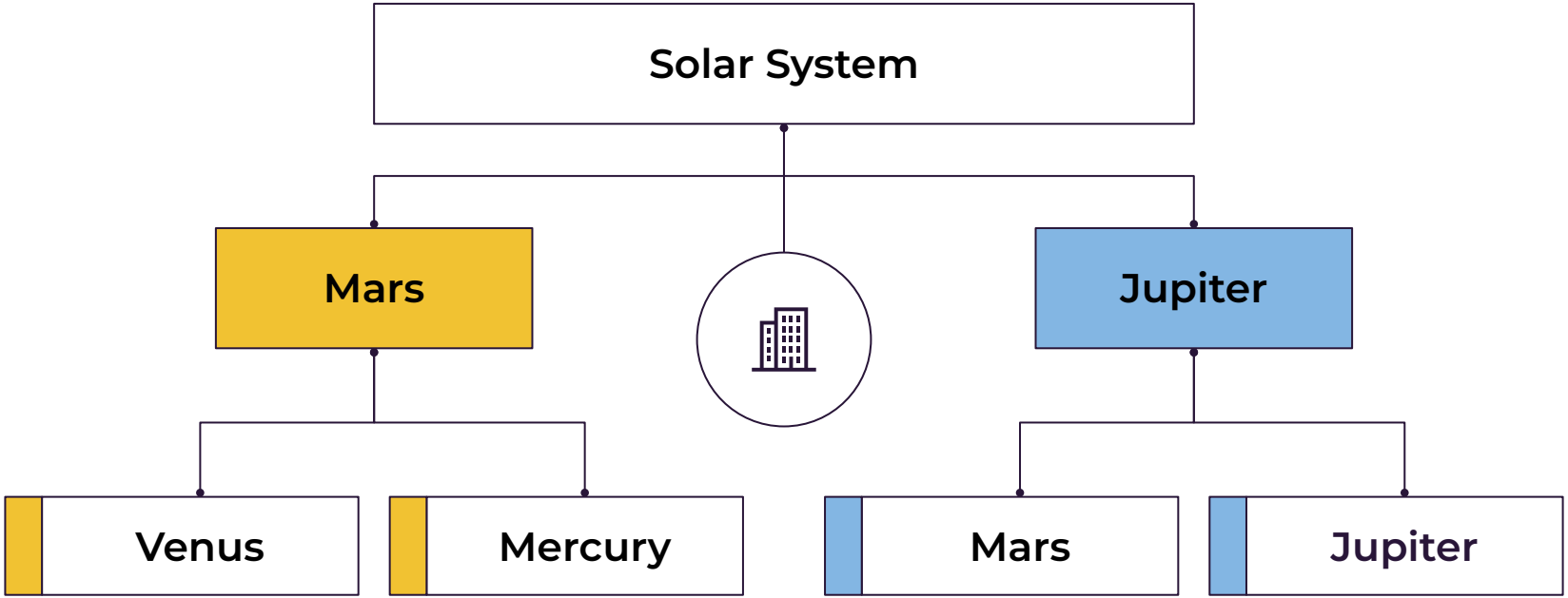
Mars

Mars is actually a very cold place

Mercury

It’s the closest planet to the Sun

Annual Report Infographics



Annual Report Infographics

ANNUAL GROWTH

- **2XXX**

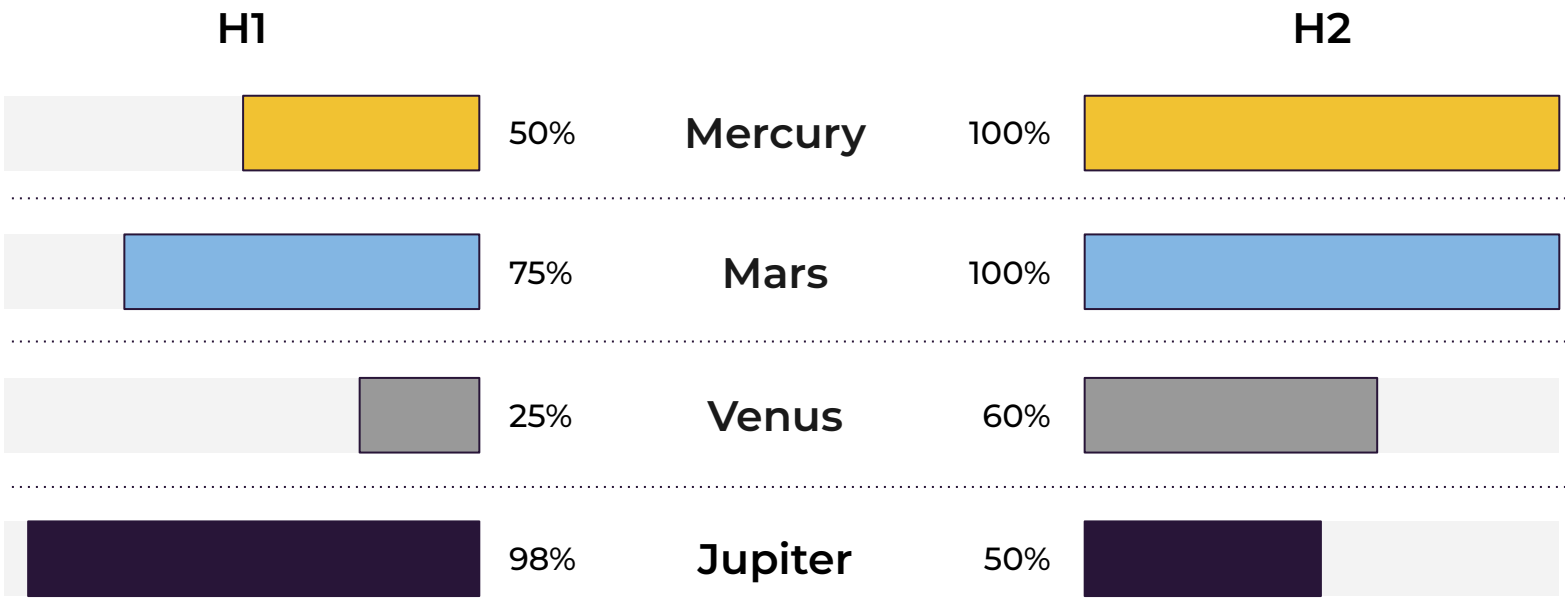
  It's the closest planet to the Sun

- **2XXX**

  Venus is the second planet from the Sun

	2XXX	2XXX	M
Q1	$ 125M	$ 150M	▲
Q2	$ 110M	$ 110M	=
Q3	$ 120M	$ 90M	▼
Q4	$ 110M	$ 140M	▲

Annual Report Infographics



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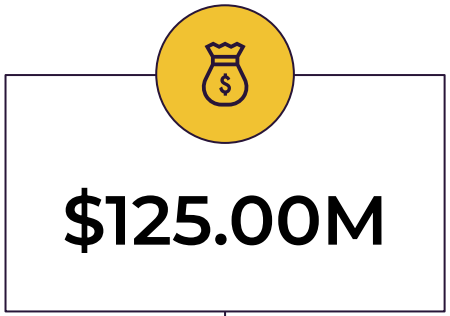
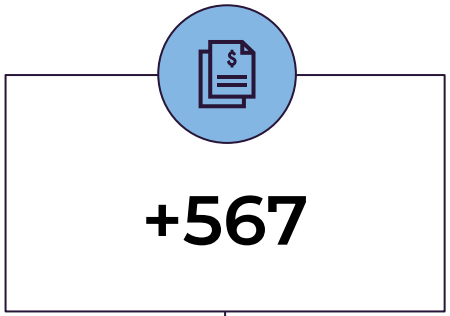




15%
Venus

$15M

Venus

Venus is the second planet from the Sun

Mars

Mars is actually a very cold place

It’s the closest planet to the Sun

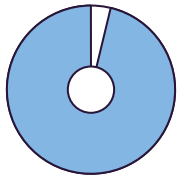
Annual Report Infographics

Severity

- Minor
- Moderate
- Major
- Critical

Likelihood	Mercury	Mars	Jupiter	Venus
76% - 100%	0	3	10	24
51% - 75%	2	12	21	29
26% - 50%	15	22	28	22
0% - 25%	18	25	38	45

Annual Report Infographics



98%

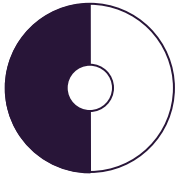
Mercury

It’s the closest planet to the Sun

80%

Venus

Venus is the second planet from the Sun

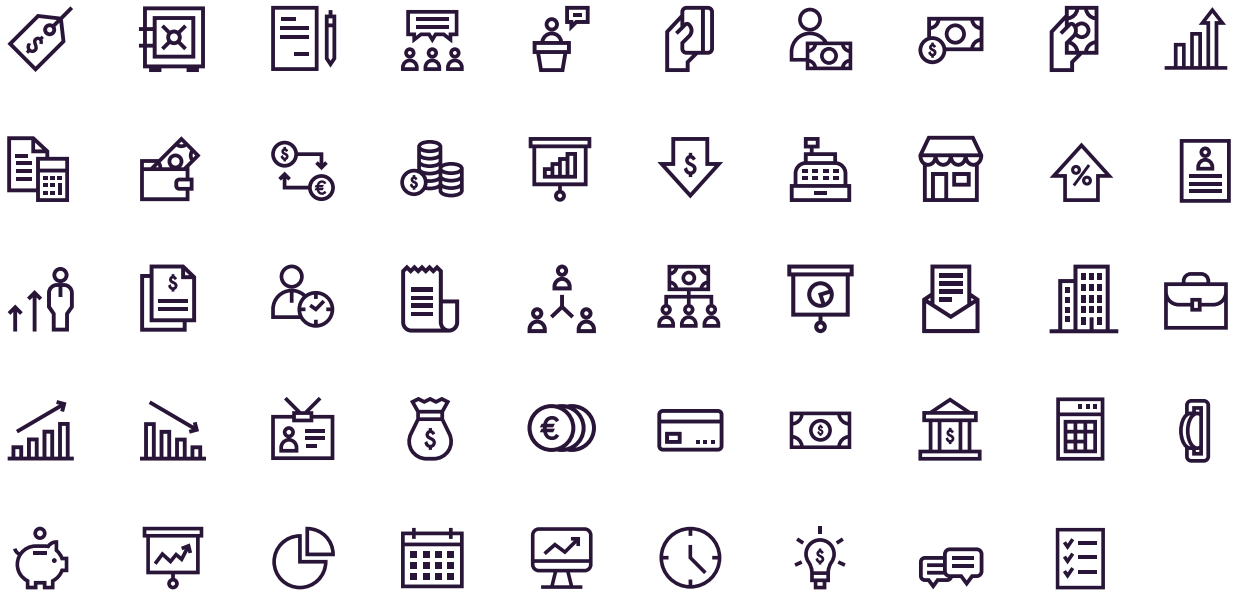


50%

Mars

Mars is actually a very cold place

Icon pack



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