



University of New Haven

# Customer Segmentation and Churn Analysis for ISPs

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Midterm Project Pitch Deck: GROUP 1

Distributed and Scalable Data Engineering

# OUR TEAM



**Merishna S.**

Team Leader



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Team Member



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Team Member

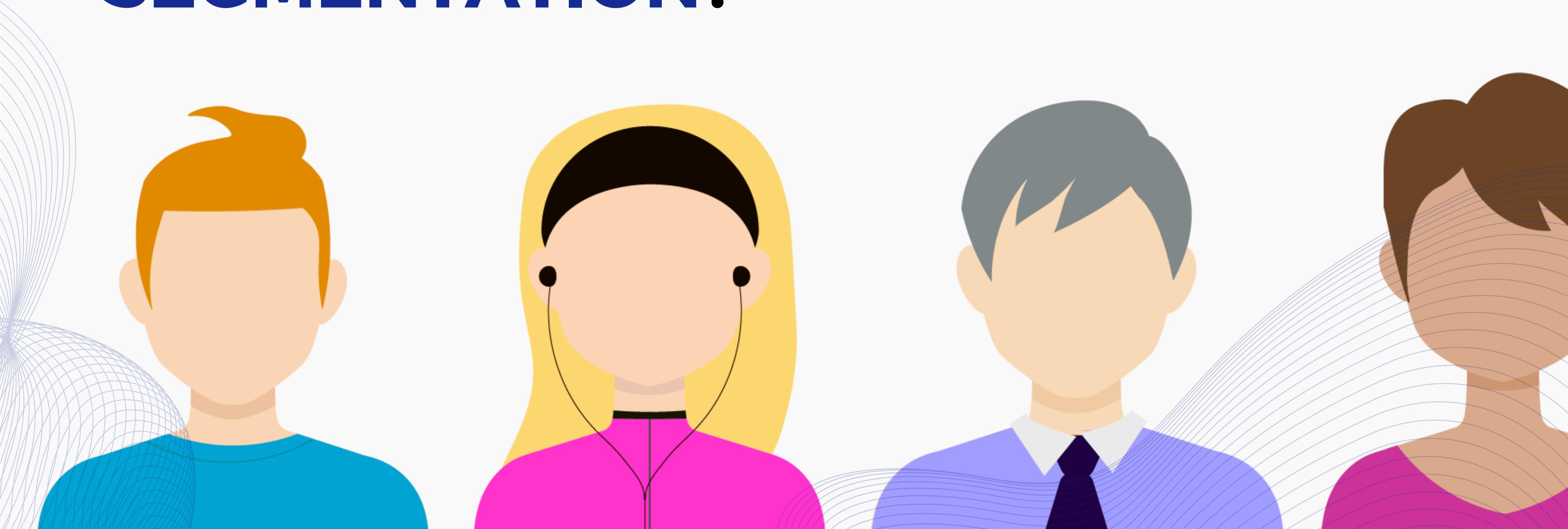


**Sruthi V.**

Team Member

# WHAT IS CUSTOMER SEGMENTATION?

Dividing the customer base into distinct groups based on their characteristics, such as demographics, usage patterns, spending frequency and preferences.



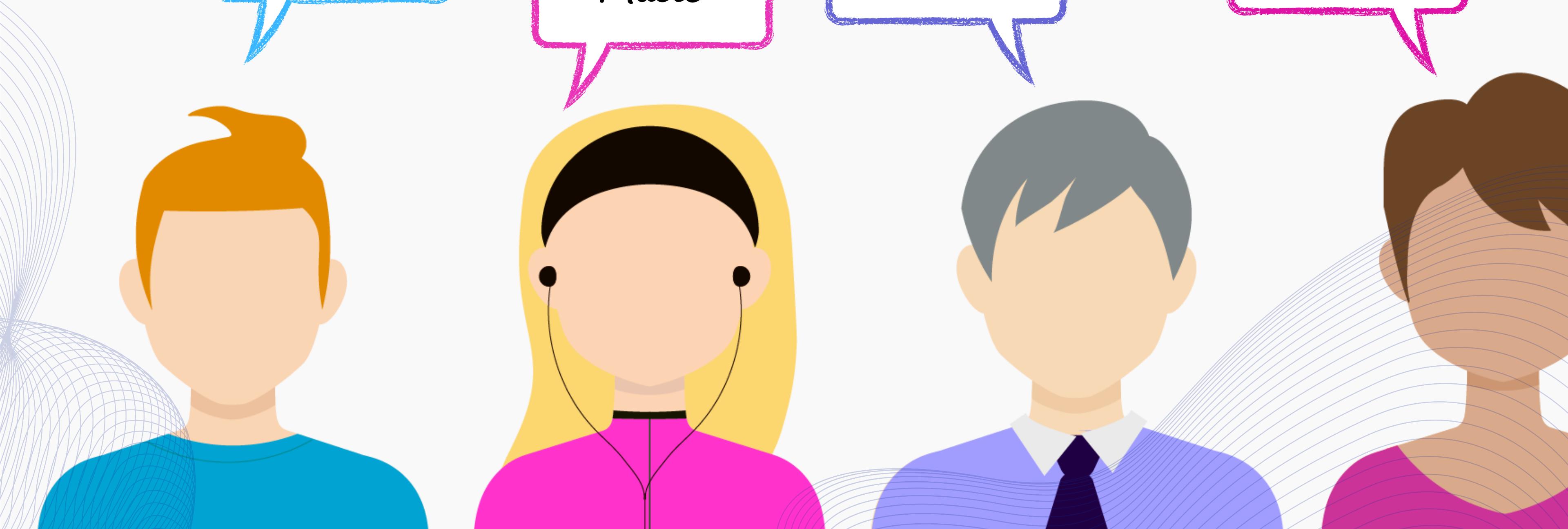
# INTERNET USAGE AND PREFERENCES

Gaming

Music

Business

Work



# **EVERY MINUTE..**

- 231.4 M Emails are sent
- 16 M texts are sent
- 5.9 M searches are conducted on Google
- \$400K is spent on Amazon
- 350K tweets are shared on Twitter

Source: Media usage in an internet minute as of April 2022

# WHAT MAKES CUSTOMERS LOOK FOR A BETTER SERVICE PROVIDER?

Poor quality of service

(When every minute counts)

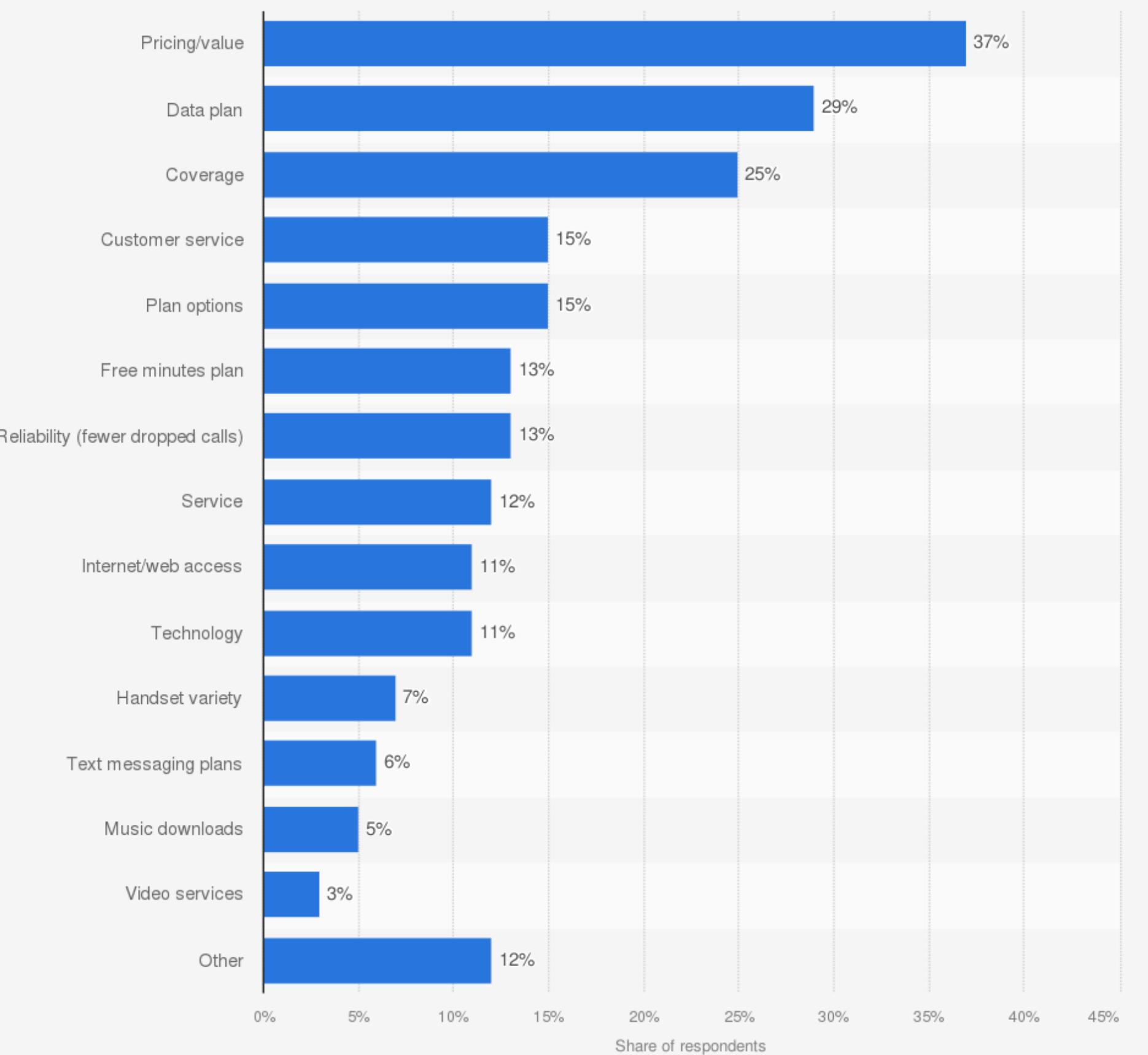
Change in needs

Poor customer service

Cheaper alternatives

Limited plan options

## Why are you considering switching mobile phone service providers?\*



Source  
IAB (U.S.)  
© Statista 2023

### Additional Information:

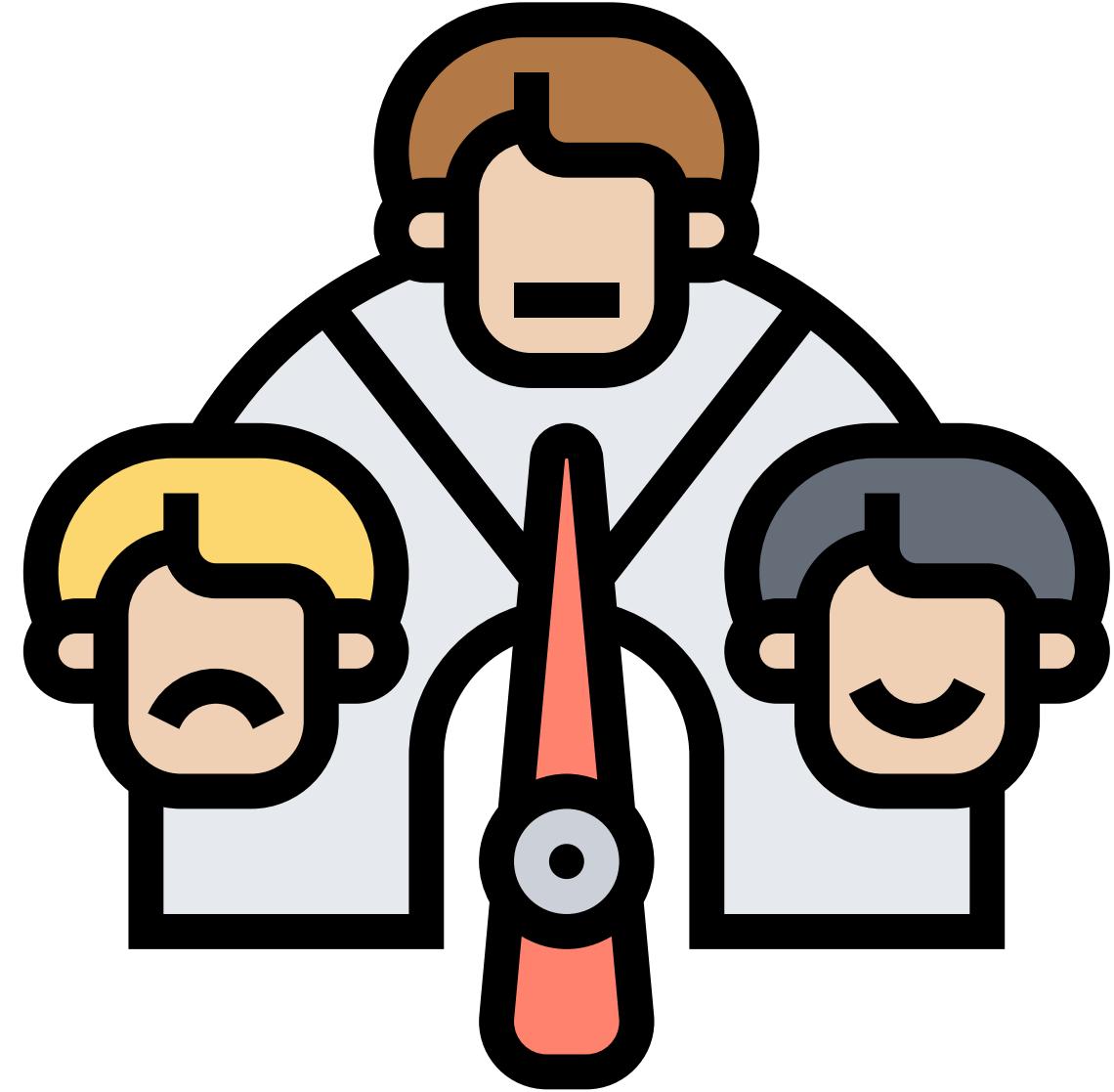
United States; Prosper Insights & Analytics; July 2017; 7,266 respondents; 18 years and older; Use smartphone or cell ph

# **THIS IS CALLED CHURN**



**Rate at which customers stop doing business with a company over a certain period.**

**Percentage of customers who have cancelled their subscription or stopped using the services or products of a company within a given period.**



# NEED FOR CHURN ANALYSIS

Analyze customer behavior to identify factors that lead to customers to leave.

Suggest corrective actions to reduce churn in the highly competitive industry.

# ISP MARKET IN THE US

**Comcast and Cox** are the leading Internet Service Providers in majority of states including CT.

Comcast has 34 million subscribers with over 350,000 subscribers added with \$5.7B revenue in 2022.

AT&T lost over 34,000 subscribers in 2022.

Top Internet Service Provider State-by-State



Source: 56 million web visits

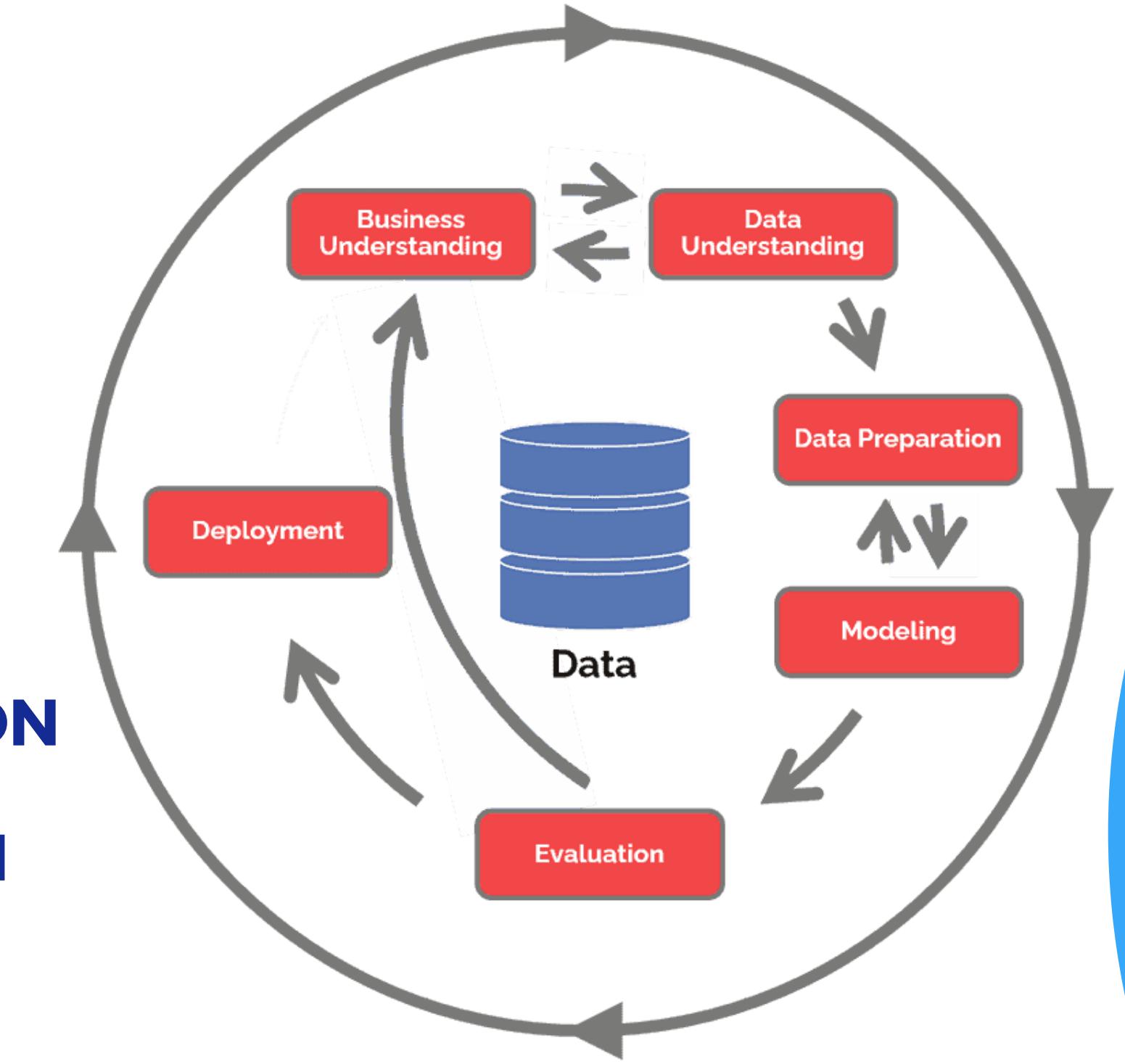
# **NEED FOR SEGMENTATION AND CHURN ANALYSIS**



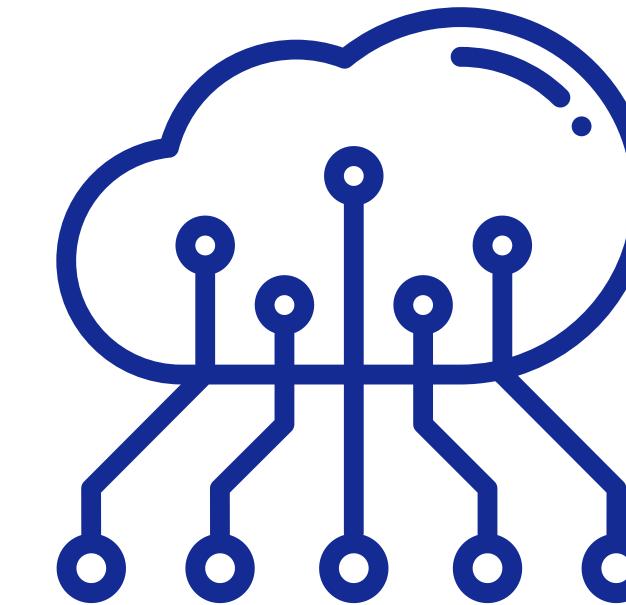
# OUR PLAN

## CRISP-ML

- ▶ **GAIN BUSINESS UNDERSTANDING**
- ▶ **DATA COLLECTION AND INTEGRATION**
- ▶ **DATA CLEANING AND PREPARATION**
- ▶ **DATA MODELING AND ANALYSIS**
- ▶ **DEPLOYMENT**



# DATA SOURCES

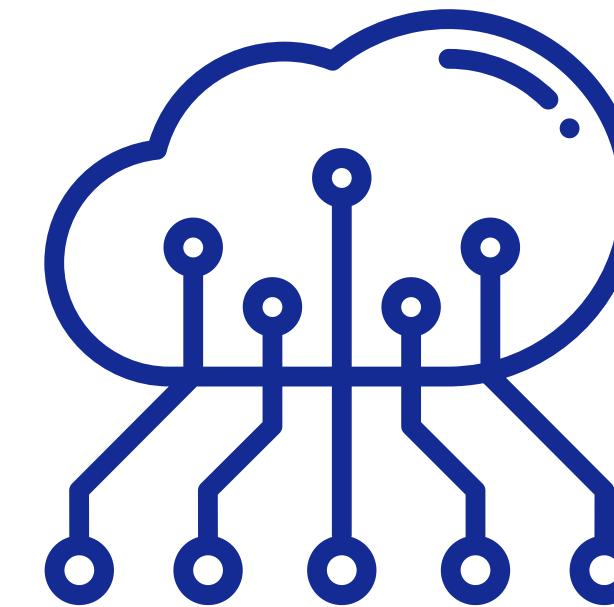


Internet Service  
Provider churn data

Internet Service  
Provider speeds and  
prices

# DATA SOURCES

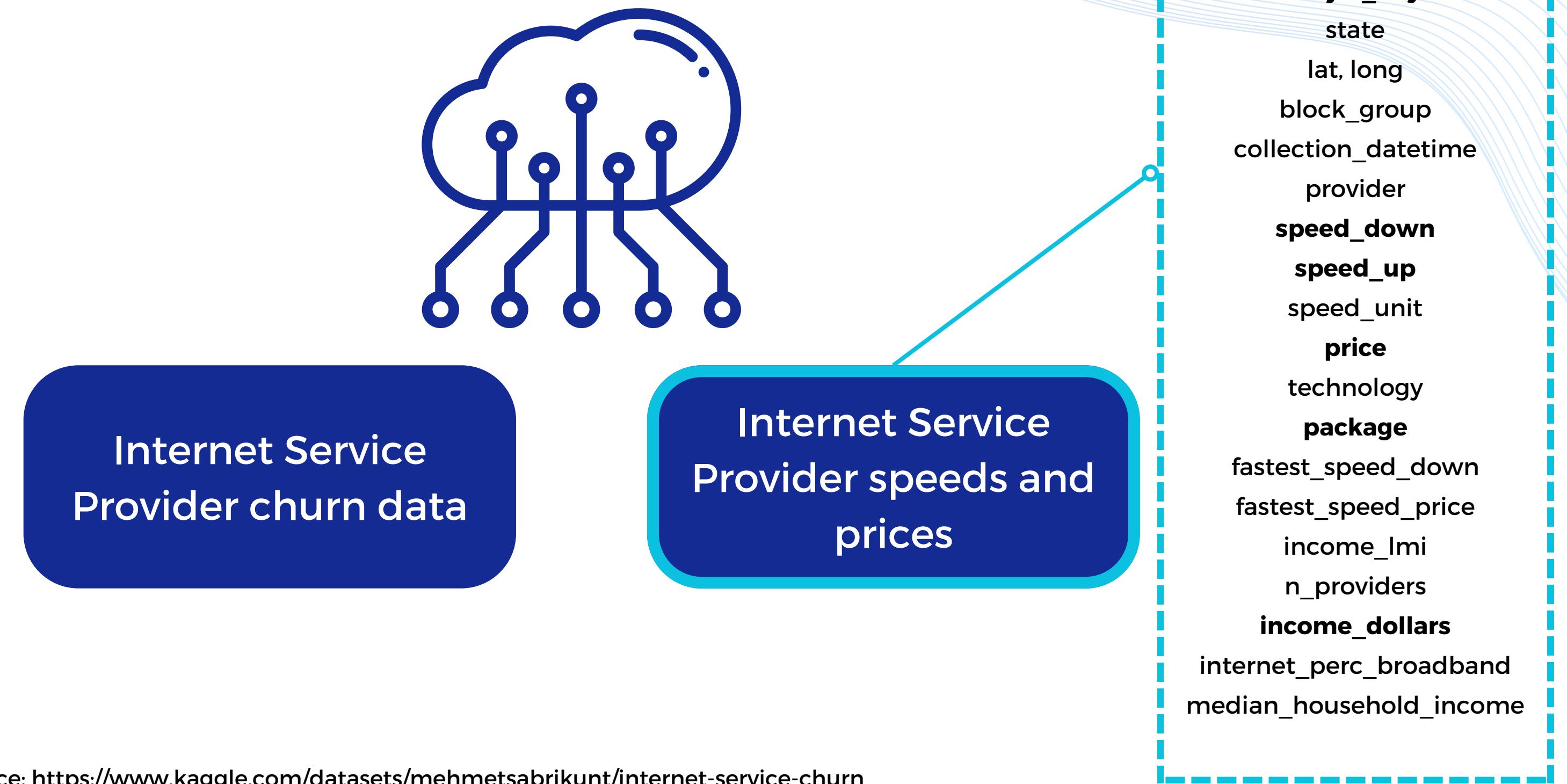
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<b>is_movie_package_subscriber</b>
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<b>bill_avg</b>
<b>remaining_contract</b>
<b>service_failure_count</b>
<b>download_avg</b>
<b>upload_avg</b>
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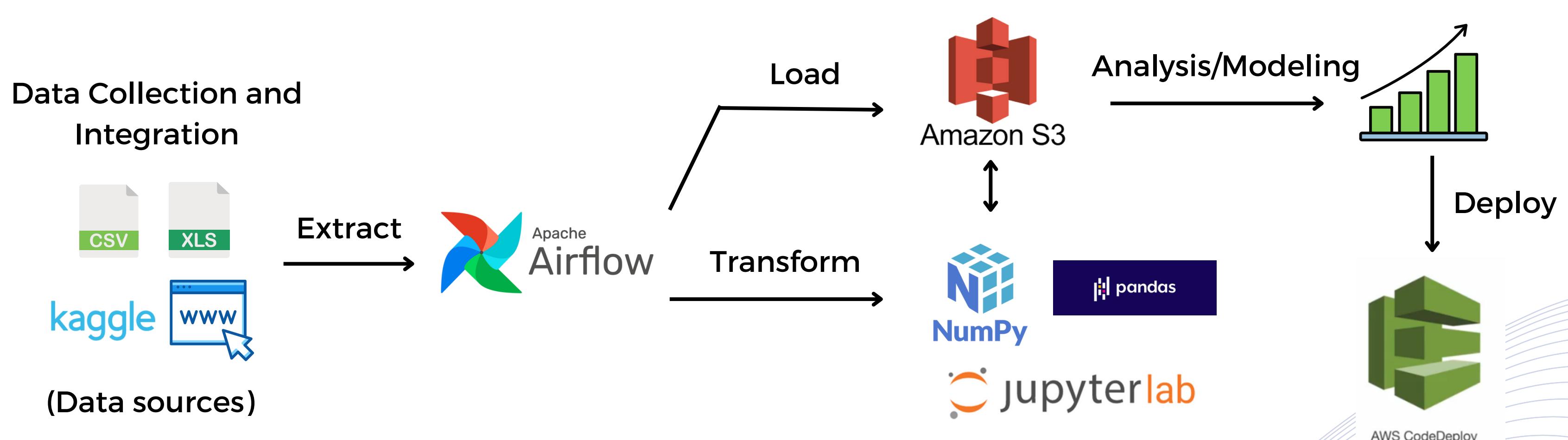
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# DATA SOURCES



# WORKFLOW



# DELIVERABLE MILESTONES

1

## Visualization dashboard

- Analyze customer behavior
- Track customer satisfaction
- Churn probability

2

## Customer Segmentation Report

- Identify most valuable customers
- Segment customers for running marketing campaigns

**THANK YOU**