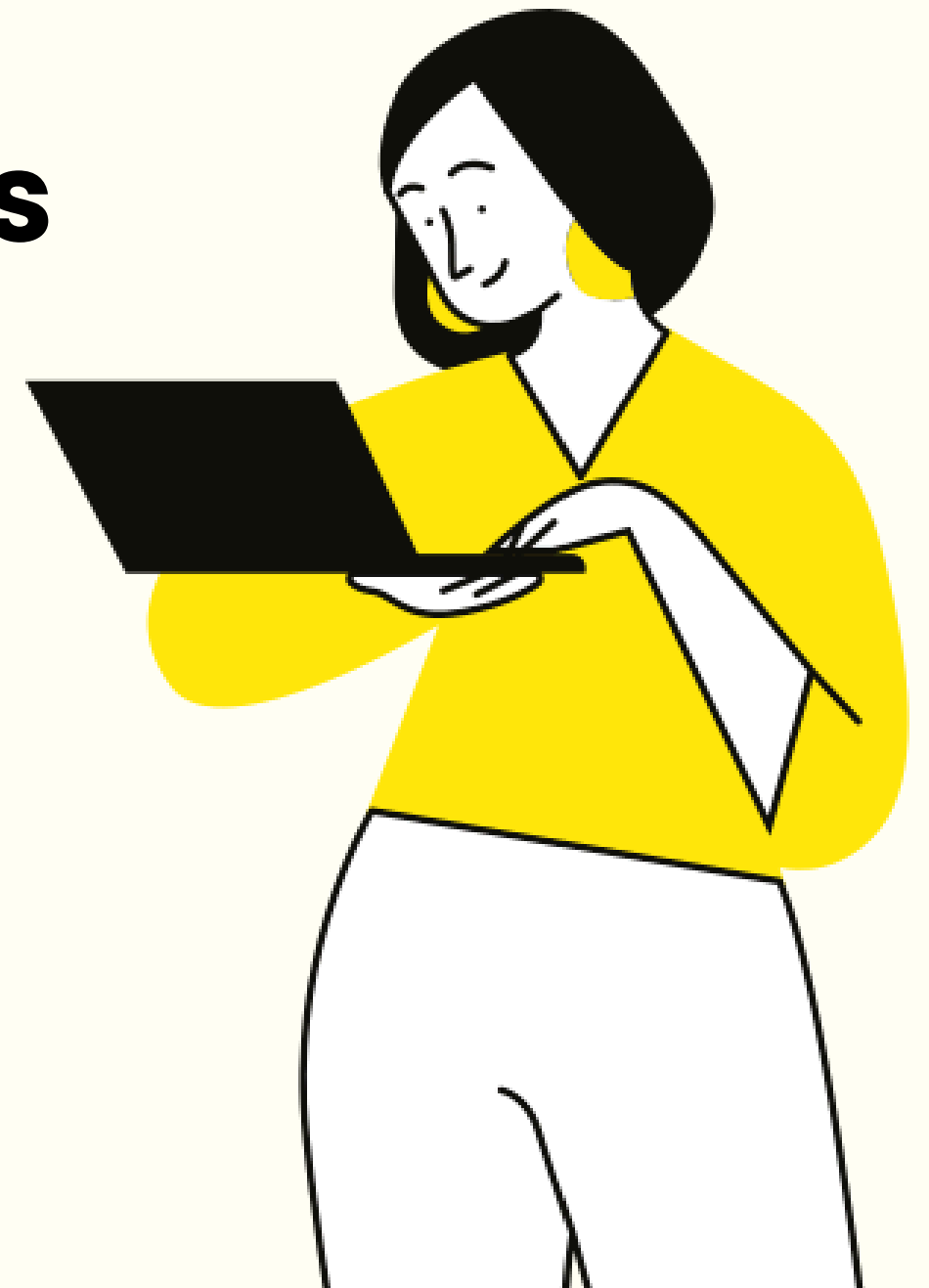# Flipkart

Customer Service Operations - Data Analysis

Agenda

1. Overview

2. Users Journey

3. Metrics and Hypothesis
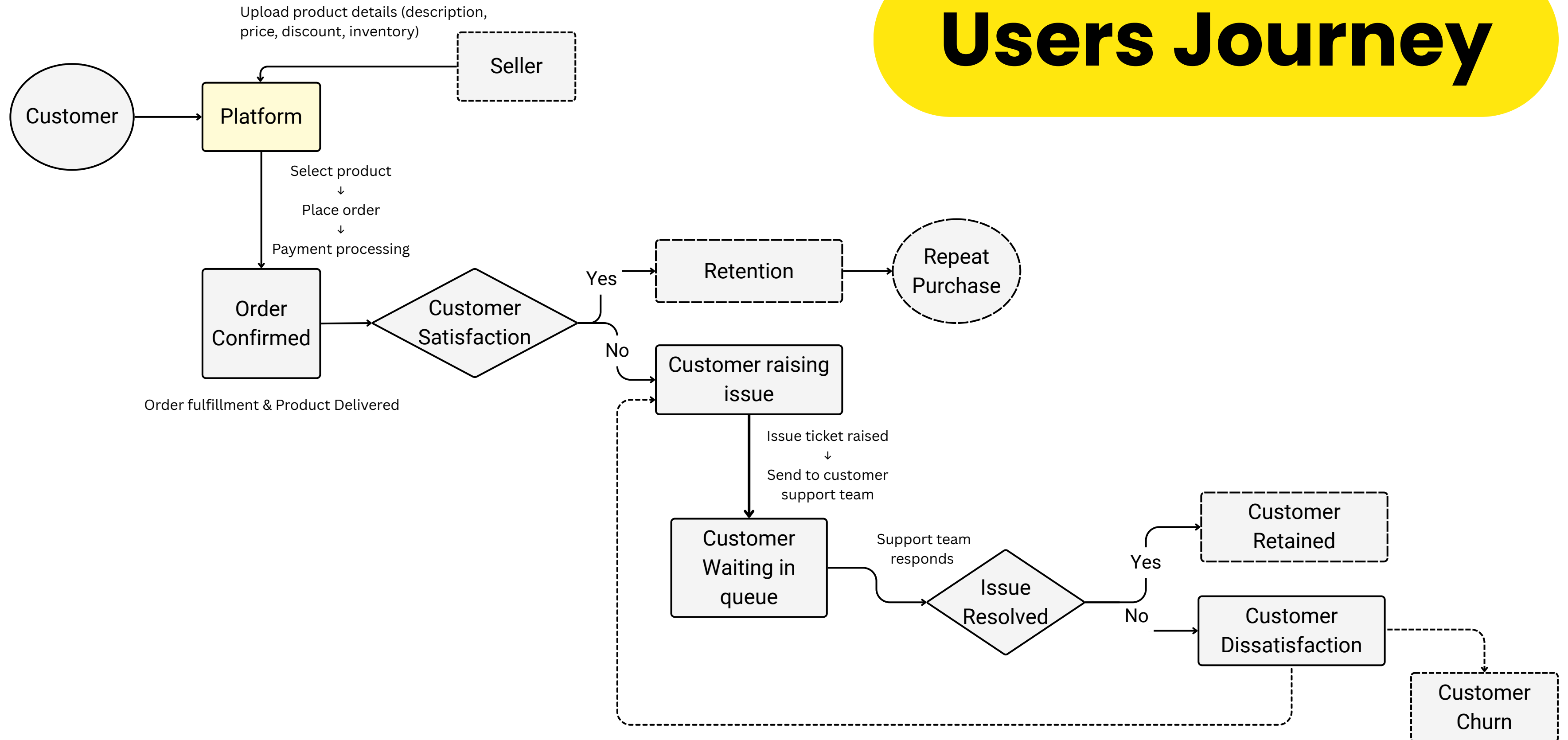
4. Analysis

5. Insights

Overview

Flipkart, a leading Indian e-commerce platform, is seeking to understand the impact of customer service on customer retention. Flipkart aims to identify key performance indicators and underlying trends influencing customer satisfaction.
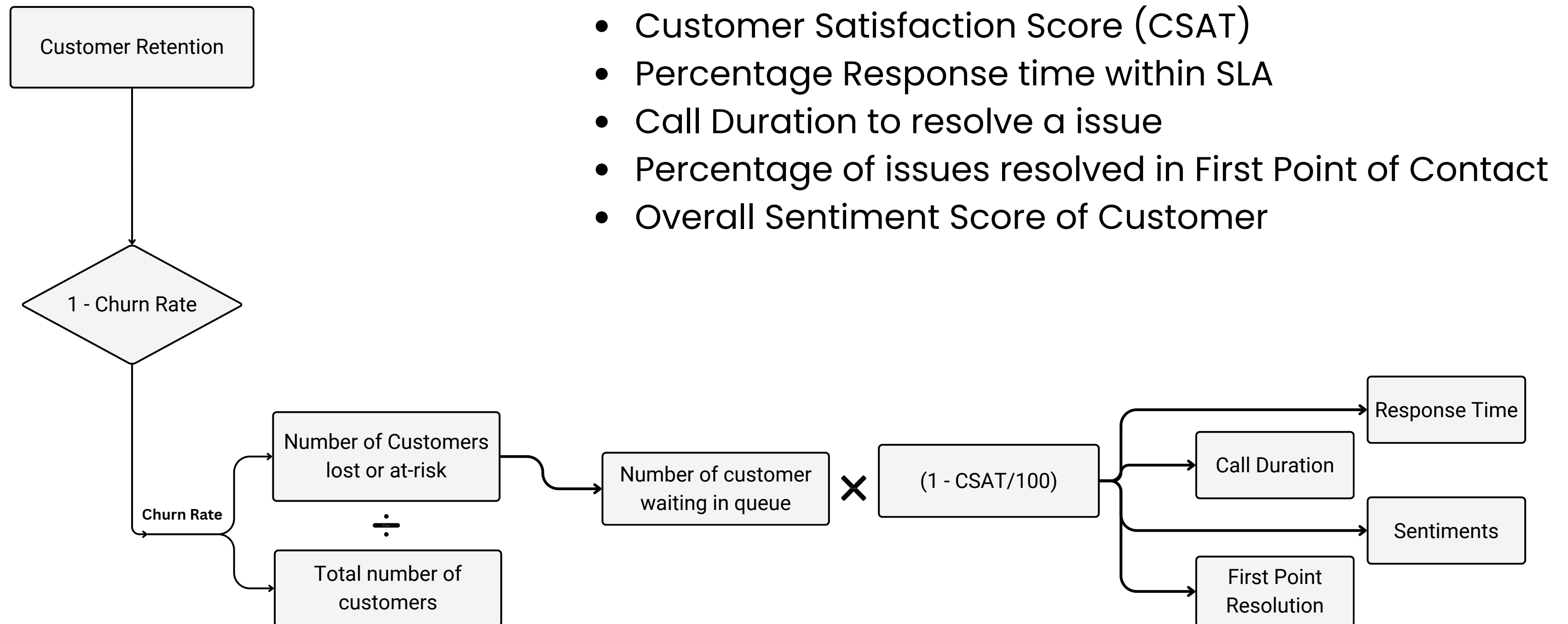
Objective of this project is to analyse customer call data and assess various aspects of customer service performance to determine if and how it impacts customer retention.

Users Journey

Seller → Upload product details (description, price, discount, inventory) → **Platform**

Customer → **Platform**

Platform: Select product ↓ Place order ↓ Payment processing → **Order Confirmed**

Order fulfillment & Product Delivered

Order Confirmed → **Customer Satisfaction**

Customer Satisfaction — Yes → **Retention** → **Repeat Purchase**

Customer Satisfaction — No → **Customer raising issue**

Customer raising issue: Issue ticket raised ↓ Send to customer support team → **Customer Waiting in queue**

Customer Waiting in queue → Support team responds → **Issue Resolved**

Issue Resolved — Yes → **Customer Retained**

Issue Resolved — No → **Customer Dissatisfaction** → **Customer Churn**

Metrics Tree & KPIs

Customer Retention

- Customer Satisfaction Score (CSAT)
- Percentage Response time within SLA
- Call Duration to resolve a issue
- Percentage of issues resolved in First Point of Contact
- Overall Sentiment Score of Customer

1 - Churn Rate

Churn Rate

Number of Customers lost or at-risk
÷
Total number of customers

Number of customer waiting in queue

×

(1 - CSAT/100)

Response Time

Call Duration

Sentiments

First Point Resolution

Hypothesis

- Customer service performance varies across call centers based on factors such as response time, call duration, and issue handling capability, leading to difference in CSAT score

- Customer service performance and issue distribution vary across weekdays due to changing customer demand and issue type, which impacts overall CSAT scores.

- Different issue types generate varying levels of customer sentiments, and higher sentiments score are associated with higher CSAT scores, while longer resolution interactions may negatively impact score

- Customer satisfaction and sentiment vary across support channels due to differences in resolution time and certain channel-call center combinations performance is not satisfactory.
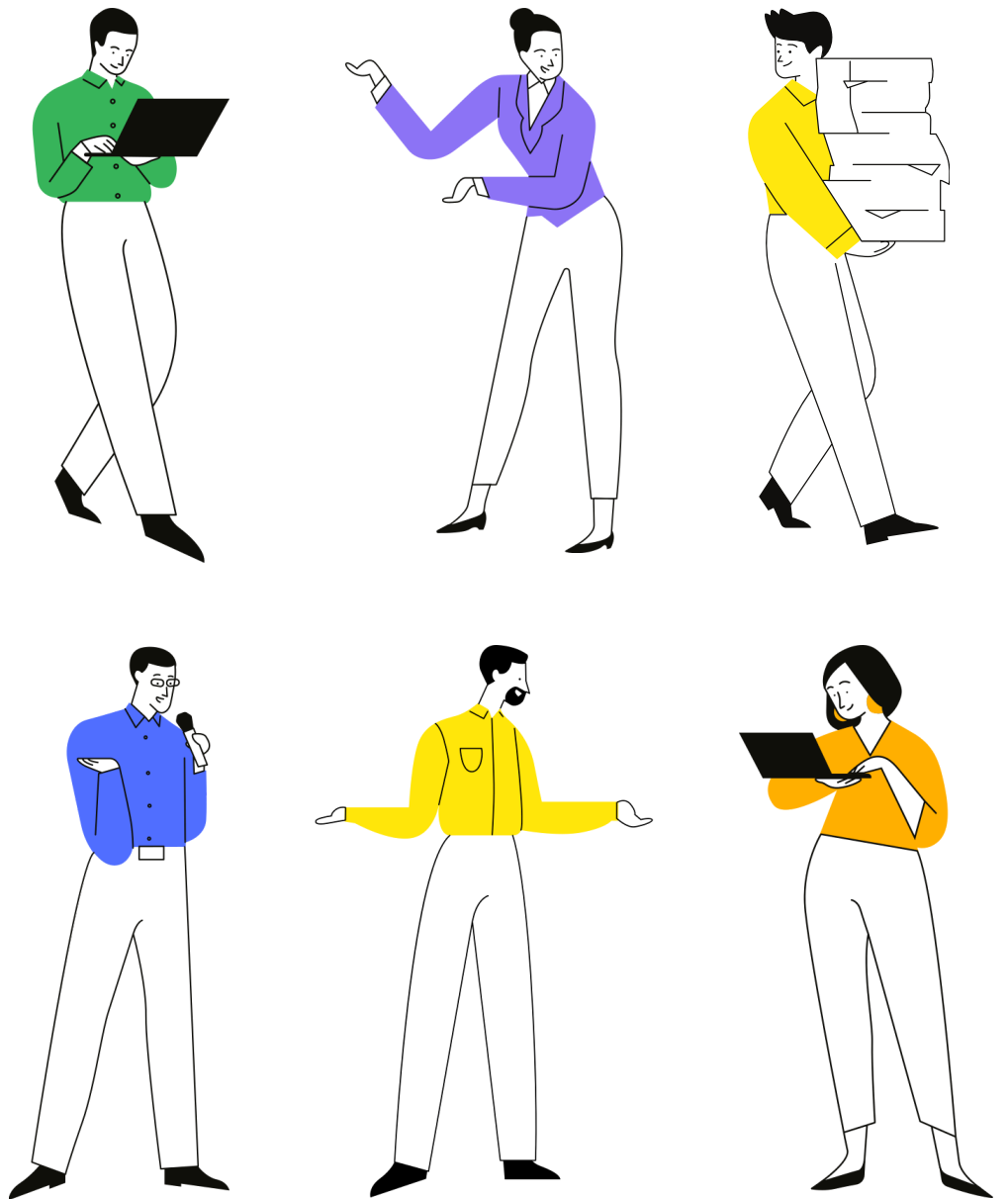
Analysis

1 **Data Cleaning and Formatting**
Cleaned data by handling missing values, duplicates and formatting columns

2 **Data Transformation**
Converted timestamps to weekdays, sentiments to numeric scores and call duration to numeric format
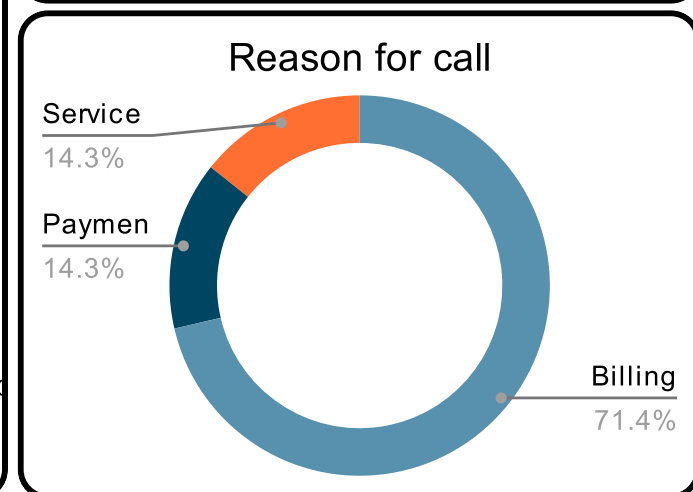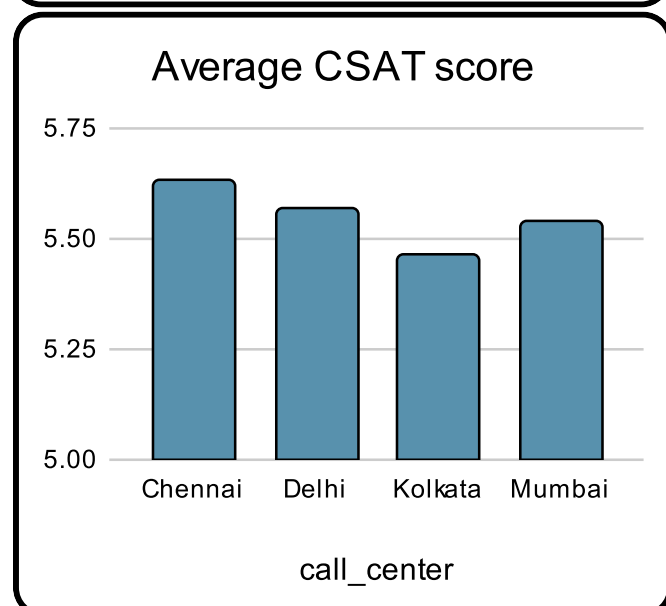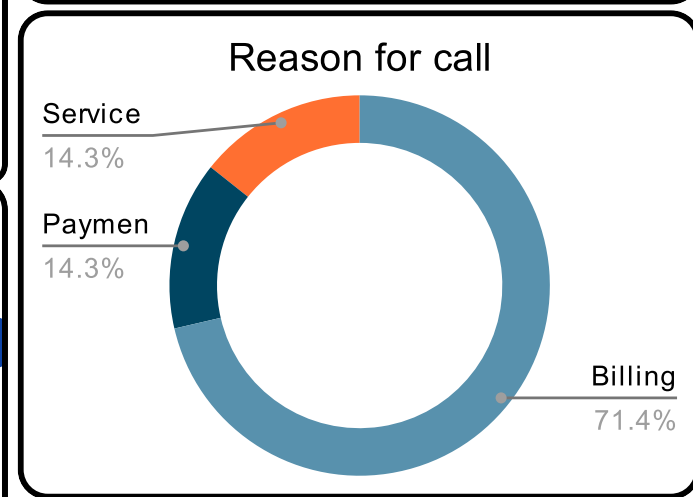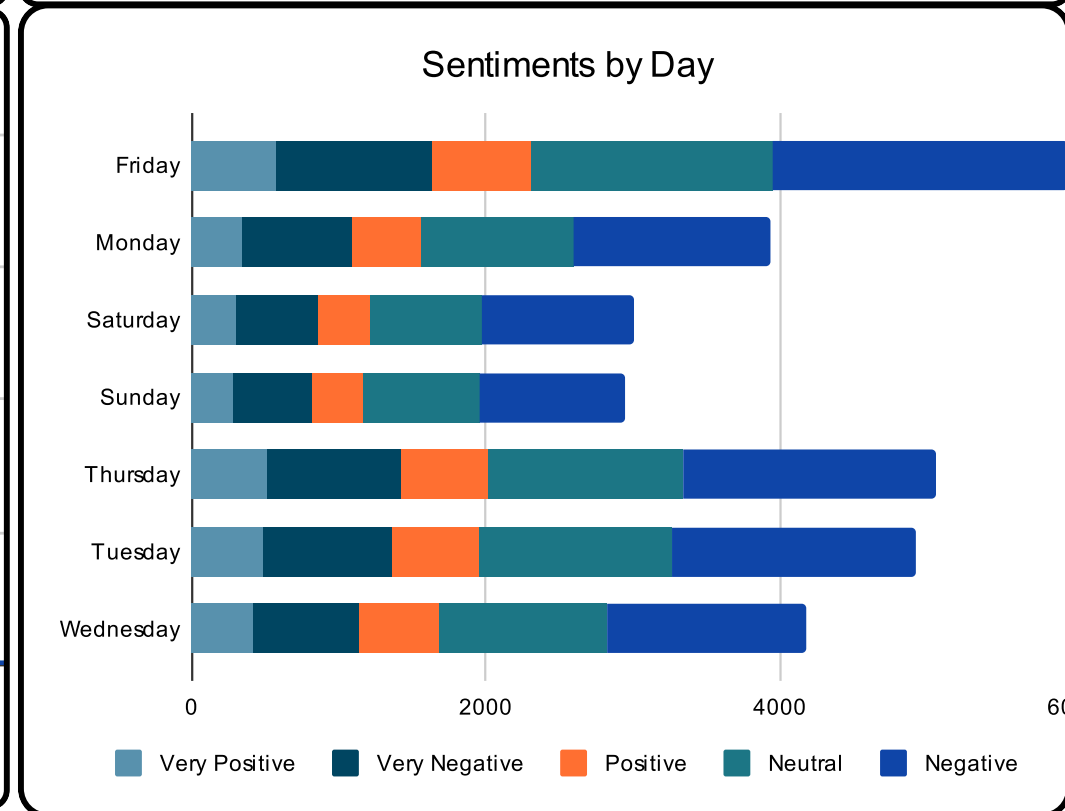
3 **Exploratory Data Analysis**
Performed EDA using pivot tables to test hypothesis and identify patterns

4 **Data Visualization and Insight generation**
Built pivot charts and conducted analysis to generate insights and conclusions

Dashboard

Total Calls	Cities Served	Call Centres	Average Call Duration	Average CSAT Score	% Users give CSAT
30001	38	5	25	5.54	37.38

Issues by Call-centers
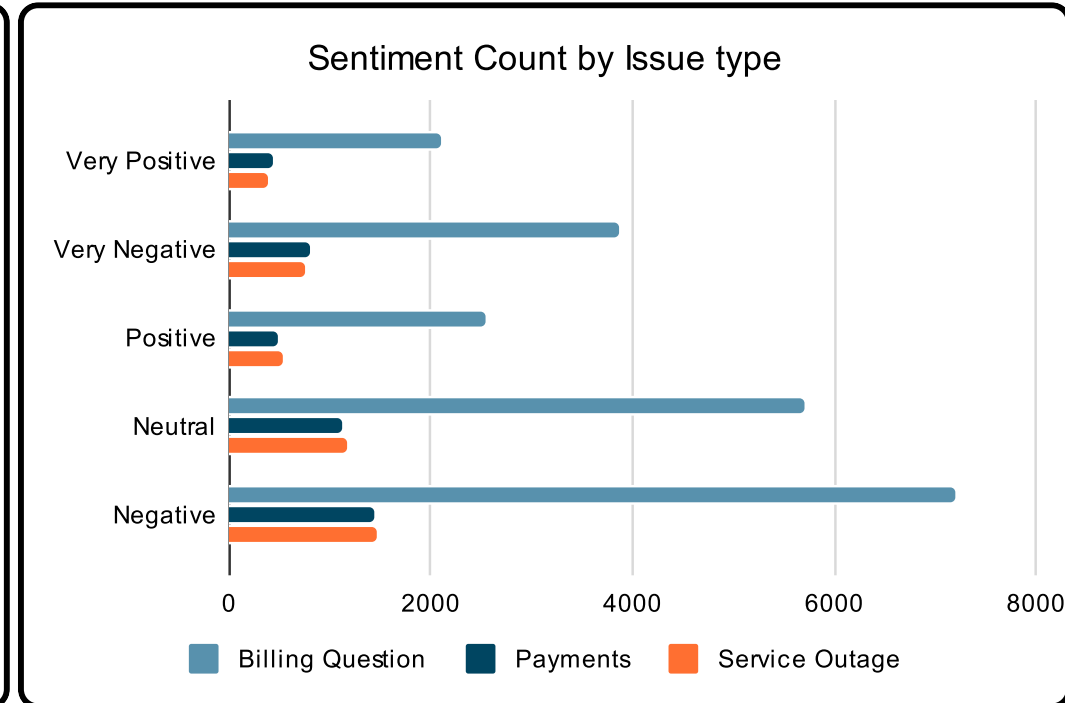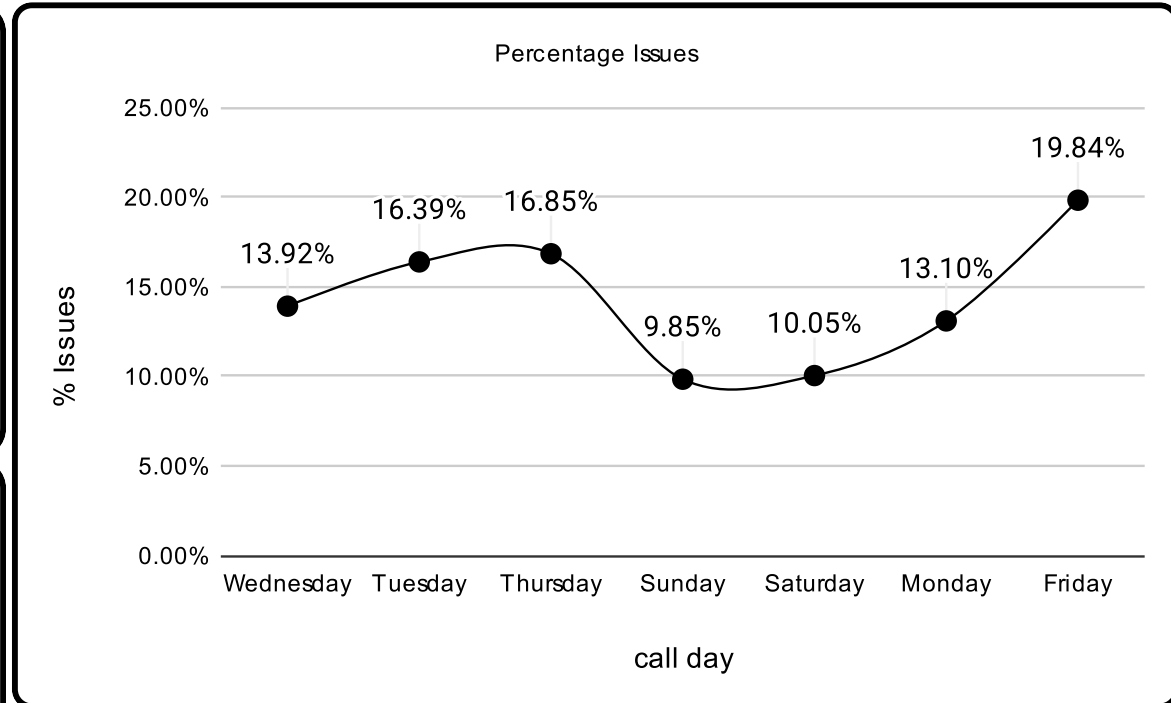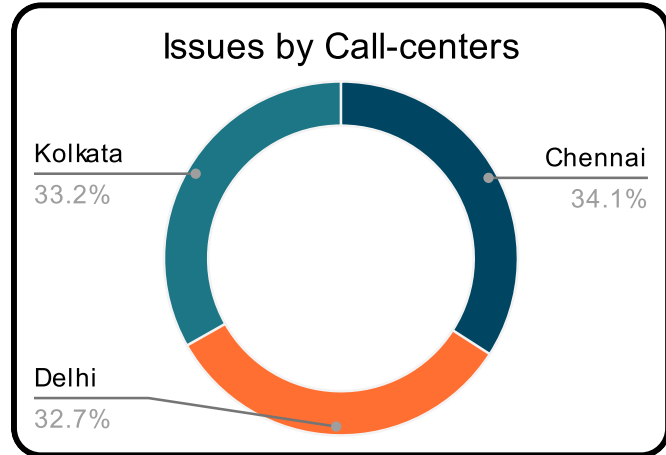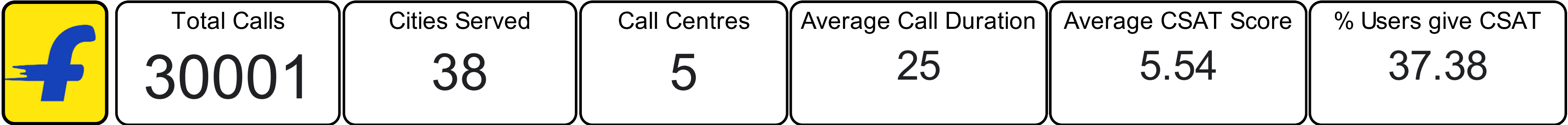
- Kolkata 33.2%
- Chennai 34.1%
- Delhi 32.7%

% Issue by Channel

- Web 19.9%
- Call- 32.2%
- Email 22.8%
- Chatbot 25.1%

Average CSAT score

Chennai, Delhi, Kolkata, Mumbai — call_center

Percentage Issues

call day	% Issues
Wednesday	13.92%
Tuesday	16.39%
Thursday	16.85%
Sunday	9.85%
Saturday	10.05%
Monday	13.10%
Friday	19.84%

Sentiment Score by Channel

Web, Email, Chatbot, Call-Center

Legend: 1, 2, 3, 4, 5

Sentiment Count by Issue type

Categories: Very Positive, Very Negative, Positive, Neutral, Negative

Legend: Billing Question, Payments, Service Outage

Sentiments by Day

Days: Friday, Monday, Saturday, Sunday, Thursday, Tuesday, Wednesday

Legend: Very Positive, Very Negative, Positive, Neutral, Negative

Response Time

- Above 12.7%
- Below 24.8%
- Within 62.5%

Reason for call

- Service 14.3%
- Paymen 14.3%
- Billing 71.4%

Reason for call

- Service 14.3%
- Paymen 14.3%
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Insights

Customer satisfaction and retention are mainly influenced by issue type, sentiment and service experience rather than operational speed. High-volume billing issues, customer sentiment after resolution and channel performance play a larger role in determining CSAT, while response time and call duration have minimal direct impact on satisfaction.

Billing issues dominate service demand, contributing 71.37% of total tickets, making them the primary driver affecting overall CSAT.

Customer sentiment strongly influences satisfaction, with a high positive correlation between sentiment score and CSAT ($r \approx 0.89$).

Response time and call duration have negligible correlation between them, indicating resolution quality matters more than handling speed.

Channel performance and operational load affect experience, with chatbot interactions showing lower CSAT and high-volume days like Friday linked to lower satisfaction.

Thank You