Enhancing Customer Satisfaction at Shopzilla Through Data Analysis

A Hands-On Data Analytics Project

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Tools Used: BigQuery (SQL), Tableau

Why This Project?

📌 **Content:**

➢ I wanted to work on a project that mimics real-world challenges in e-commerce.
➢ Customer satisfaction is a key factor in retention, so I decided to analyze what drives complaints and how businesses can improve.
➢ **Main Goal:** Identify the key drivers of low CSAT and suggest data-driven improvements.
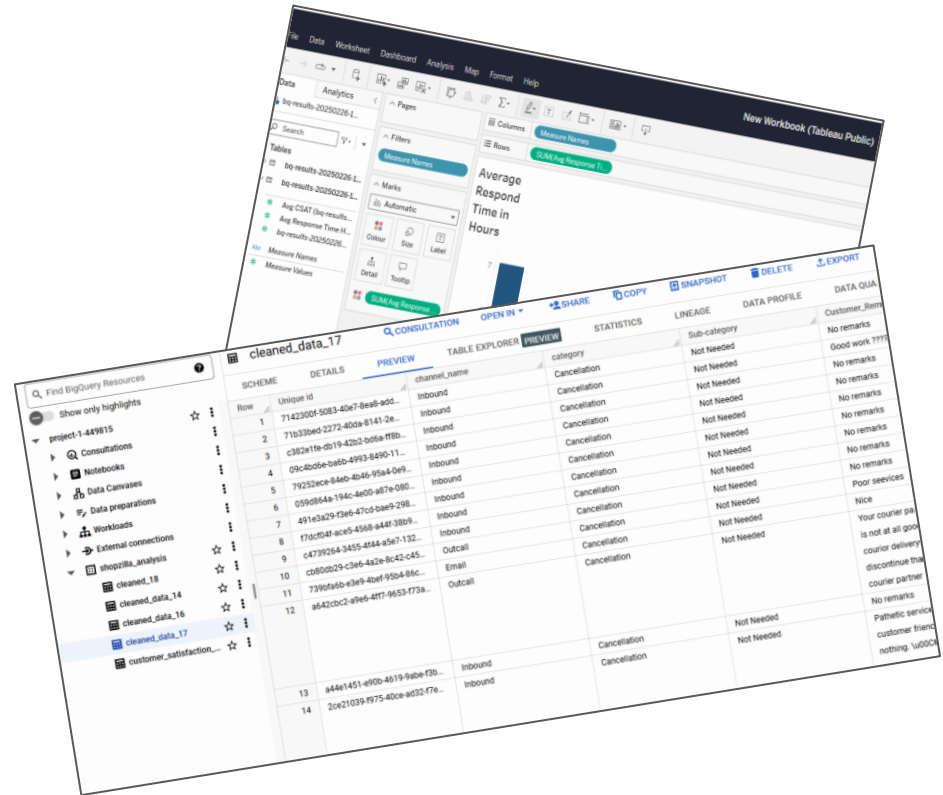
The Business Problem (ASK Phase)

- **What's happening?** 📉 Shopzilla's **CSAT scores are dropping** due to **rising customer complaints**.
- **Main Questions:**
    1. What are the **top reasons for customer complaints**?
    2. How do **agent performance & response time affect CSAT**?
    3. What **actions** can be taken to improve satisfaction?

Key Stakeholders

Customer Support Managers	Operations Team	Executives & Strategy Team

Data & Tools (PREPARE Phase)

- **Dataset:** Kaggle (85,907 rows, 20 columns)
- **Tools I Used:**
  - ✅ **BigQuery (SQL)** – Data extraction & cleaning
  - ✅ **Tableau** – Visualizing insights
  - ✅ **Google Data Analytics Process** – Structured problem-solving

Data Cleaning & Preprocessing (PROCESS Phase)

- **Main Issues Found:**
  ✅ **Missing Values** → Handled with replacements ("Unknown"/"Unspecified")
  ✅ **No Duplicates** found
  ✅ **Time Format Issues** → Converted response time from minutes to hours
  ✅ **Incorrect Timestamps** → Removed negative values


```
 1  SELECT
 2    COUNT(*) AS total_rows,
 3    SUM(CASE WHEN `Order_Date_Time` IS NULL THEN 1 ELSE 0 END) AS missing_order_date,
 4    SUM(CASE WHEN `Customer_City` IS NULL THEN 1 ELSE 0 END) AS missing_city,
 5    SUM(CASE WHEN `Product_Category` IS NULL THEN 1 ELSE 0 END) AS missing_category,
 6    SUM(CASE WHEN `Item_Price` IS NULL THEN 1 ELSE 0 END) AS missing_price
 7    FROM `project-1-449815.shopzilla_analysis.customer_satisfaction_data`;
```

Agent Shift	CSAT Score	Avg_Response_Time
Evening	5	-1339.0
Morning	1	-935.0
Evening	4	-731.0
Morning	1	-625.0
Split	1	-121.0
Morning	5	-583.0
Evening	4	-1101.0
Morning	5	-502.0
Afternoon	5	-807.0
Evening	4	-433.0
Morning	5	-919.0

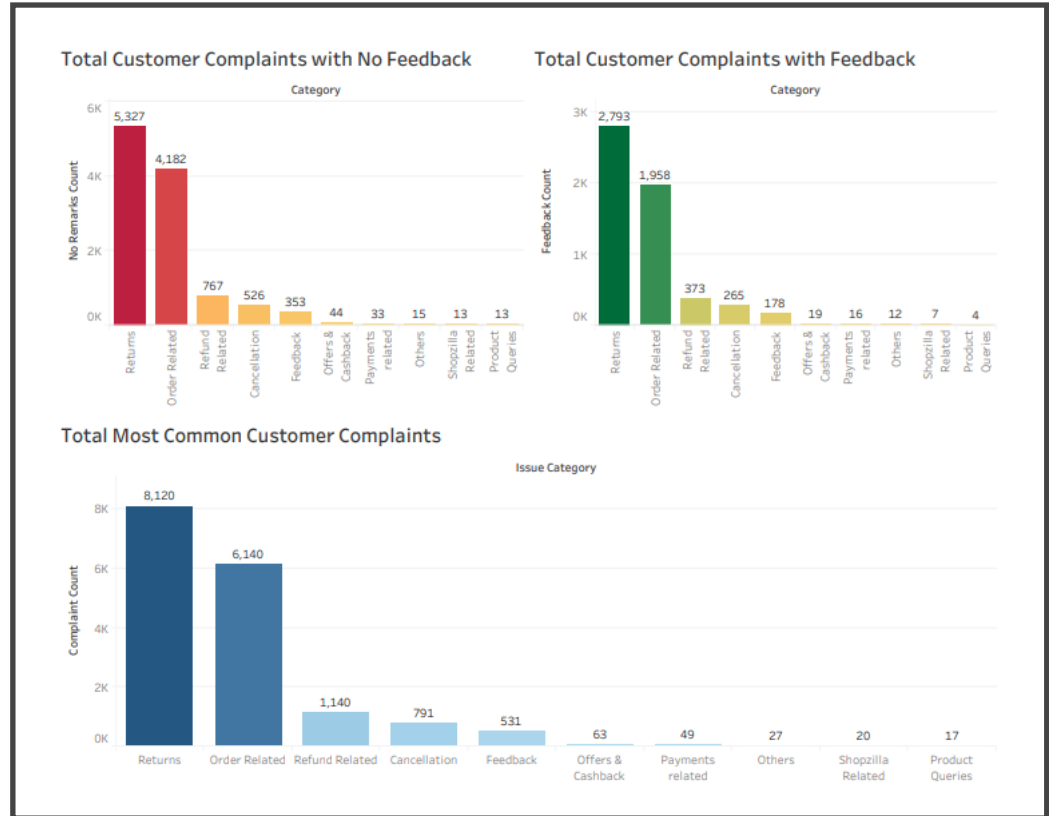Resultados por página: 50 1 – 50 de 316 |< < > >|

UPDATE

Key Findings – What Are Customers Complaining About?

- **Most Common Complaints:**
  - **48.1% → Returns Issues**
  - **36.4% → Order Issues**
- **Key Insight:** *"Returns & order-related problems account for over 80% of all complaints. This suggests that product quality & logistics need improvement."*

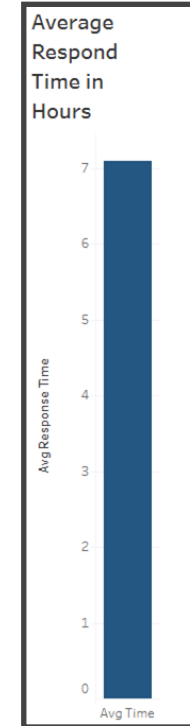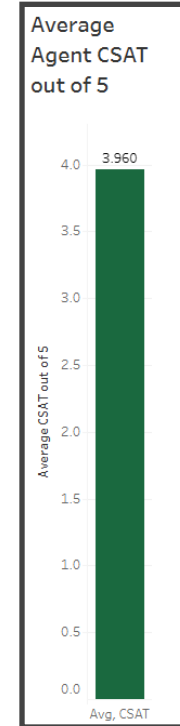Total Most Common Customer Complaints

Why Are Customers Not Giving Enough Feedback?

- **Many complaints lack customer remarks:**
  - 65% of return complaints = **"No feedback provided"**
  - 68% of order complaints = **"No feedback provided"**
- **What this means:** *"Customers might not feel encouraged to leave detailed feedback, making it harder to fix specific issues."*

Key Findings – How Fast Do Agents Respond? (CSAT Impact)

- **Avg CSAT Score:** ⭐ **3.96/5 (Decent, but room for improvement)**
- **Avg Response Time:** ⏳ **7.09 hours** (Below industry benchmark)
- **Key Insight:** Faster response times **= higher CSAT**.

Recommendations – Fixing Product & Logistics Issues

◆ **Better Quality Control** → Pre-shipping inspections & packaging checks

◆ **Faster Shipping** → Partner with **reliable** carriers, offer **real-time tracking**

◆ **Simplify Returns** → Clear policies, prepaid return labels

Recommendations – Customer Support & Feedback

📌 **Content:**

- **Monitor Response Times** → Reduce to <7 hours

- **Use AI for Faster Replies** → Automate common inquiries

- **Encourage Customer Feedback** → Incentives like **discounts/loyalty points**

- **Track Complaints Automatically** → AI-based categorization

Final Takeaways & Business Impact

📌 **Key Takeaways:**

- **Returns & order issues =** main drivers of CSAT decline
- **Faster response times =** happier customers
- **Small changes (better logistics & communication) can have a big impact**

✅ **Expected Impact:**

- **CSAT increase:** +0.5 to 1 point
- **More repeat customers, fewer complaints**