

Case Study: Google Fiber Business Intelligence

Introduction

Google Fiber aimed to improve customer satisfaction by understanding why customers call again after their initial interaction with the support team. The objective was to identify the reasons for repeated calls, the types of problems customers encountered, and the cities from which they made the calls. This case study outlines the use of business intelligence concepts to design and implement a dashboard to address these goals.

Problem Statement

Google Fiber sought to determine the root causes of repeat calls from customers and gain insights into the specific issues they encountered. By understanding the geographical distribution of these calls, the company aimed to target areas for improvement and enhance overall customer satisfaction.

Approach

1. **Data Collection:** Collected and analysed call data which included dates, number of contacts (1st contact, 2nd contact, 3rd contact etc.) and type for three different market cities: market_1, market_2, market_3.
2. **Data Aggregation:** Exported data to BigQuery to aggregate the separate data sources into one cohesive target table for ease of exploration.
3. **Dashboard Design:** Designed charts and an interactive dashboard using Tableau to present the findings in an intuitive and user-friendly manner.
4. **Key Metrics and Visualizations:** Developed key metrics and visualizations to address the objectives, including:
 - **Repeated Call Analysis:** Analysed call data to determine the volume of repeat calls after first contact, percentage of repeat calls by day of the week and number of calls in each month in the quarter.
 - **Problem Type Analysis:** Categorized and visualized calls by the different types of problems in each market and discovered that problems of type_2 were the most prevalent.
 - **Geographical Analysis:** Mapped customer call locations in addition to the problem type to identify areas with high call volumes.
5. **Dashboard Features:**
 - **Dynamic Filters:** Enabled users to filter data based on specific timeframes.
 - **Intuitive Tooltips:** Provided the ability to view data easily while hovering over any section of a chart with the help of tooltips.
 - **Trends and Comparisons:** Visualized trends over time and allowed for comparisons between problem types and call origins.

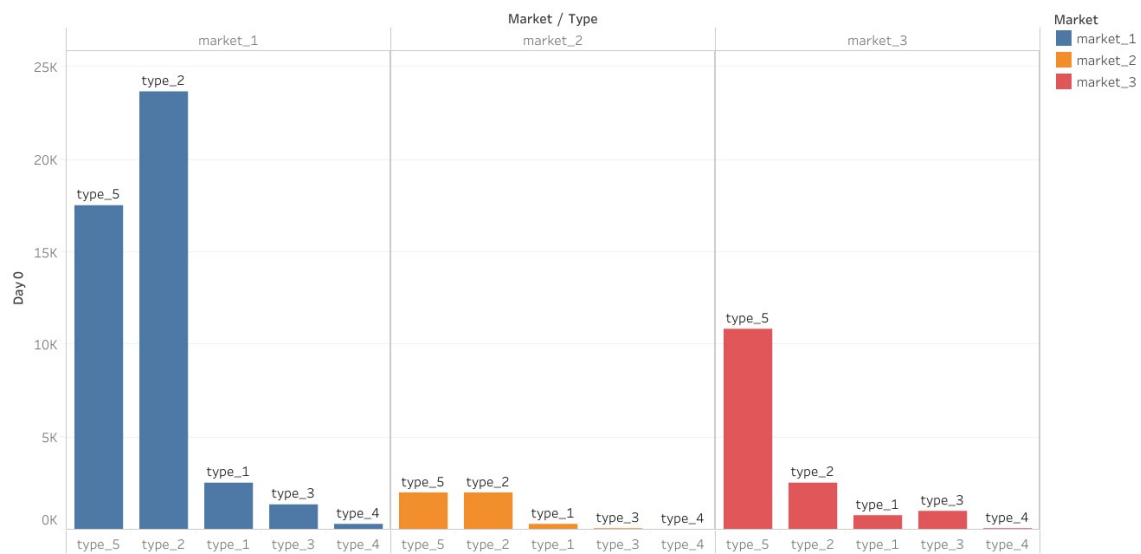
Visualizations Used

Repeat Calls by First Date



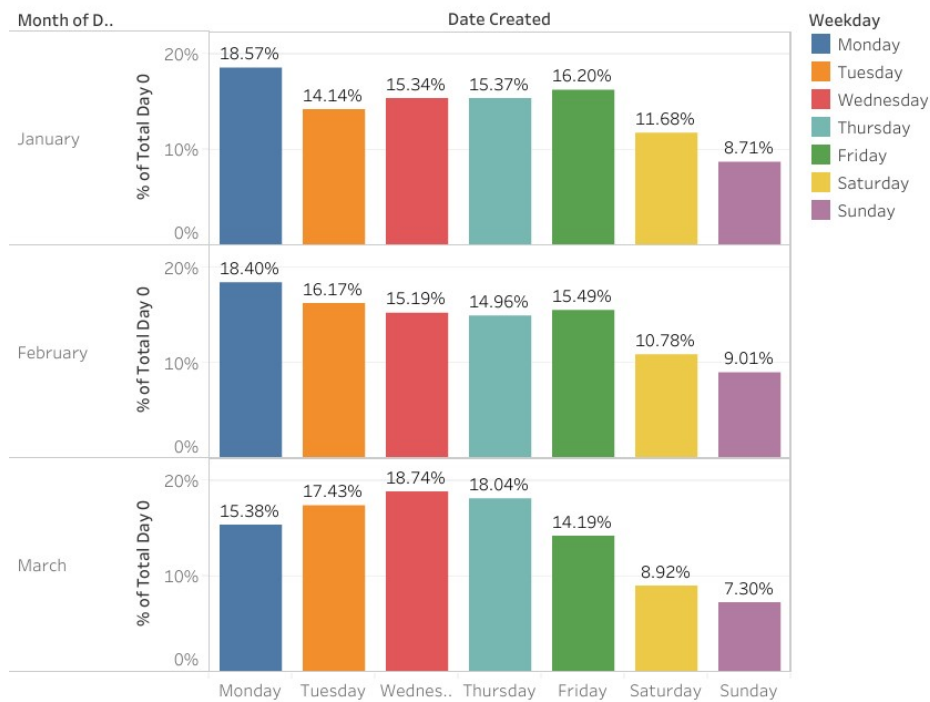
Repeat calls compared to First date

Market and Problem Type of 1st Call



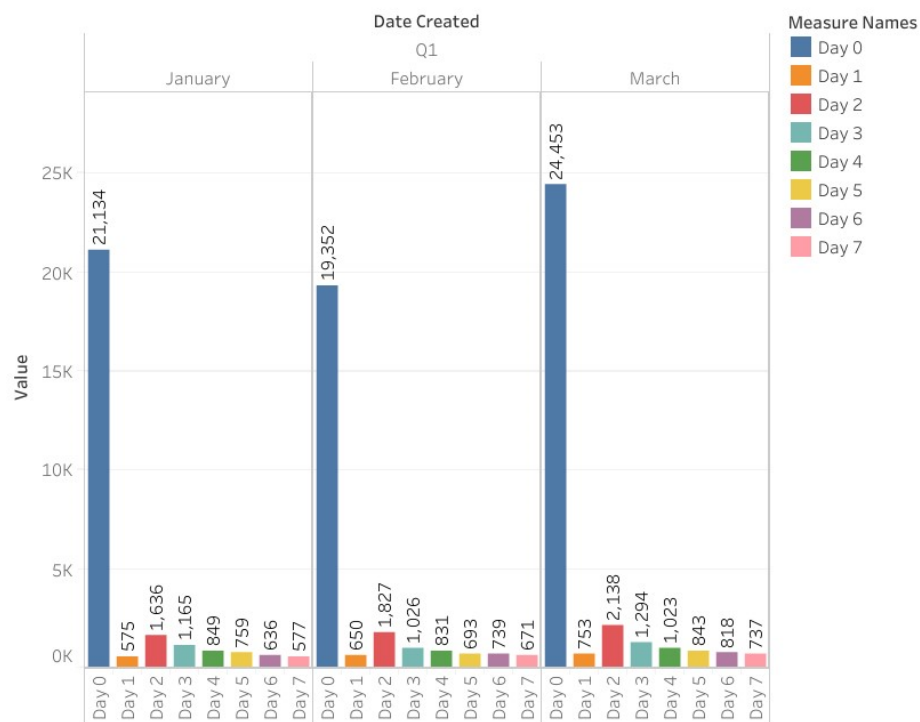
Market and problem type of First call

% of Repeats by Weekday



Percent of repeat calls by Day of the Week

Repeats by Month



Number of Repeat Calls by Month and Quarter

Results and Impact

The designed dashboard provided valuable insights to the Google Fiber Support team, enabling them to:

- Identify the top reasons for repeat customer calls, allowing targeted improvement efforts.
- Manage employees so that extra shifts can be added on days with higher call volumes while days with lower volumes can be staffed more sparingly.
- Analyse the major problems that they receive the greatest number of calls for and determine if any changes need to be made to the product.

The dashboard proved instrumental in empowering the support team to make data-driven decisions, leading to improved customer satisfaction and a more efficient support process.

Conclusion

By leveraging the power of business intelligence, data visualization and user-centric design principles, the Google Fiber Support dashboard successfully addressed the objective of understanding repeat customer calls, problem types, and call origins. The insights gained from the dashboard enabled Google Fiber to take proactive measures in future to enhance customer satisfaction and optimize support operations.

This dashboard by no means signifies finality though as several iterations and improvements are possible in future versions like including drill down capabilities, better filters and additional charts that could go even more in depth into the data provided.