Elevating Customer Support at Google Fiber

Google Fiber

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OUTLINE

The presentation is organized as:

- BUSINESS TASK
- OBJECTIVES
- THE DATA
- ANALYSIS
- DASHBOARD
- RECOMMENDATION
- CONCLUSION
- APPENDIX

BUSINESS TASK

The business task is To:

- *Communicate With The Customers To Reduce The Call Volume And Increase Customer Satisfaction And Improve Operational Optimization.*

- *Create A Dashboard To Demonstrate An Understanding Of This Goal.*

OBJECTIVES

The objectives to solving the business task is to:

VISUALIZE:

- *Repeat calls by their first contact date.*
- *Repeat calls by week, month, and quarter.*

EXPLORE:

- *- Repeat calls by market and problem type.*
- *Explore repeat caller trends in the three different market cities.*

PROVIDE:

- *- Insights into the types of customer issues that generate more repeat calls.*

THE DATA

- Google Fiber data typically includes information about number of customer service calls, customer call type, and city service areas.
- It provides insights into type of problems that customers report and how frequent the calls arrive after their first reports and how helpful customer service has been to them.
- This information is for improving service delivery, strategic planning, and optimizing user experiences.

	date_created	contacts_n	contacts_n_1	contacts_n_2	contacts_n_3	contacts_n_4
0	2022-01-01	386.0	28.0	25.0	14.0	16.0
1	2022-01-02	396.0	31.0	18.0	37.0	13.0
2	2022-01-03	983.0	62.0	62.0	39.0	34.0
3	2022-01-04	806.0	73.0	50.0	36.0	26.0
4	2022-01-05	844.0	74.0	38.0	15.0	21.0

Fig 1.0

ANALYSIS

First 15 Repeat Calls by their First Contact Date

	date_created	contacts_n	contacts_n_1	contacts_n_2	contacts_n_3	contacts_n_4	contacts_n_5	contacts_n_6	contacts_n_7
0	2022-01-01	386.0	28.0	25.0	14.0	16.0	7.0	7.0	8.0
1	2022-01-02	396.0	31.0	18.0	37.0	13.0	10.0	4.0	9.0
2	2022-01-03	983.0	62.0	62.0	39.0	34.0	23.0	17.0	28.0
3	2022-01-04	806.0	73.0	50.0	36.0	26.0	15.0	25.0	29.0
4	2022-01-05	844.0	74.0	38.0	15.0	21.0	32.0	15.0	17.0
5	2022-01-06	989.0	66.0	36.0	19.0	34.0	34.0	23.0	25.0
6	2022-01-07	701.0	48.0	31.0	37.0	36.0	25.0	28.0	26.0
7	2022-01-08	433.0	37.0	38.0	28.0	17.0	15.0	16.0	8.0
8	2022-01-09	391.0	42.0	32.0	19.0	20.0	10.0	13.0	10.0
9	2022-01-10	704.0	54.0	35.0	37.0	28.0	15.0	17.0	13.0
10	2022-01-11	725.0	70.0	35.0	34.0	22.0	14.0	27.0	18.0
11	2022-01-12	827.0	65.0	51.0	13.0	14.0	26.0	17.0	25.0
12	2022-01-13	957.0	78.0	30.0	20.0	18.0	20.0	19.0	16.0
13	2022-01-14	850.0	36.0	14.0	22.0	22.0	15.0	19.0	24.0
14	2022-01-15	512.0	30.0	20.0	23.0	30.0	15.0	11.0	8.0

Fig 1.1

ANALYSIS

- From *Fig 1.2,* a daily average of **48 calls** was record for the **90-day period** from January 1 to March 31.

- On the first contact date, **90 calls**, or **87.5%**, were above the average.

- According to *Fig 1.8*, call volumes are higher from Monday to Friday, with lower volumes on Saturday and Sunday due to decreased business activity on weekends.

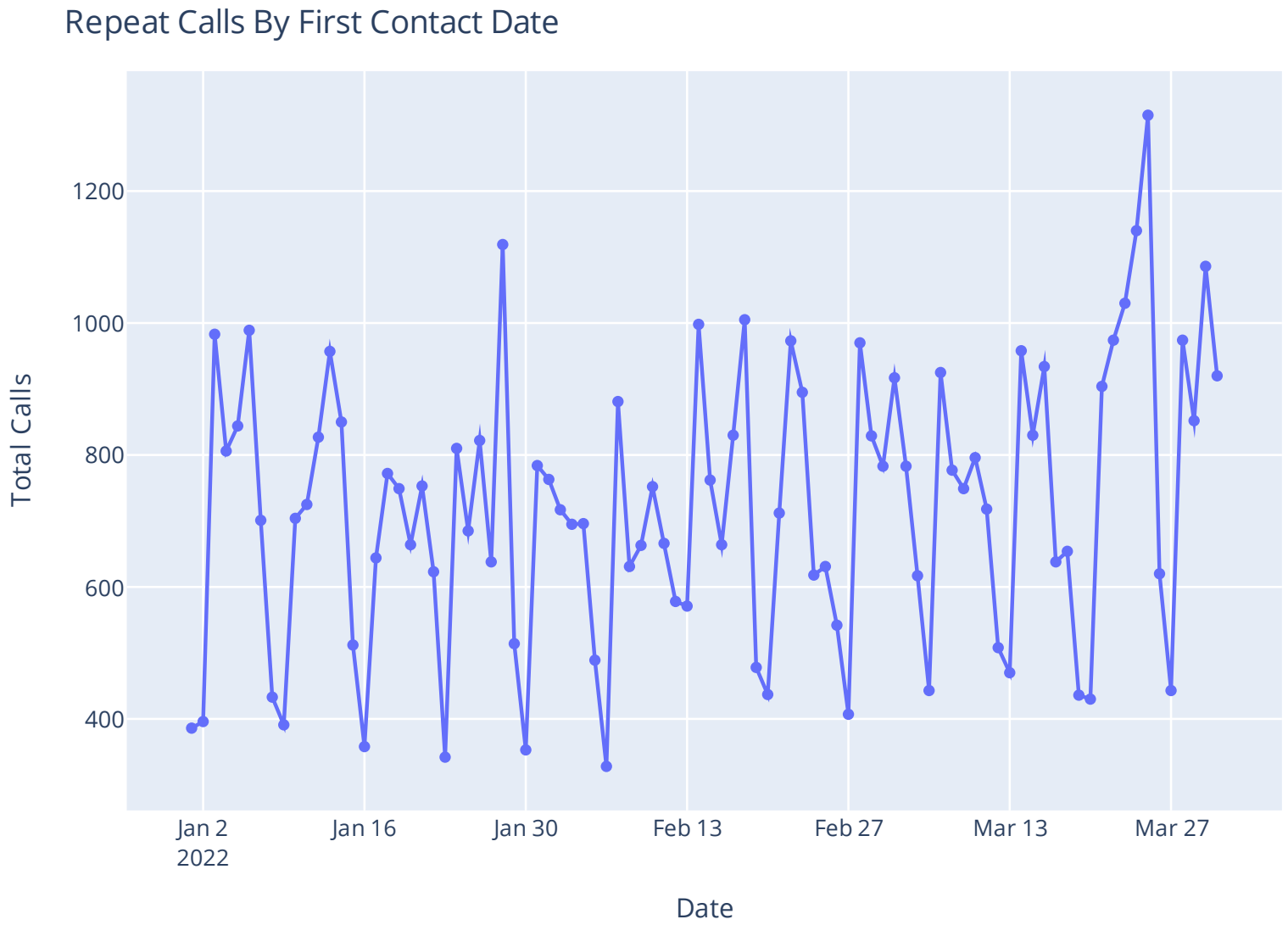


Fig 1.2

ANALYSIS

- *Fig 3* shows a steady average call volume of **6450** from week 1 to 11.

- The significant spike in call volumes during week 12 may have been caused by major product or service issues, possible bugs in service updates, service disruptions, policy changes, or seasonal events that heightened demand and put pressure on services.

- Drop in call volumes in week 13 could be due to the resolution of issues in week 12.

- In week 52, most customers and businesses are closed or less active due to their focus on end-of-year holidays and relaxation.

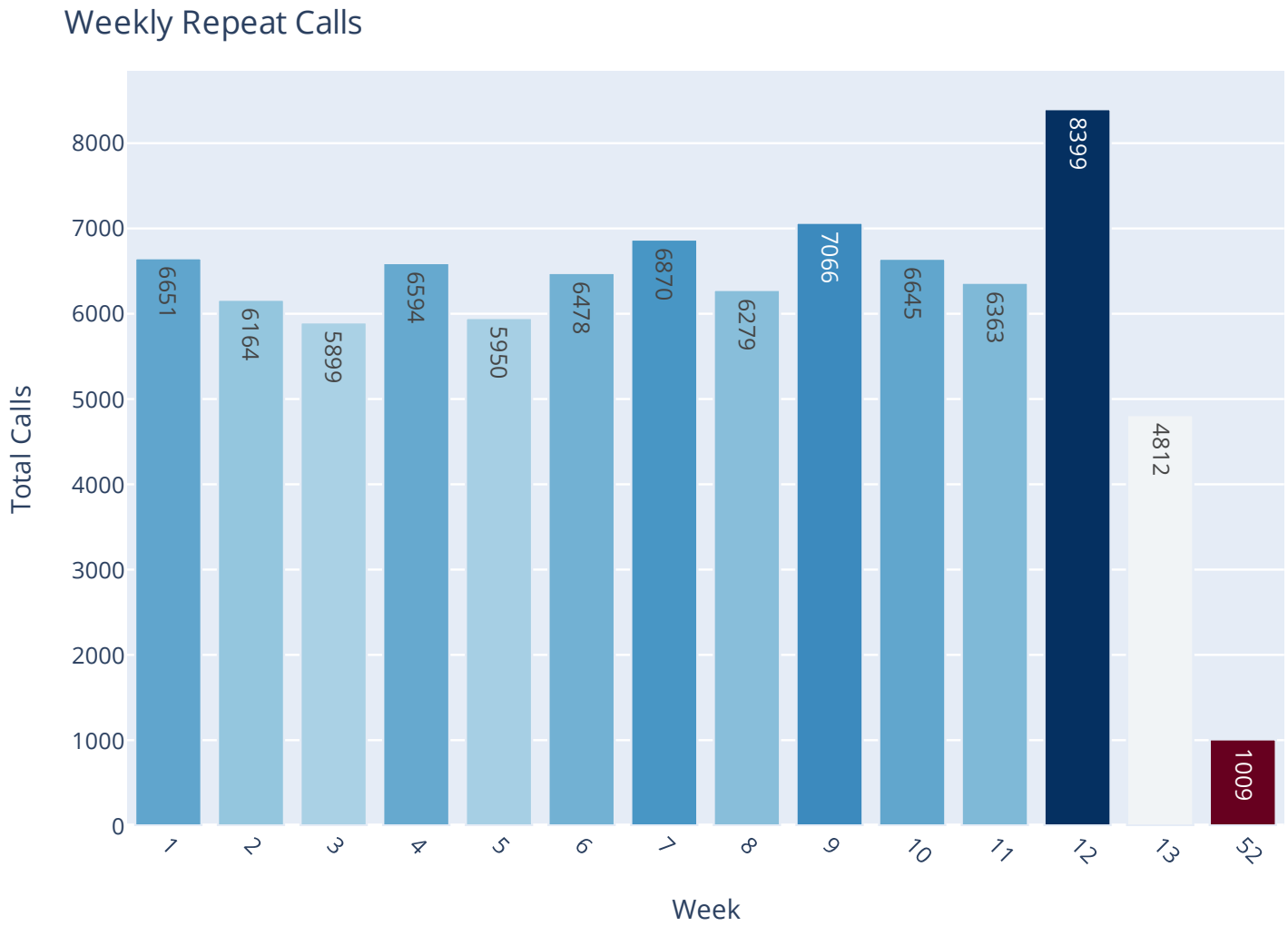


Fig 1.3

ANALYSIS

- *Fig 1.4* shows a decrease in call volumes in February compared to January, likely due to customers focusing on Valentine celebrations and easing off the pressures of starting the new year.

- The peak in call volumes in March is attributed to the large surge in week 12.

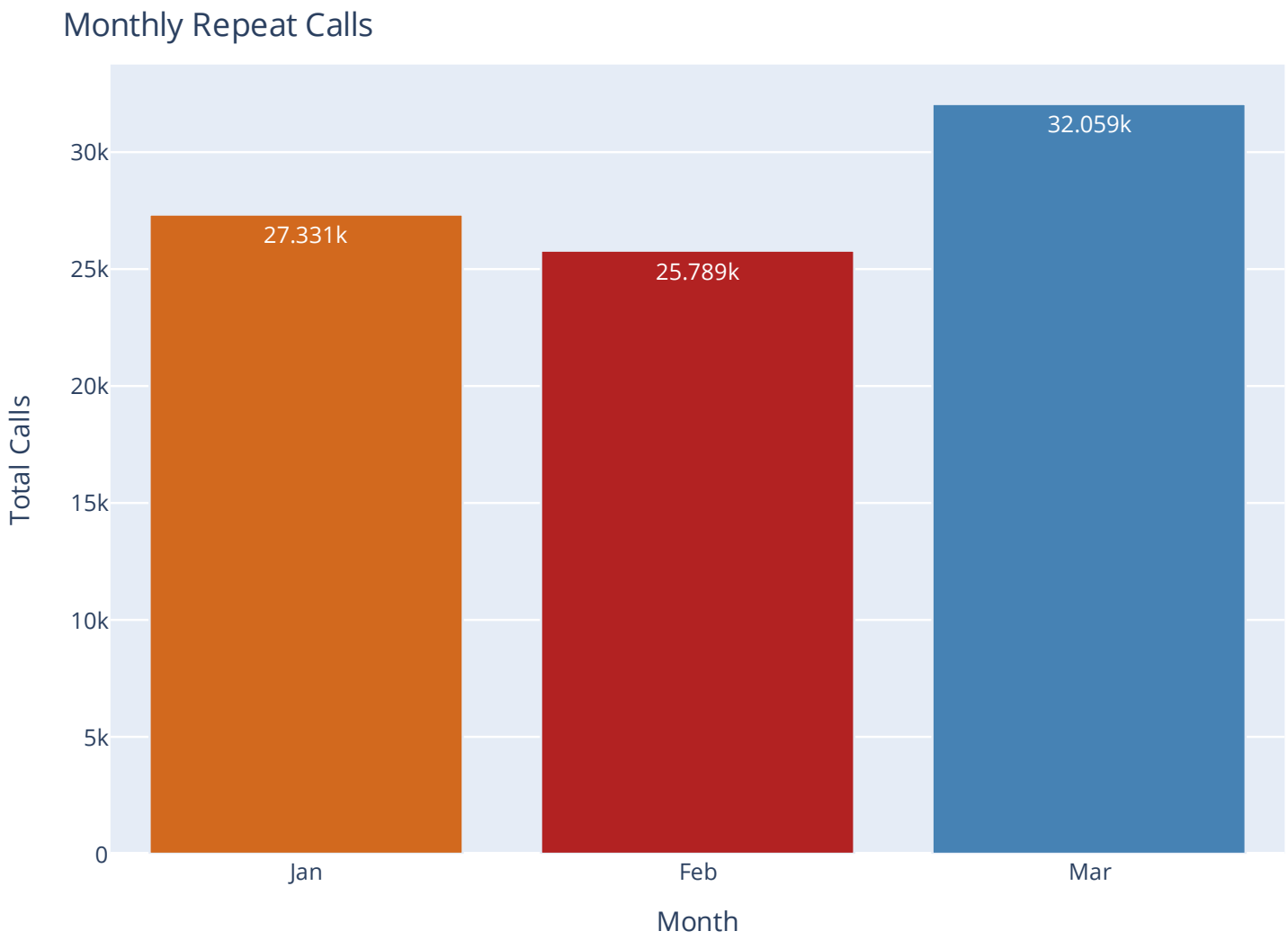


Fig 1.4

ANALYSIS

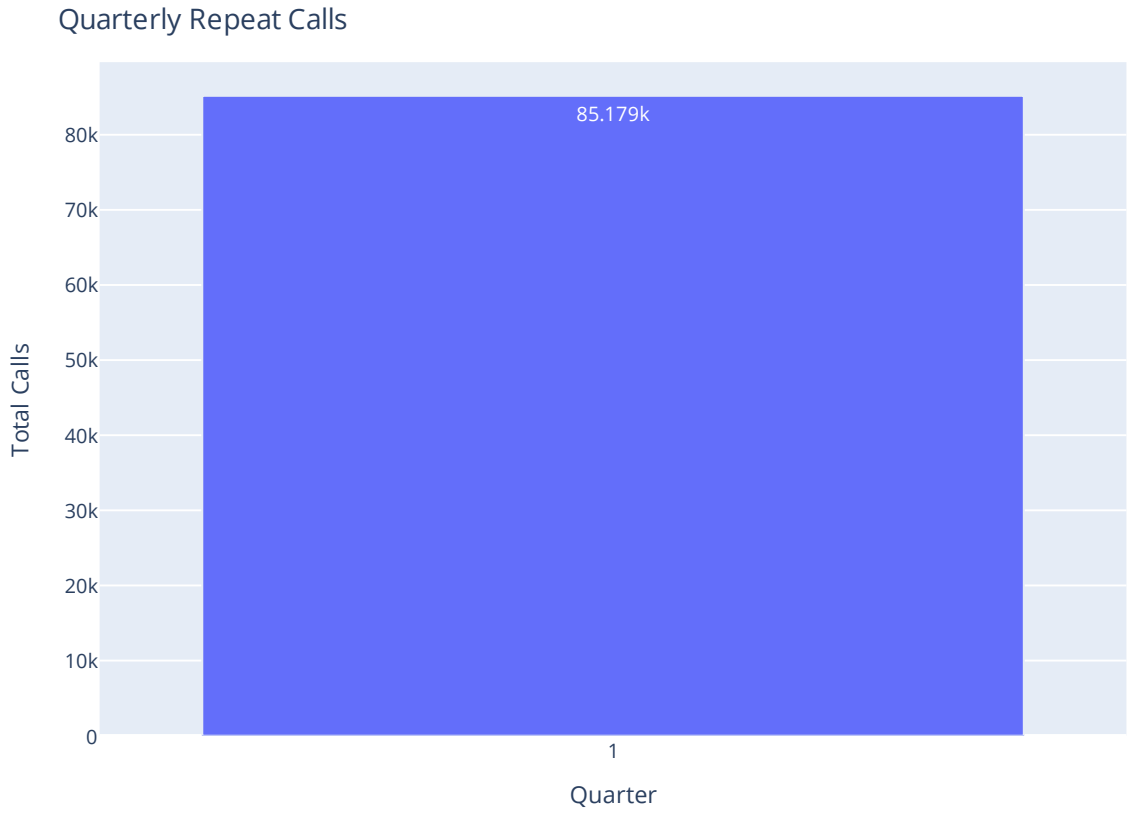


Fig 1.5

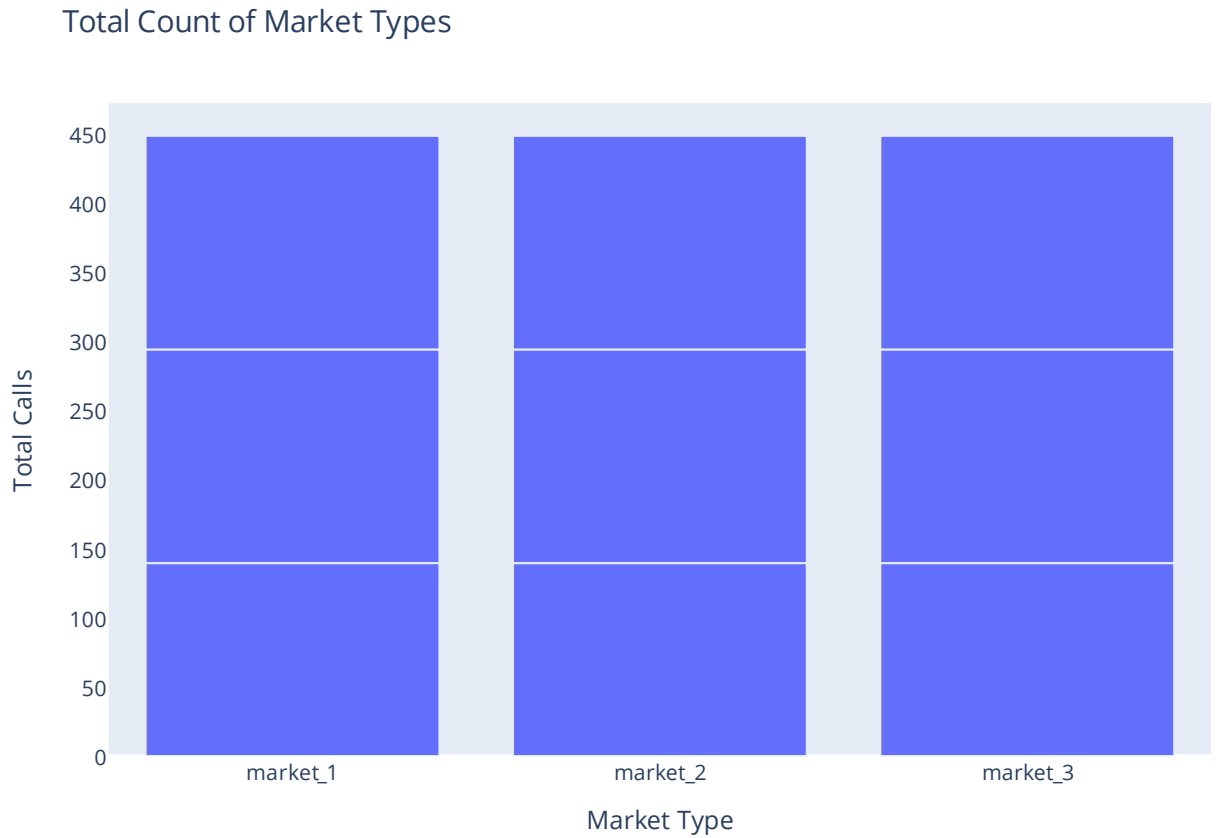


Fig 1.6

ANALYSIS

- Given that the data covers only the first quarter, a quarterly analysis would have limited significance *(Fig 1.5)*.

- *Fig 1.6* shows that each of the three cities received an equal call volume of 250, suggesting that they should all receive equal attention.

- *Fig 1.7* indicates that the call volumes for each type of problem were uniform across the cities.

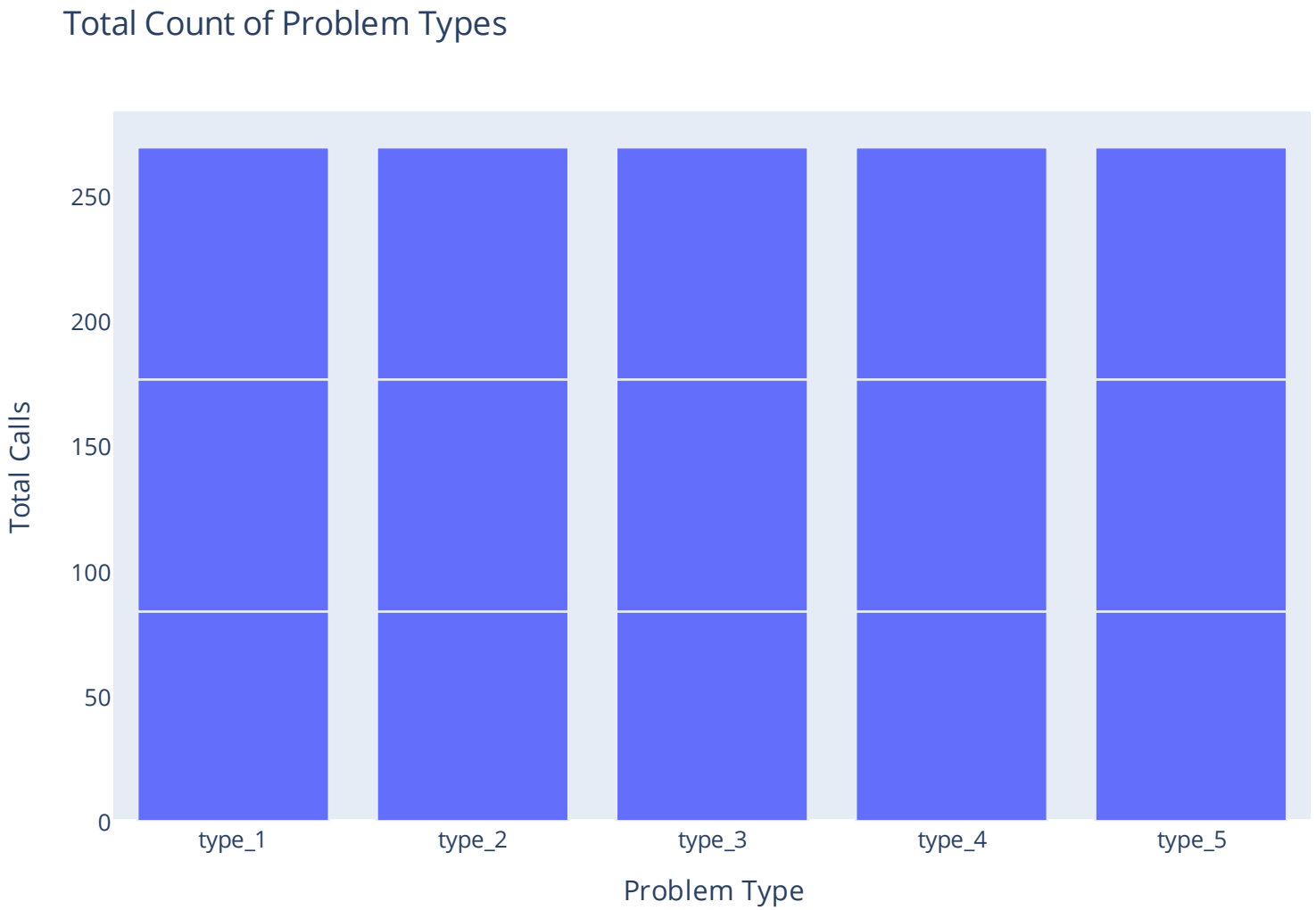
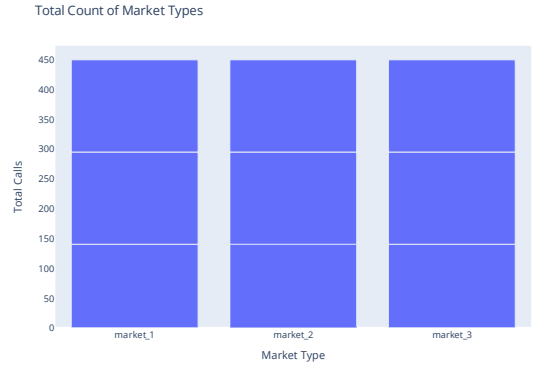
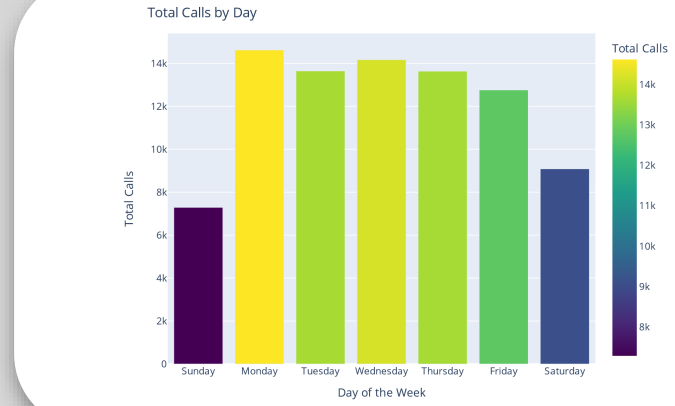


Fig 1.7

PROPOSED DASHBOARD DESIGN

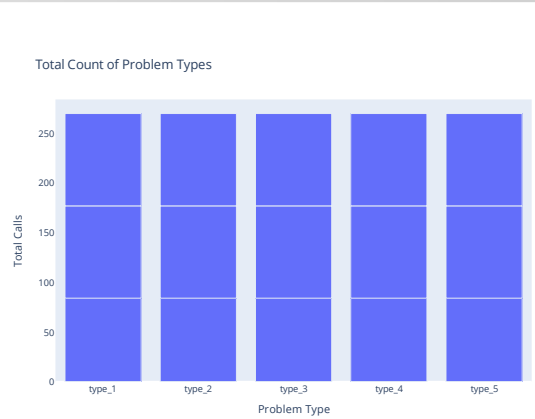
Elevating Customer Support At Google Fiber





Select a filter ...

Total Calls
1350



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3	2022-01-04	806.0	73.0	50.0	36.0	26.0	15.0	25.0	29.0
4	2022-01-05	844.0	74.0	38.0	15.0	21.0	32.0	15.0	17.0
5	2022-01-06	989.0	66.0	36.0	19.0	34.0	34.0	23.0	25.0
6	2022-01-07	701.0	48.0	31.0	37.0	36.0	25.0	28.0	26.0
7	2022-01-08	433.0	37.0	38.0	28.0	17.0	15.0	16.0	8.0
8	2022-01-09	391.0	42.0	32.0	19.0	20.0	10.0	13.0	10.0
9	2022-01-10	704.0	54.0	35.0	37.0	28.0	15.0	17.0	13.0
10	2022-01-11	725.0	70.0	35.0	34.0	22.0	14.0	27.0	18.0
11	2022-01-12	827.0	65.0	51.0	13.0	14.0	26.0	17.0	25.0
12	2022-01-13	957.0	78.0	30.0	20.0	18.0	20.0	19.0	16.0
13	2022-01-14	850.0	36.0	14.0	22.0	22.0	15.0	19.0	24.0
14	2022-01-15	512.0	30.0	20.0	23.0	30.0	15.0	11.0	8.0

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Download Data

RECOMMENDATIONS

1. Proactive Issue Resolution and Communication:

- **Action:** Implement proactive communication strategies for customers, especially before known service disruptions or product updates. For instance, if service updates are planned, provide customers with timely notices about potential issues.

- **Rationale:** The spike in call volumes in week 12 suggests potential product/service issues or service disruptions. Addressing these proactively could reduce the surge in calls and prevent customers from repeatedly contacting customer service.

RECOMMENDATIONS

2. Enhance Self-Service Options:

- **Action:** Expand the self-service portal to include troubleshooting guides, frequently asked questions (FAQs), and live chat assistance to reduce the need for customers to call for common issues.

- **Rationale:** Since call volumes remain high from Monday to Friday, customers may benefit from quicker, self-guided resolutions, especially for issues like account management, technician troubleshooting, and internet connectivity.

RECOMMENDATIONS

3. Improved Call Routing for Repeat Callers:

- **Action:** Use customer data to identify repeat callers and prioritize their cases to ensure faster and more efficient resolutions.

- **Rationale:** The analysis indicates high call volumes on initial contact and throughout the week. A more targeted approach to repeat callers can lead to quicker resolution of recurring issues and improve customer satisfaction.

RECOMMENDATIONS

4. Seasonal Demand Management:

- **Action:** Anticipate call volume spikes during peak periods (e.g., week 12 and December holidays) and adjust staffing and support resources accordingly.

- **Rationale:** Week 12 saw a significant call volume spike that may be related to seasonal events or service disruptions. By forecasting such surges, Google Fiber can improve service quality by being adequately staffed during high-demand periods.

RECOMMENDATIONS

5. Focus on Preventing Service Disruptions:

- **Action:** Regularly monitor and optimize service updates to minimize bugs and technical issues that could lead to customer complaints and repeat calls.

- **Rationale:** Calls related to service disruptions or issues with updates *(as seen in week 12)* can drive customer frustration. By improving the quality and stability of updates, the number of service-related calls can be reduced.

RECOMMENDATIONS

6. Targeted Solutions for Specific Regions:

- **Action:** Focus on providing consistent service across these regions while identifying any specific regional concerns that might arise (e.g., geographic-specific technical issues).

- **Rationale:** Ensuring that all regions receive equal attention helps maintain consistency. If regional issues are identified (e.g., infrastructure challenges), tailored solutions can be implemented to reduce calls from specific cities.

RECOMMENDATIONS

7. Post-Call Surveys and Feedback Loops:

- **Action:** Introduce post-call surveys or feedback mechanisms to identify the effectiveness of the support provided and gather insights on recurring problems.

- **Rationale:** This will help identify patterns in issues that might not be apparent from volume data alone, allowing for a more targeted approach to problem resolution and customer service improvements.

RECOMMENDATIONS

8. Monitor and Analyze Trends Regularly:

- **Action:** Continue to monitor call volumes and trends regularly, especially around peaks such as week 12 and week 52, to quickly identify and address issues as they arise.

- **Rationale:** Regular monitoring will allow for quicker responses to sudden spikes in call volumes and ensure that Google Fiber is responsive to emerging issues, improving both customer experience and operational efficiency.

CONCLUSION

The findings from this project has revealed critical insights into customer service performance and their overall service delivery.

The data indicates that while Google Fiber maintains commendable service standards, opportunities exist to enhance customer support and build stronger customer relationships.

By addressing the identified challenges and implementing data-driven solutions, Google Fiber can continue to excel in delivering unparalleled customer experiences.

ThankYou

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APPENDIX I

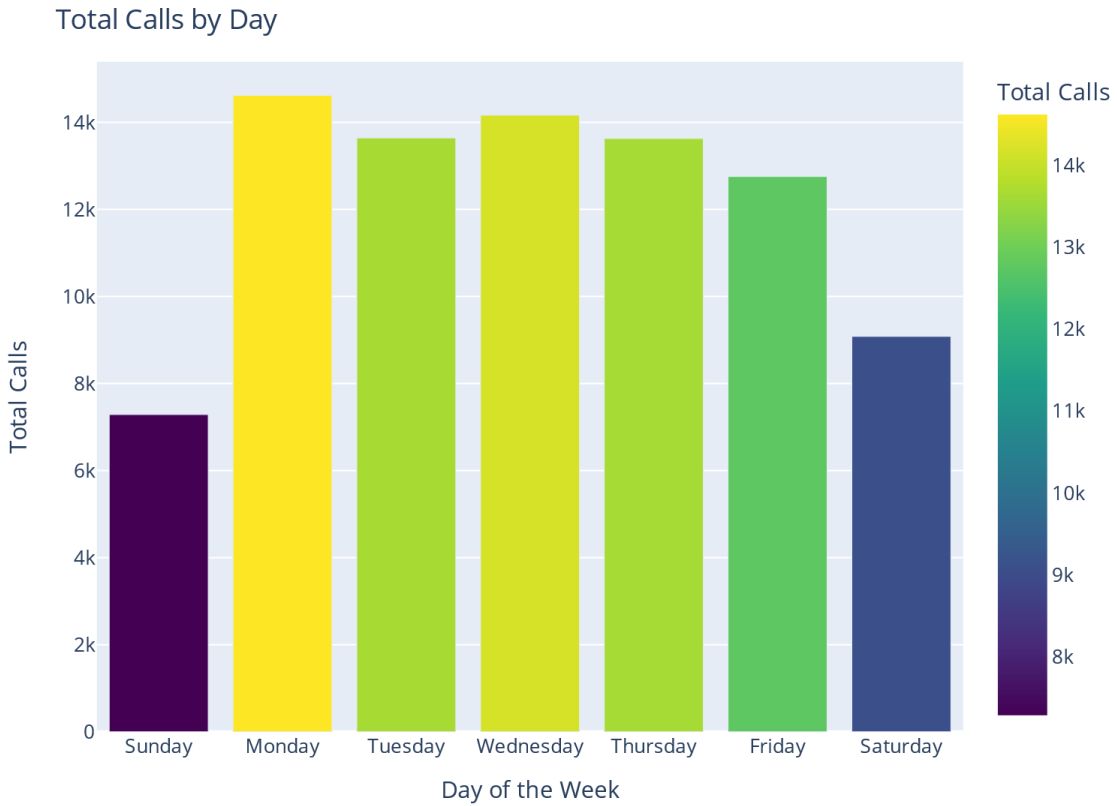

Fig 1.8

Image Sources

- https://i0.wp.com/9to5google.com/wp-content/uploads/sites/4/2022/04/Google-Fiber-Kiosk-1.jpeg?w=1500&quality=82&strip=all&ssl=1
- https://www.palowise.ai/wp-content/uploads/2024/05/trend-analysis-techniques.jpg
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- https://upload.wikimedia.org/wikipedia/commons/6/68/Google-Fiber.png
- https://freepik.com

APPENDIX II

More To Know About This Project

Where is your data located?

The data is Google Fiber data that is anonymized and loaded on Google Docs as *dataset 1*, *dataset 2* and *dataset 3*.

Are there any problems with the data?

The data is Google Fiber data that is anonymized and it is clean and genuine.

What tools are you choosing and why?

Python is used for exploring, organizing, transforming and visualizing the data whereas

Plotly Dash (a python tool) was used to create the dashboard.

Python is flexible and versatile and comes with libraries that makes analysis easier. It also allows for highly customizable visualizations.

Plotly Dash provides well-refined, customizable, detailed dashboards.
It also integrates well with other tools.

Did the insight help to answer the business question?

Yes, the fields provided by the data was good enough to answer the business question.

Is there additional data you could use to expand on your findings?

Additional data could be available but not authorized for this case. This case focus only on the data provided to conform to data ethics.


Internet Store
Google Fiber
Step awa rom
the route
Hey,
Raleigh.
Better internet
starts here.