

### **Executive Summary:**

The business goal of the Google Fiber customer service team is to provide high-quality solutions to customers who contact the customer service team repeatedly to increase the overall customer satisfaction. The team wants to know how often customers phone the customer call centre again after their first inquiry as well as to explore trends in repeat calls. Creating a dashboard would be able to provide further insights about repeat callers and how effectively the customer service team handles customer questions for the first time.

### **Key Findings:**

- Market\_1 generates the highest percentage of repeat callers, followed by Market\_3 and Market\_2 for Internet and Wi-Fi (Type\_5) and Technician Troubleshooting (Type\_2).
- Internet and Wi-Fi (Type\_5) and Technician Troubleshooting (Type\_2) issues account for 84.47% of 1st repeat calls.
- The customer service team receives repeat calls from customers after the initial contact on average between 5% and 10% on a daily basis.

### **Recommendations:**

- Invest more time and resources in providing further training and support for dealing with major issues such as Wi-Fi and Internet, as well as Technical Troubleshooting.
- Allocate more labours and resources to Market\_1 to provide seamless customer support to customers for increasing overall customer satisfaction.

### **Dashboard Description:**

The comprehensive dashboard shows patterns and trends for repeat calls by using key metrics and dates between the specific period of January 2022 and March 2022. Dashboard effectively illuminates key deliverables and metrics for visualizing repeat calls across various dimensions, time granularity. Dashboard would help the stakeholders and team members gain actionable insights into improving customer satisfaction and optimizing Google Fiber's operational costs. To summarize, throughout the implementation of proposed suggestions, the Google Fiber customer service team would strive for success by enhancing overall customer satisfaction, cultivating brand loyalty as well as build steady relationships with their customers in the long-term.

# Stakeholder Requirements Document: Google Fiber Project

**BI Professional:** Haley Wright

**Client/Sponsor:** Google Fiber

**Business problem:** To understand how often customers phone customer support again after their initial inquiry; To explore trends in repeat calls.

**Stakeholders:** Emma Santiago, Hiring Manager; Keith Porton, Project Manager; Minna Rah, Lead BI Analyst

**Stakeholder usage details:** To understand how effectively the team is able to provide high-quality solutions to customers, the stakeholders would like to explore how often customers are calling repeatedly in different markets with different problems. Stakeholders and Team members have viewing access to a dashboard.

## **Primary requirements:**

- Must include fields for Initial Contact Date, Contacts\_n\_number of days, Market, Problem Types
- Provide insights into the types of customer issues that seem to generate more repeat calls
- Should be a chart or table measuring repeat calls by customer's first contact date by week, month, and quarter.
- Should be a chart or table exploring repeat calls by market and problem type by week, month, and quarter.

# Project Requirements Document: Google Fiber Project

**BI Analyst:** Haley Wright

**Client/Sponsor:** Google Fiber

**Purpose:** Google Fiber provides people and businesses with fiber optic internet. The goal is to effectively communicate with customers to reduce call volume by increasing overall customer satisfaction and improving operational cost optimization. My dashboard will provide key findings to stakeholders about identifying the trend in repeat callers resided in different markets and ranking the types of problems they represent.

## **Key dependencies:**

### 1. Stakeholders:

- Emma Santiago, Hiring Manager
- Keith Portone, Project Manager
- Minna Rah, Lead BI Analyst

### 2. Team members:

- Ian Ortega, BI Analyst
- Sylvie Essa, BI Analyst

\* Stakeholders have data access to all datasets so they can explore the steps I have taken. The primary contacts are Emma Santiago and Keith Portone.

## **Stakeholder requirements:**

In order to continuously work on improving overall customer satisfaction, the dashboard must present relevant data in key areas for the Google Fiber decision-makers to understand how often customers are having to call repeatedly and what problem types might be factored in influencing those calls.

- R(Required): Must include fields for Initial Contact Date, Contacts\_n\_number of days, Market, Problem Types
- D(Desired): Provide insights into the types of problem issues that seem to generate more repeat calls

- **R(Required):** Should be a chart or table measuring repeat calls by customer's first contact date by week, month, and quarter.
- **R(Required):** Should be a chart or table exploring repeat calls by market and problem types by week, month, and quarter.

#### Success criteria:

- **Specific:** Identify the specific characteristics of repeat calls, including the frequency of repeat calls.
- **Measurable:** Quantify repeat calls using measurable metrics such as problem types, market and the number of repeat callers, including frequency and volume.
- **Action-oriented:** Dashboard must identify the key trend in repeat calls by centralizing all the relevant information using critical data under different circumstances and time granularity to provide a consolidated view of the key performances to the stakeholders. Dashboard will also be fully functional for the customer service team to view insights into repeat call volumes in different markets and the types of problems they represent.
- **Relevant:** Use critical metrics to solve the business goal: How often are the customer service team receiving repeat calls from customers with certain problem types?
- **Time-bound:** Analyze data that spans at least three months to capture peaks and valleys in usage.

**User journeys:** The team's goal is to effectively communicate with customers to reduce the repeat call volumes and increase overall customer satisfaction and improve operational cost optimization. The dashboard I will create should demonstrate an understanding of this goal and provide the stakeholders with actionable insights about the trend in repeat calls in different markets and the types of problems they represent.

**Assumptions:** *No information listed, ask follow-up question*

**Compliance and privacy:** Stakeholders have data access to all datasets so they can explore the steps I have taken.

**Accessibility:** The dashboard should be accessible, with large print and text-to-speech alternatives.

**Roll-out plan:** Tool must be created in 2 days.

# Strategy Document: Google Fiber Project

## Sign-off matrix:

Name	Team / Role	Date
Haley Wright	BI Analyst	February 2, 2024

**Proposer:** Emma Santiago, Hiring Manager; Keith Porton, Project Manager; Minna Rah, Lead BI Analyst

**Status:** **Draft** > Under review > Implemented | Not implemented

**Primary dataset:** Market\_1, Market\_2, Market\_3

**User Profiles** Used internally by the stakeholders (Emma Santiago, Hiring Manager; Keith Portone, Project Manager; Minna Rah, Lead BI Analyst) and the team members (Ian Ortega, BI Analyst; Sylvie Essa, BI Analyst). They have viewing access to a dashboard.

## Dashboard Functionality

Dashboard Feature	Your Request
Reference dashboard (Should this dashboard be modeled on an existing dashboard? If so, provide a link and describe the similarity.)	No pre-existing dashboard. Build a new dashboard to explore repeat caller volumes and their problem types in three different markets.
Access (How should access to the dashboard be limited? Who needs to have access?)	Access will be provided as read-only to the user profiles listed in this document.
Scope (What data should be included or excluded in this dashboard?)	Include: <ul style="list-style-type: none"><li>• Initial Contact Date</li><li>• Contacts_n_number of days since first call</li><li>• Market</li><li>• Problem type</li><li>• How often does the customer service team receive repeat calls from customers?</li><li>• What problem types generate the most repeat calls?</li><li>• Which market receives repeat calls the most?</li></ul>
Date filters and granularity (Should the dashboard include date filters? If so, what time frame should be displayed by default? Should the dashboard include a “granularity”	Date: Charts showcasing repeat calls by week, month, and quarter. Granularity: Charts with detailed metrics showing weeks, month and quarter.

drop-down? If so, what granularity should be selected by default?)	
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### Metrics and Charts

Create a table for each chart that you'd like to include in the dashboard. If you'd like to break the dashboard under different headers, feel free to list those here as well.

#### Chart 1

Chart Feature	Your Request
Chart title	Market and Problem Types of First Repeat Calls
Chart type (What type of chart needs to be created?)	Bar Chart
Dimension(s) (What dimensions does this chart need to include?)	Repeat Calls by Market and Problem type
Metric(s) (What metrics are relevant to this chart?)	Market, Problem Types, Contacts_n_number of Days

#### Chart 2

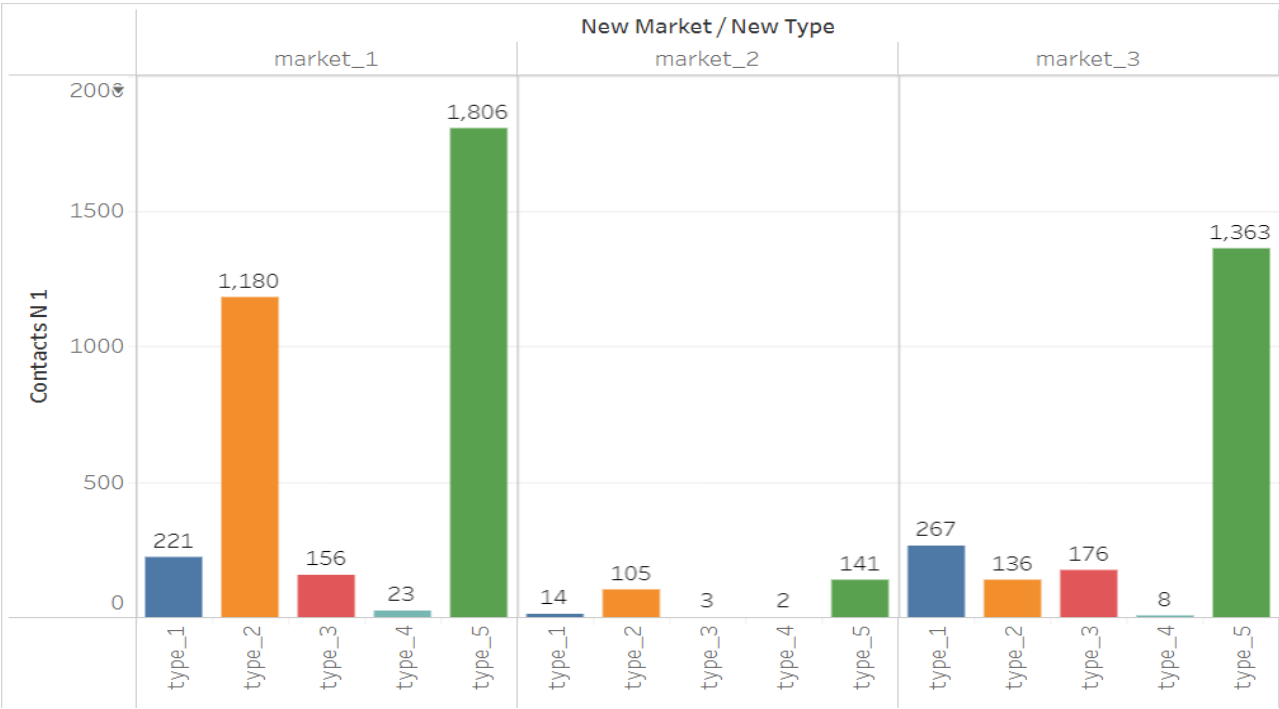
Chart Feature	Your Request
Chart title	Repeat calls by first date
Chart type (What type of chart needs to be created?)	Table
Dimension(s) (What dimensions does this chart need to include?)	Repeat Calls by Customers' initial contact date
Metric(s) (What metrics are relevant to this chart?)	Initial Contact Date Contacts_n_number of Days

#### Chart 3

Chart Feature	Your Request
Chart title	Calls by Market and Type
Chart type (What type of chart needs to be created?)	Table
Dimension(s) (What dimensions does this chart need to	Problem types by Market

include?)	
Metric(s) (What metrics are relevant to this chart?)	Market, Problem type, Day

Market and Problem Types of First Repeat Calls



Repeat Calls by First Call Date

Month, Day, Year o..	Contacts N	Contacts N 1	Contacts N 2	Contacts N 3	Contacts N 4	Contacts N 5	Contacts N 6	Contacts N 7
January 1, 2022	386	28	25	14	16	7	7	8
January 2, 2022	396	31	18	37	13	10	4	9
January 3, 2022	983	62	62	39	34	23	17	28
January 4, 2022	806	73	50	36	26	15	25	29
January 5, 2022	844	74	38	15	21	32	15	17
January 6, 2022	989	66	36	19	34	34	23	25
January 7, 2022	701	48	31	37	36	25	28	26
January 8, 2022	433	37	38	28	17	15	16	8
January 9, 2022	391	42	32	19	20	10	13	10
January 10, 2022	704	54	35	37	28	15	17	13
January 11, 2022	725	70	35	34	22	14	27	18
January 12, 2022	827	65	51	13	14	26	17	25
January 13, 2022	957	78	30	20	18	20	19	16
January 14, 2022	850	36	14	22	22	15	19	24
January 15, 2022	512	30	20	23	30	15	11	8
January 16, 2022	358	27	20	19	13	18	7	7
January 17, 2022	644	59	39	28	32	21	10	15
January 18, 2022	772	66	43	25	31	14	29	11
January 19, 2022	749	62	45	30	9	27	12	19
January 20, 2022	664	58	35	12	30	19	20	11

Month, Day, Year o..	Contacts N	Contacts N 1	Contacts N 2	Contacts N 3	Contacts N 4	Contacts N 5	Contacts N 6	Contacts N 7
January 21, 2022	753	47	19	37	28	21	17	19
January 22, 2022	623	39	45	30	30	23	29	25
January 23, 2022	342	26	18	18	16	18	21	14
January 24, 2022	810	65	42	30	35	19	20	29
January 25, 2022	685	53	33	44	19	17	31	38
January 26, 2022	822	65	137	25	22	37	41	25
January 27, 2022	638	67	30	17	42	22	13	18
January 28, 2022	1,119	49	36	64	41	41	32	27
January 29, 2022	514	43	44	28	20	21	13	18
January 30, 2022	353	47	23	19	12	17	14	8
January 31, 2022	784	69	41	30	28	25	10	27
February 1, 2022	763	70	37	38	24	7	22	29
February 2, 2022	717	43	46	31	26	50	28	23
February 3, 2022	695	75	38	10	36	23	20	23
February 4, 2022	696	54	19	40	33	35	29	24
February 5, 2022	489	40	30	21	19	24	22	18
February 6, 2022	328	36	16	19	21	14	15	20
February 7, 2022	881	72	40	54	28	29	25	42
February 8, 2022	631	62	48	24	14	26	31	19
February 9, 2022	663	42	41	27	28	45	26	13

Month, Day, Year o..	Contacts N	Contacts N 1	Contacts N 2	Contacts N 3	Contacts N 4	Contacts N 5	Contacts N 6	Contacts N 7
February 10, 2022	752	68	33	30	32	23	34	36
February 11, 2022	666	50	29	42	29	49	28	23
February 12, 2022	578	92	41	23	23	25	25	22
February 13, 2022	571	93	52	30	22	14	25	7
February 14, 2022	998	113	48	33	40	27	18	20
February 15, 2022	762	70	41	36	27	21	32	25
February 16, 2022	664	39	50	42	16	25	44	35
February 17, 2022	830	176	29	14	20	43	22	24
February 18, 2022	1,005	67	17	44	38	26	21	19
February 19, 2022	478	38	39	33	16	16	20	12
February 20, 2022	437	41	31	25	14	18	11	20
February 21, 2022	712	51	44	17	30	21	15	44
February 22, 2022	973	127	41	27	24	20	41	29
February 23, 2022	895	29	41	20	26	43	21	31
February 24, 2022	618	56	24	19	32	24	28	17
February 25, 2022	631	54	32	54	26	26	16	18
February 26, 2022	542	45	45	29	17	28	20	18
February 27, 2022	407	50	24	13	8	10	14	12
February 28, 2022	970	74	50	36	24	27	18	27
March 1, 2022	829	73	46	53	35	24	29	21



Month, Day, Year o..	Contacts N	Contacts N 1	Contacts N 2	Contacts N 3	Contacts N 4	Contacts N 5	Contacts N 6	Contacts N 7
March 2, 2022	783	88	52	46	23	50	28	34
March 3, 2022	917	87	47	31	58	33	21	22
March 4, 2022	783	74	37	38	29	31	26	30
March 5, 2022	617	37	42	25	15	16	19	9
March 6, 2022	443	34	27	19	11	20	15	13
March 7, 2022	925	87	58	49	41	27	18	43
March 8, 2022	777	69	58	48	21	14	31	28
March 9, 2022	749	88	44	25	17	41	34	33
March 10, 2022	796	60	21	19	47	24	41	22
March 11, 2022	718	48	34	49	40	41	28	23
March 12, 2022	508	36	48	26	22	9	12	11
March 13, 2022	470	64	30	26	18	10	12	7
March 14, 2022	958	83	46	37	23	15	11	45
March 15, 2022	830	89	41	29	17	24	26	32
March 16, 2022	934	82	53	24	16	31	36	38
March 17, 2022	638	64	22	11	35	23	24	32
March 18, 2022	654	40	22	40	28	32	23	17
March 19, 2022	436	29	32	21	19	28	10	11
March 20, 2022	430	39	26	12	18	14	7	6
March 21, 2022	904	83	56	42	30	31	19	39
March 22, 2022	974	82	69	41	23	13	37	29
March 23, 2022	1,030	95	56	38	18	40	48	52
March 24, 2022	1,140	84	40	23	36	42	27	24
March 25, 2022	1,315	99	33	52	43	39	46	19
March 26, 2022	620	59	51	50	27	37	21	15
March 27, 2022	443	55	26	19	26	20	13	6
March 28, 2022	974	92	46	57	34	18	14	23
March 29, 2022	852	81	47	31	13	7	19	23
March 30, 2022	1,086	82	50	21	17	45	19	27
March 31, 2022	920	55	34	21	43	19	23	19

Calls by Market and Type

New Market	New Type	Contacts N								Count of Market 1 ..
		Contacts N	1	2	3	4	5	6	7	
market_1	type_1	2,504	221	136	106	114	97	86	90	90
	type_2	23,665	1,180	831	663	623	603	565	577	90
	type_3	1,353	156	128	116	80	69	71	71	90
	type_4	284	23	15	16	14	9	10	8	90
	type_5	17,527	1,806	1,043	788	645	640	524	523	90
market_2	type_1	290	14	11	9	4	4	7	3	90
	type_2	1,997	105	51	31	38	26	20	36	90
	type_3	77	3	2	4	3	3	4	5	90
	type_4	20	2	1	2		2	1		90
	type_5	2,005	141	77	45	37	39	27	30	90
market_3	type_1	759	267	240	225	207	201	181	177	90
	type_2	2,549	136	99	108	69	78	67	81	90
	type_3	994	176	128	110	96	76	85	83	90
	type_4	80	8	5	4	2	2	3	4	90
	type_5	10,835	1,363	718	476	363	344	334	290	90

Additional Charts:

