

Subscription Cancellation Analysis Report

1.Executive Summary

The company is facing a retention crisis due to higher-than-expected customer churn. This report analyzes the reasons for subscription cancellations, identifies trends, and provides data-driven recommendations to improve customer retention.

2.Business Problem

The leadership team has observed an increase in customer churn, negatively impacting revenue and long-term sustainability. Customers must select at least one cancellation reason and can optionally provide up to two additional reasons. The goal is to:

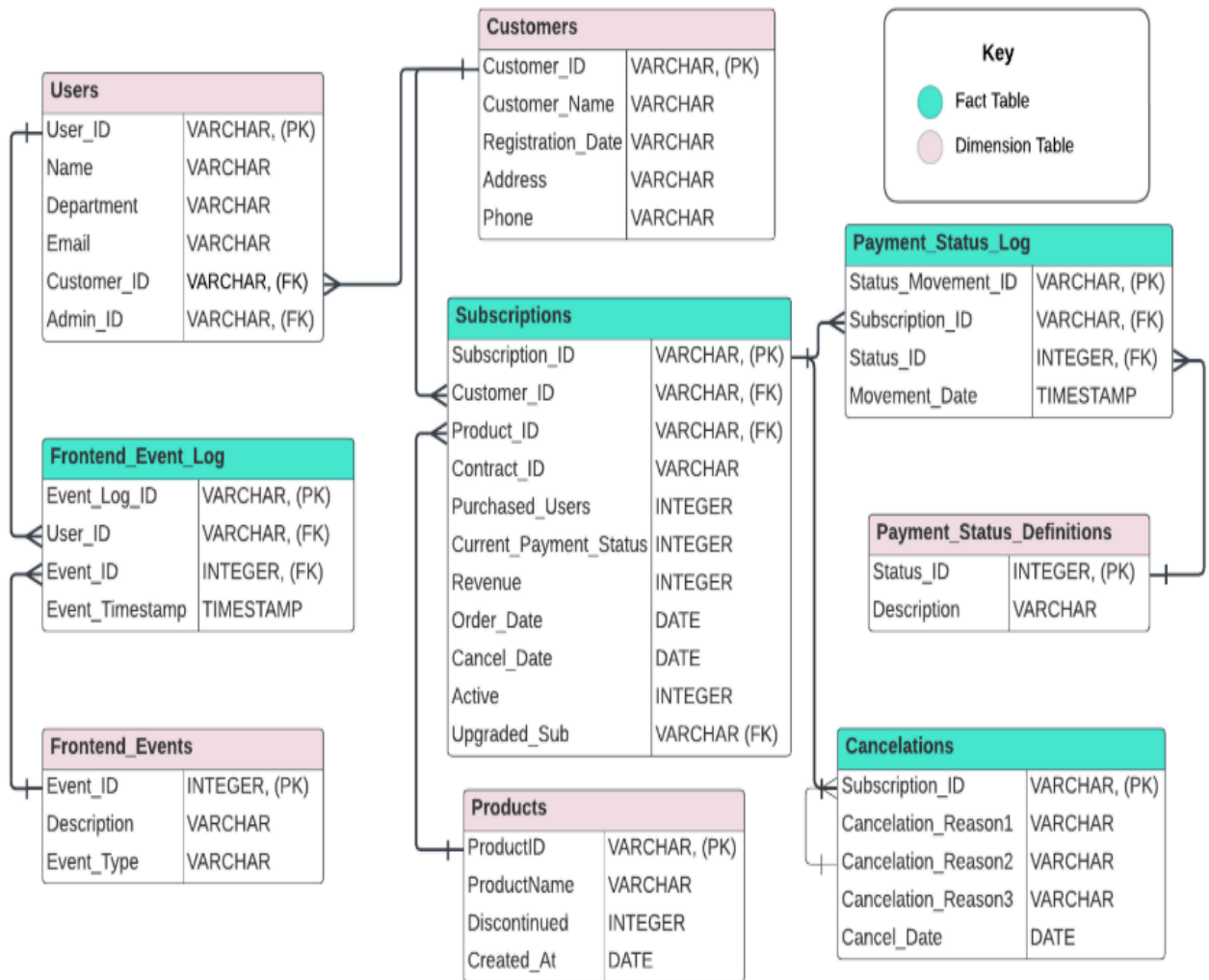
- Assess the completeness of cancellation data.
- Identify key reasons for cancellations.
- Determine trends in cancellation reasons over time.
- Provide actionable recommendations to improve retention.

3. Skills Utilized

- **SQL Data Analysis:** CTEs,CASE, Union, View creation. Querying and aggregating data from payment logs.
- **Data Interpretation:** Identifying user drop-off points and analyzing error frequencies.
- **Business Intelligence:** Translating data insights into actionable recommendations.
- **Problem-Solving:** Suggesting improvements to enhance payment completion rates.

4. Data Exploration and Findings

Data Model-



4.1. Frequency of Cancellation Reasons

To understand the most common reasons for cancellations, we analyzed the frequency of 'cancelation_reason1', the primary reason selected by customers.

Findings:

- The most frequent cancellation reasons provide insight into why customers leave.
- Some categories may indicate issues related to pricing, product dissatisfaction, or competitive alternatives.

```
1 select
2 |   cancelation_reason1,
3 |   count(*) as num_instances,
4 |   count(distinct subscription_id) as num_subs
5 from
6 |   public.cancelations
7 group by
8 |   1 ;
```

≡ Filters

| | A CANCELTATION_REASONS3 | # NUM_INSTANC... ↓ | # NUM_SUBS |
|---|-------------------------|--------------------|------------|
| 0 | None | 14 | 14 |
| 1 | Bad customer service | 5 | 5 |
| 2 | Not useful | 2 | 2 |
| 3 | Expensive | 1 | 1 |

4.2. Completeness of Cancellation Reason Selection

To evaluate if customers provided additional reasons for cancellation, we analyzed how many users selected only the first reason versus providing more details.

Findings:

- Most customers select only one reason for cancellation, but a notable percentage provide additional feedback.
- This suggests that multiple factors contribute to churn and should be analyzed together.

```
1 with cancels as (  
2   select  
3     subscription_id,  
4     case when cancelation_reason1 is not null then 1 else 0 end as has_reason1,  
5     case when cancelation_reason2 is not null then 1 else 0 end as has_reason2,  
6     case when cancelation_reason3 is not null then 1 else 0 end as has_reason3,  
7     has_reason1+has_reason2+has_reason3 as total_reasons,  
8     has_reason2+has_reason3 as additional_reasons  
9   from  
10    public.cancelations  
11 )  
12  
13 select  
14   avg(total_reasons) as avg_total_per_sub,  
15   avg(additional_reasons) as avg_additional_per_sub  
16 from  
17   cancels;
```

≡ Filters

| | # AVG_TOTAL_PER_SUB | # AVG_ADDITIONAL_PER_SUB | + |
|---|---------------------|--------------------------|---|
| 0 | 2.18 | 1.18 | |

4.3. Consolidated Cancellation Reasons

Since users can provide up to three cancellation reasons, we created a combined dataset of all selected reasons for better analysis.

```

1 with cancel_subs as(
2     select
3         subscription_id,
4         cancelation_reason1 as cancelation_reason
5     from
6         public.cancelations
7
8     union
9
10    select
11        subscription_id,
12        cancelation_reason2 as cancelation_reason
13    from
14        public.cancelations
15
16    union
17
18    select
19        subscription_id,
20        cancelation_reason3 as cancelation_reason
21    from
22        public.cancelations
23 )
24 select
25     cancelation_reason,
26     count(subscription_id) as num_subs
27 from
28     cancel_subs
29 group by
30     1;

```

≡ Filters

| | A CANCEATION_REASON | # NUM_SUBS | + |
|---|----------------------|------------|---|
| 0 | Expensive | 13 | |
| 1 | Not useful | 10 | |
| 2 | Went to a competitor | 13 | |
| 3 | Bad customer service | 8 | |
| 4 | None | 14 | |

4.4. Creating a View

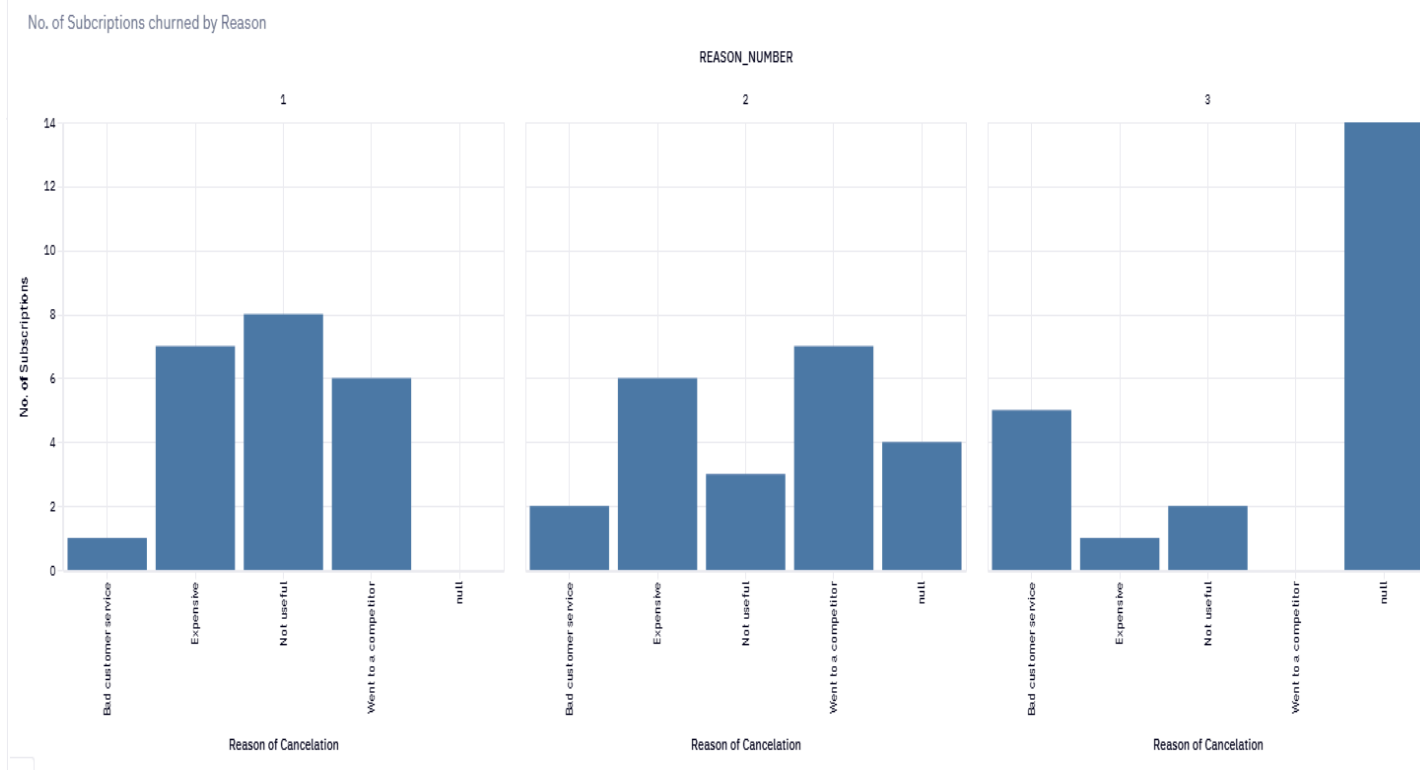
```
--Creating a view of the previous union query as we are using it again and again
create or replace view junk.all_cancellation_reasons_view as
select
    subscription_id,
    cancel_date,
    cancellation_reason1 as cancellation_reason,
    1 as reason_number
from
    public.cancellations
union
select
    subscription_id,
    cancel_date,
    cancellation_reason2 as cancellation_reason,
    2 as reason_number
from
    public.cancellations
union
select
    subscription_id,
    cancel_date,
    cancellation_reason3 as cancellation_reason,
    3 as reason_number
from
    public.cancellations;
```

4.5. Visualising the no. of subscriptions churned by Reason-

No. of Subscriptions churned by Reason

```
1 select
2     cancelation_reason,
3     reason_number,
4     count(subscription_id) as num_subs
5 from
6     junk.all_cancelation_reasons_view
7 group by
8     1,2;
```

Output-



4.6.Trends in Cancellation Reasons Over Time

To examine whether certain cancellation reasons became more prominent over time, we analyzed the annual trends.

```

1 with yearly as(
2   select
3     date_trunc('year', cast(cancel_date as date)) as cancel_year,
4     cancelation_reason,
5     count(*) as num_reason
6   from
7     junk.all_cancelation_reasons_view
8   group by
9     1,2
10 )
11 select
12   cancel_year,
13   cancelation_reason,
14   num_reason,
15   sum(num_reason) over(partition by cancel_year) as year_total,
16   (num_reason / year_total)*100 as perc_reason_annual
17 from
18   yearly

```

Output-



Findings:

- Some reasons become more prominent in specific years, potentially due to pricing changes, competitor offerings, or market shifts.
- Understanding these trends allows the company to address concerns proactively.

Recommendations

- Since most users have selected “Expensive” and “Not Useful” as the reasons to cancel, we can roll out better onboarding and provide more help early on in their subscription to ensure users understand the product and find it useful.
- **Pricing Strategy:** Evaluate pricing concerns and consider offering tiered plans or discounts for loyal customers.
- **Retention Strategies:** Implement win-back campaigns targeting users who have canceled.
- Another significant reason for canceling for “Went to competitor”, we should research the market and ensure we’re keeping up to date with industry trends.

Next Steps

1) A/B Testing for Retention Strategies

- Test different retention offers (discounts, feature upgrades, improved customer support) on subsets of at-risk customers.
- Measure effectiveness using data-driven KPIs.

2) Survey and Feedback Integration

- Introduce optional open-ended feedback fields for cancellations.
- Perform sentiment analysis on customer comments to uncover additional insights.