

# Product Analyst Assignment

## Pandemic Cancellation Analysis

### Scenario

Peek has become interested in how the pandemic has affected the travel industry. In order to learn more about customer behavior for the future of the pandemic and perhaps for similar future events you are being asked to provide an analysis to explain how the organization should react to business disruptions like the pandemic.

### How to complete this assignment

- Use the attached dataset to provide analysis that answers the questions for each of the assignments.
- Use the analytics tools or programming languages of your choice. Be prepared to show your work.
- Make and declare any assumptions you need to clarify ambiguities.

### Terminology

**Partner | Operator:** These are Peek's customers. These are the businesses that are using PeekPro to run their business.

**Customer:** These are Peek partner's customers. They are the travelers or experience seekers who are purchasing an experience.

**Experience:** An activity that is sold by a partner. Examples of this could be a Kayak rental, bus tour, boat ride, etc.

**Bookings:** This represents the sale of an "experience" to a customer by a Peek partner.

### Dataset Field Definitions

**Transaction Date:** Date the booking transaction was executed.

**Total Canceled Ahead Days:** SUM of number of days ahead that cancellations happened.  
Example: if a cancellation happened on Monday for a booking on Friday that would be 4 days ahead.

Total Bookings: Number of bookings that occurred on the transaction date.

Total Booked Ahead Days: SUM of number of days ahead that the booking was created. If a booking was created on Monday for an activity on Friday, the booked ahead days would be 4.

Cancellation Rate: The number of cancellations over the number of bookings.

Seven Day Rolling Avg: The 7 day rolling average of the cancellation rate. `

## Assignment 1

How did the start of the pandemic impact our partners' business? Explain in sufficient detail how you came to this conclusion.

## Assignment 2

What happened to customer booking and cancellation behavior after the start of the pandemic? How did you come to this conclusion?

## Assignment 3

Create a plan that would produce analysis to identify if there were any other major pandemic events (cases rates, hospitalizations, vaccines, etc) contributing to a change in bookings or cancellation rates. In other words, create a proposal that explains how you would approach answering this question.

## Assignment 4

Below is the SQL that created the dataset being used. Please describe what the transaction\_sequence and context\_sequence fields are. Here are definitions for the fields being used in the query.

- purchase\_display\_gid: booking id for a experience
- purchase\_datetime: the datetime on which a transaction occurred
- activity\_date: the date an experience occurs
- context: type of transaction (charge, refund)
- purchase\_status: the status of the booking id (confirmed, canceled)

Note: a single purchase\_display\_gid may be associated with multiple records

```
SELECT  
  purchase_display_gid AS booking_id,
```

```
purchase_datetime AS transaction_datetime,  
activity_date,  
row_number() OVER (PARTITION BY purchase_display_gid ORDER BY  
purchase_datetime) AS transaction_sequence,  
row_number() OVER (PARTITION BY purchase_display_gid, context ORDER BY  
purchase_datetime) AS context_sequence,  
context,  
purchase_status,  
FROM `peek-services.abacus_read_only.transaction_records`  
WHERE purchase_datetime >= '2019-01-01' AND purchase_datetime <= '2022-01-31'
```