1. What key metrics would you propose to monitor over time the success of the team's efforts in improving the guest host matching process and why? Clearly define your metric(s) and explain how each is computed.

2. What areas should we invest in to increase the number of successful bookings in Rio de Janeiro? What segments are doing well and what could be improved? Propose 2-3 specific recommendations (business initiatives and product changes) that could address these opportunities. Demonstrate rationale behind each recommendation AND prioritize your recommendations in order of their estimated impact.

3. There is also interest from executives at Airbnb about the work you are doing, and a desire to understand the broader framing of the challenge of matching supply and demand, thinking beyond the data provided. What other research, experiments, or approaches could help the company get more clarity on the problem?

<https://www.lucidchart.com/documents/edit/48054bf7-f43d-404e-9b72-514e56867e8a/1>

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# Goal: One of our goals at Airbnb is to increase bookings on our platform.

* To increase the number of bookings…
  + Increase number of accepted regular booking
    - Increase number of booking requested from travelers
    - Increase number of accepted booking requests from hosts
  + Increase number of instant booking
* Thing to consider
  + Cancel rate (from both host and traveler sides)
    - Might be different for instant booking from regular booking
      * So we need a balance of instant booking and regular booking
  + Hosts can also become guest
  + Hosts might have multiple listings
* Users table
  + id\_user\_anon is comprised of both guest and host

# Clustering

## Guest-level attributes

* Country
* Words\_in\_user\_profile
* Number of distinct booking requests made
* Number of distinct instant-bookings made
* Number of guests inquiry made for

## Host-level attributes

* Country
* Words\_in\_user\_profile
* Number of distinct booking requests received
  + Number of distinct booking requests replied (ts\_reply\_at\_first)

# Regression and Classification

## Listing-level attributes

* Total\_reviews
* Listing\_neighborhood
* Room\_type
* Number of days or % booked <- target

## Contact/Booking/Instant Booking-level attributes

* Whether or not inquiry has turned into legit booking (1,0) <- target
* Contact first channel
  + Contact me
  + Booking
  + Instant booking
* Guest\_user\_stage\_first (new, past\_booker, unknown)
* Duration of the stay (ds\_checkout\_first-ds\_chekin\_first)
* Week of the year
* Weekend vs weekdays
* Contact host
  + While this is needed, this is not the best channel, as it takes time and imposes messaging time required for both hosts and guests
    - Rather, think of different programs, features, tutorials, guides to both parties to specify most discussed topics to be explicitly written or easy to understand to minimize the use of this channel, and its much lower overall booking rate (7%) than ‘Book It’ channel (48%)

## Booking-level attributes

* How long it takes to accept