AirBnB bookings in Rio de Janeiro for 2016

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A

1.

Introduction

Data Overview

Data Source

- Take home data analysis task for AirBnB
- Bookings in Rio de Janeiro for 2016
- Three tables
    - **Users**: 3 columns
    - **Contacts**: 14 columns
    - **Listings**: 4 columns

Date Issues and cleaning

- No review **rating scores**
- No **cancelled bookings** or interactions that didn't lead to a check in
- No unique **booking ID**
- No **price** or other monetary values

Definitions

Listing ID

id_listing_anon = a home, apartment or room that can be booked one or more times by a guest (also a user)

Booking

Booking = No specific id for this but can be identified with check in dates and other data

Host ID

id_host_anon = the person who puts up one or most listings

Guest ID

id_guest_anon = the person who makes the booking (their may be more than one guest who stays at the listing, but they don't have an id)

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Business Objectives

Ask from the business

A) Overview of bookings in Rio

B) What metrics determine successful bookings?

C) And who are the ten most successful hosts so they can be followed up by user research?

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Hypotheses

A) What metrics determine successful bookings?

We assume…
There are two measures of success

- Listings with high numbers of **total bookings**
- Listings with high numbers of **repeat bookings**

If there are listings that overlap between these two that indicates a high level of success and therefore they are both good metrics

B) And who are the ten most successful hosts so they can be followed up by user research?

We assume…
That identifying the ten hosts that overlap with both high numbers of **total** and **repeat bookings** are the most successful.

As opposed to hosts that have the most listings as this may not mean the bookings themselves are successful.

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Analysis

Descriptive Stats

Bookings

Total number: **27886**

Average length: **7.5 days**

Five most common number of days stayed:

Days	Freq.
3	4651
4	4026
2	3688
5	2968
7	2166

Neighbourhoods

Total number: **68**

Five Neighbourhoods with the most listings:

Neighbourhoods	Nu. Listings
Unknown	6221
Copacabana	2531
Ipanema	1041
Barra da Tijuca	593
Leblon	458

Hosts

Average number of listings per host:

1.4309

Five highest number of listing for hosts:

43, 43, 41, 39, 35

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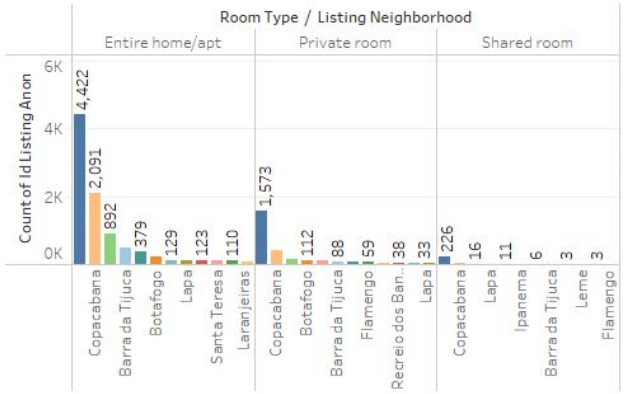
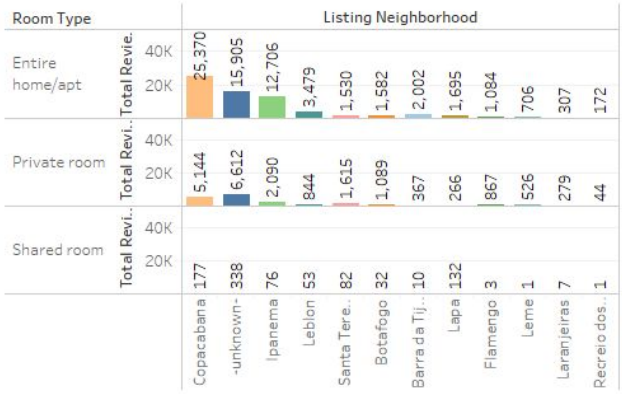
Descriptive Stats

Dashboard

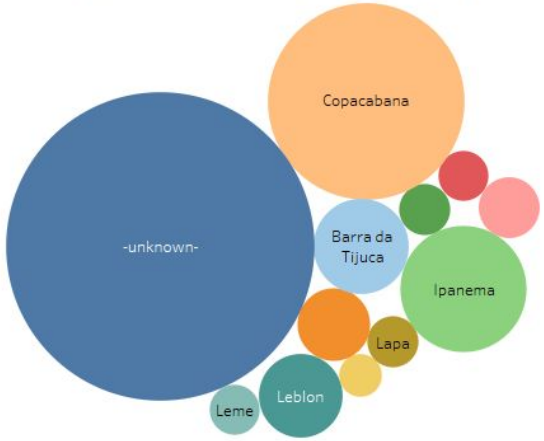
Number of listings with Respect to Room Type



Number of Reviews with Respect to Room Type



Host listings in different neighborhood groups



Measure values

	Room Type		
	Entire home/apt	Private room	Shared room
Count of Contacts	20,981	6,314	592
Count of Listings	9,647	3,019	372
Count of M Guests	20,981	6,313	592
Total Reviews	69,114	21,226	985

Count of hosts in each n group

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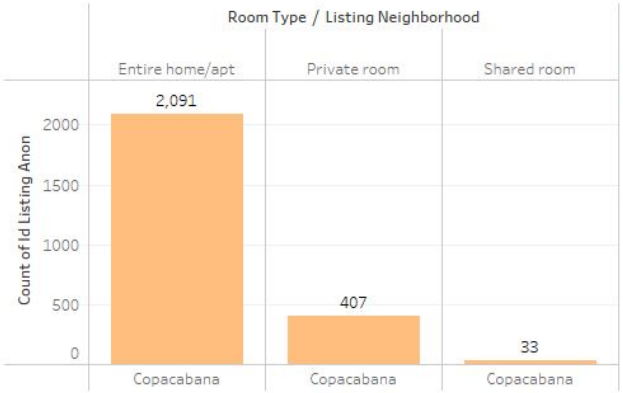
Descriptive Stats

Dashboard

Number of listings with Respect to Room Type



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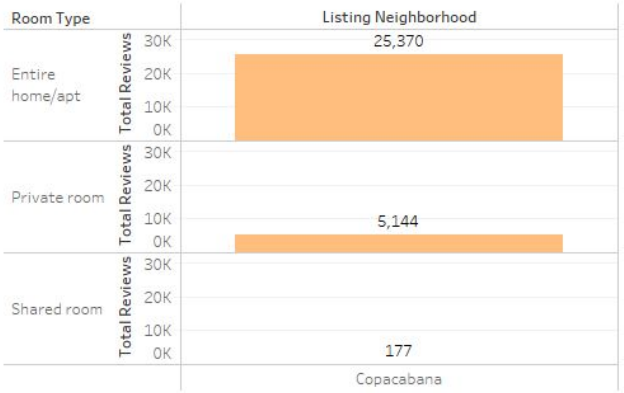

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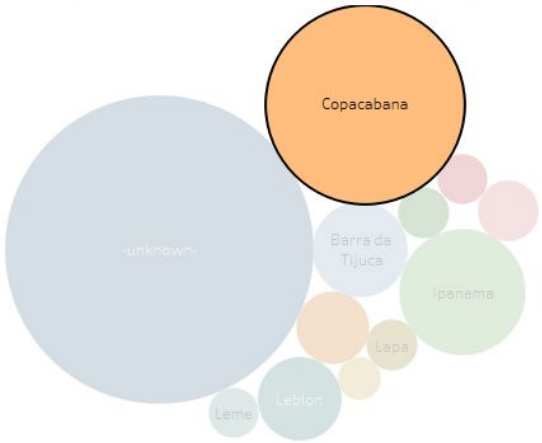
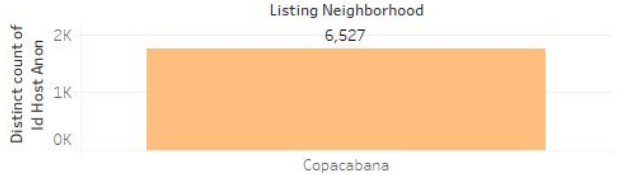


Measure values

	Room Type		
	Entire home/apt	Private room	Shared room
Count of Contacts	5,411	1,042	74
Count of Listings	2,091	407	33
Count of M Guests	5,411	1,042	74
Total Reviews	25,370	5,144	177

Count of hosts in each n group



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Descriptive Stats

Dashboard

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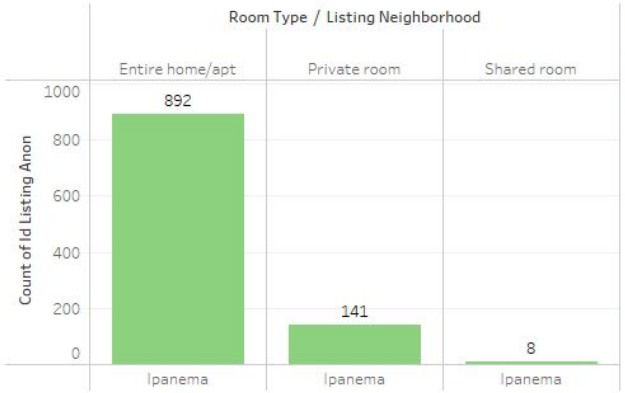

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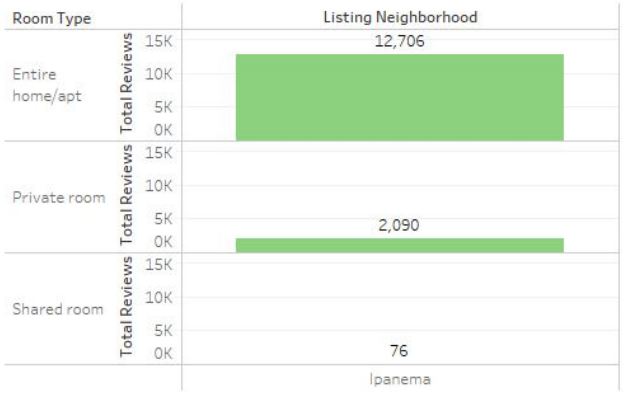

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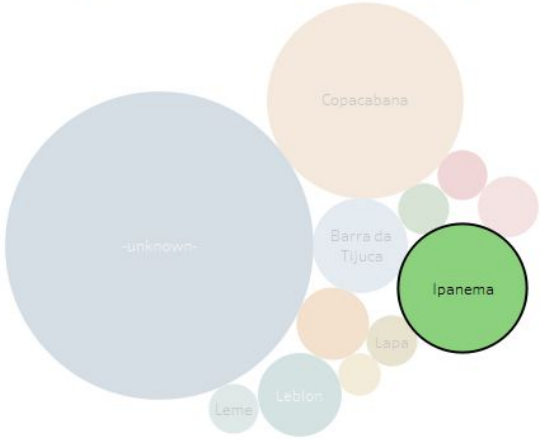
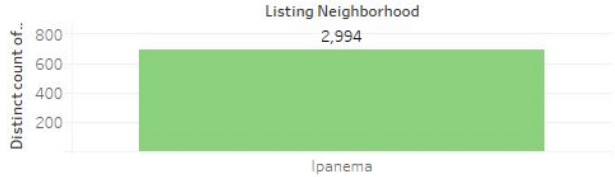


Measure values

	Room Type		
	Entire home/apt	Private room	Shared room
Count of Contacts	2,587	386	21
Count of Listings	892	141	8
Count of M Guests	2,587	386	21
Total Reviews	12,706	2,090	76

Count of hosts in each n group



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Exploration

What metrics determine successful bookings?

Total Bookings: 10 Listings (of 12819) with most total bookings

Listing ID	Booking Occurrences	Reviews	Room Type	Neighborhood	Host ID
73f9cbd5-7557-4137-9a35-7fde4e2d7ee2	31	3	Entire home/apt	Copacabana	2ed52e24-d8fa-43fa-a65d-d3b103f9127b
35fb3f70-8c79-4f5a-8092-c9fd22954f80	30	71	Entire home/apt	Botafogo	a22ca74f-820a-4a8c-bd9d-360b44fe32b6
dad04c9b-2617-4a65-b482-a2334101f021	29	36	Entire home/apt	Ipanema	2b4929c4-1f1b-4d32-81bb-c081291c6f54
6406563c-6128-466b-8d1f-708d6612214d	23	10	Entire home/apt	Copacabana	b755267c-dda4-423f-be1b-8e16e0b7d98d
9f0bab29-3bf3-47b6-be99-42147d9aba46	23	17	Entire home/apt	-unknown-	a3803a5b-5a5d-444f-a0a6-a03ed6a9e845
f8671325-f81f-4074-8481-4eee5a7021df	22	0	Entire home/apt	-unknown-	620547fd-576e-44c3-8b3c-285b10034e9c
6ccefdc4-042e-468b-8d9c-7b6109db5be8	22	36	Private room	-unknown-	03050dd2-e550-48ce-9d27-66cdcd29fed5
b71494da-b139-4ca4-b86a-95a00febc3bc	22	42	Entire home/apt	Ipanema	261917c5-0378-4a79-bce6-de34ce54034a
8cce636c-41e4-494f-947c-8e1e2d6abccf	21	47	Private room	Lagoa	4fff64d0-d66c-4555-885f-48d0f1f0baa7
18833497-aeb9-4cf7-b0cb-1d00f2dd1dc6	21	0	Entire home/apt	Copacabana	f2bd7d45-6541-47bf-b29a-4d0b9814c770

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Exploration

What metrics determine successful bookings?

Total Bookings is an effective measure of success

Booking occurrences

- Max = 31, Min = 1
- Average = 2.18

Reviews is less effective

- High number of reviews does mean high number of booking occurrences
- Max = 268, Min = 0
- Average = 2.19

Room type and Neighborhood are not effective

- No correlation with booking occurrences
- Determined by market availability and guest preference rather than success of the booking itself

R

Exploration

What metrics determine successful bookings?

Repeat Bookings: 10 Listings (of 96) with most repeat bookings

Listing ID	Repeat use by a guest	Reviews	Room Type	Neighborhood	Host ID
bdbe88db-10f5-4930-a16d-572bae857b4c	4	3	Private room	-unknown-	d08e0a70-1d4d-4138-b3d5-0023bd29edec
9e8c83c6-091d-40fc-8bb4-95fde8e0e15c	3	7	Private room	-unknown-	3429cbcd-ab0d-43ec-8be2-40941f58098a
27c45eef-e706-4738-ac17-e60e503659e0	3	19	Entire home/apt	-unknown-	7a6ac972-d38c-4f71-82de-ed63c451257c
f567adcd-ab26-4807-ab39-df609927ca27	2	3	Entire home/apt	Lapa	4793ed45-ca45-4d36-8263-c0fdeb400c5f
7fc389bb-ee0d-488f-82ce-8a7c1409ef78	2	29	Private room	Flamengo	54d4c1b1-3832-484e-b257-a86760eb5240
f9d4973b-878b-4d93-a2ba-300869fc6e09	2	33	Entire home/apt	-unknown-	54ac28a9-8107-4f99-aa40-2daf2999d5fa
142454ad-1046-4246-b78d-7ddbca7432a4	2	0	Private room	-unknown-	f6703eb1-3ee3-4c48-b4e8-8f21a0cdff5b
5b14a557-dfcb-4a65-8da6-de12e411f1c1	2	4	Entire home/apt	Ipanema	0985e75e-efde-48ee-ab96-675740f3054f
55ceb63e-1d0d-431c-94c4-c353ef914600	2	6	Entire home/apt	-unknown-	d16c6ee1-8c70-4d28-a730-2d68fe077904
79b84abd-5e44-46c4-a86c-f77997a8b7c5	2	23	Private room	Copacabana	38193daf-ea70-4e58-8eba-9705879322f7

Exploration

What metrics determine successful bookings?

Repeat Bookings is NOT an effective measure of success

- Total number of repeat booking is minimal
- Reviews, room type, Neighborhood show no correlation
- No overlap between listing or hosts for total or repeated booking

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Exploration

Who are the ten most successful hosts so they can be followed up by user research?

- The ten hosts with the **most total bookings** can be considered the most successful and therefore should be followed up with
- Also consider hosts with the **highest number of listings** (i.e. apartment, rooms, etc) as they are able to manage as large number of bookings as well

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Conclusion & Considerations

Conclusions

- Home apartments are the most popular types of rooms according to the total number of reviews for those rooms.
  - The most reviewed rooms are located in the Copacabana and Ipanema neighborhoods.
  - In Copacabana, there are 79% more reviews in the Home apts than the private rooms.
  - In Ipanema, there are 83% more reviews in the Home apts than the private rooms.
- What metrics determine successful bookings?
  - Total number of bookings

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Considerations

Not explored

- Time of year with most bookings
- Length of stay as a measure success
- Country users are from
- Contact channels

Not included

- Price
- Rating
- Cancellations

R

THANK YOU

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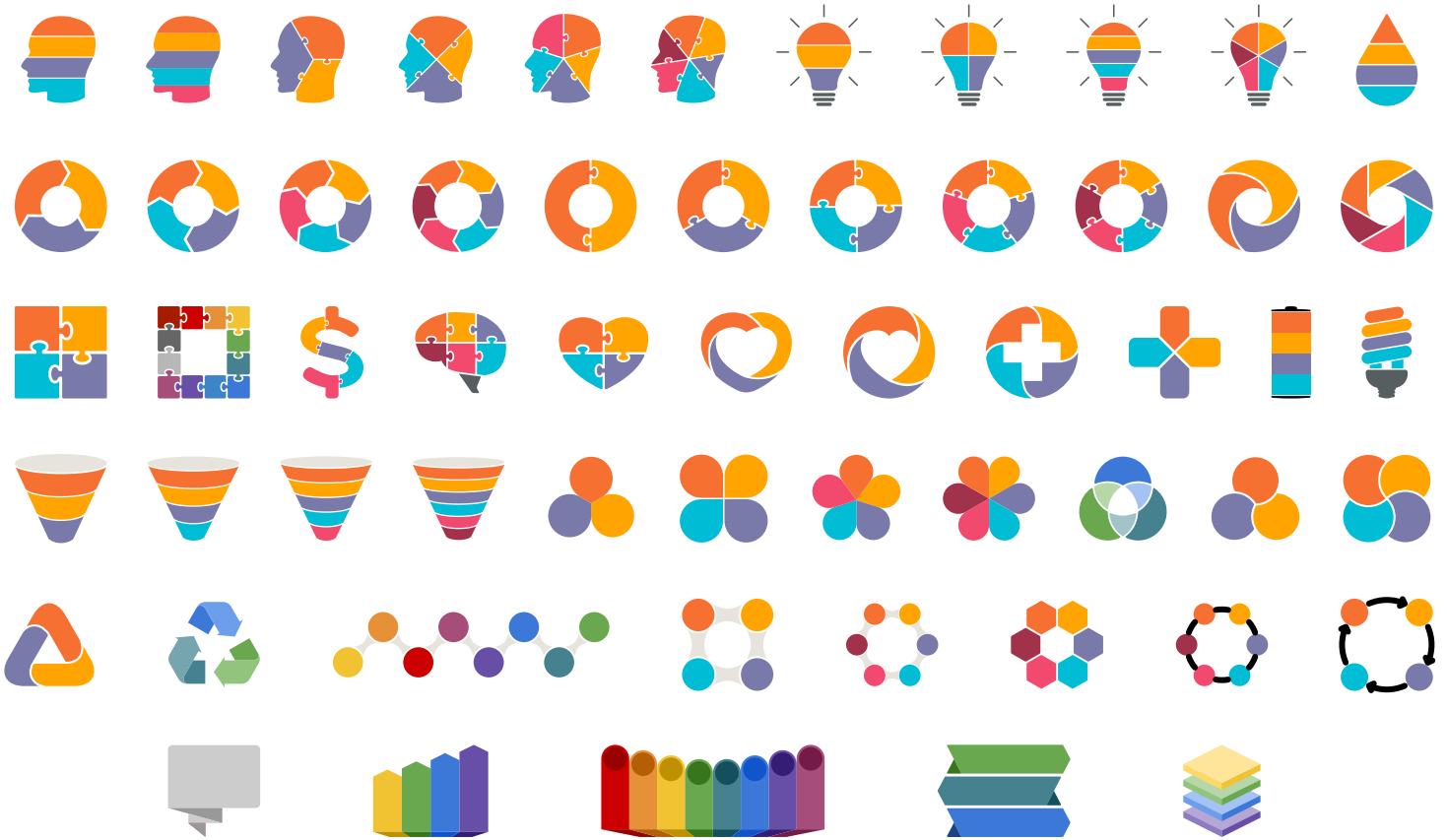

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