



Rio de Janeiro: Booking Opportunities

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Summary

To improve the performance, we should focus on:

- Helping New Brazilian Users get bookings *
- Lowering the usage of the “Contact Me” method by Brazilians *

Measure our initiatives with:

- Three New User Ratios
- Three “Contact Me” Ratios

We should also:

- Design a series of controlled experiments to test different initiatives that target New Brazilian users.
- Better understand the use of the “Contact Me” option. Mine the “Contact Me” messages for common themes and also analyze the browsing behavior.

Help New Users Get the Bookings

- Only 27% of New Brazilian Users booking attempts are successful (compare to 42% for New Foreign Users)
- 69% of Brazilian booking attempts come from New Users which represents a huge population that is not doing well **
- New Brazilian Users have less complete profiles and use less words when contacting hosts. Fixing these issues could help with the issue ***

	Conversion Rate *	
	Foreigners	Brazilians
New Users	42%	27%
Existing Users	59%	40%

* Booking Count / First Contact Count

** Please check the New Users Analysis in Appendix for an extended explanation

*** Please check the Other Research Points in Appendix for more info

New Brazilian Users Bookings Monitoring

- To monitor our progress, we propose three metrics for New Brazilian Users. Metrics should be tracked by week.
- **All Channel New Brazilian Users Conversion Rate:**
 - Unique Booking Count / User Initiated First Contact Count
 - This metric measures an overall conversion rate for New Brazilian Users
- **“Contact Me” Channel, New Brazilian Users Conversion Rate:**
 - Unique Booking Count / User Initiated First Contact Count
 - “Contact Me” channel only
- **New Brazilian Users Bookings Distribution By Contact Channel:**
 - Unique Booking Percentage Distribution by contact channel
 - Helps us see if nudging users to use different channels is effective over time

Design experiments to help New Brazilian Users

Create a series of controlled experiments to test different initiatives:

- **Search:**
 - Increase search ranking of hosts who don't mind new users (have a high conversion rate with new users) or have many reviews (this feature was associated with higher chances of conversion for new users).*
 - Add a special badge to search result listings of hosts that are New User friendly.
- **New Brazilian Users**
 - Message new users the benefits of having a complete profile.
 - Require new users to input personal information at the registration phase. **
 - Suggest a minimum number of words for the initial "Contact me" message
- **Provide a financial incentive to hosts for accepting New Users.**



* Please check New Users Analysis (Part 3) in the Appendix for more information

** We have to be careful here so we do not scare off New Users at registration (monitor the registration drop off rates)

Lower the “Contact Me” bookings rates

- Only 6% of Brazilian “Contact Me” attempts end up with a booking.
- 58% of Brazilian booking attempts start with a “Contact Me” (35% for foreigners). This share goes up to 75% for New Brazilian Users.**
- We should focus on shifting Brazilian users to “Book It” or “Instant Book” options.

	Conversion Rate *	
	Foreigners	Brazilians
Contact Me	9%	6%
Book It	51%	42%
Instant Book	100%	100%

* Booking Count / First Contact Count

** Please check the “Contact Me” Analysis in the Appendix for more information

“Contact Me” Bookings Monitoring

- To monitor our progress, we propose three metrics. These metrics should be tracked by week.
 - **Bookings By Contact Channel:**
 - Unique Booking Percentage Distribution by contact channel.
 - **All Listings Distributions By Contact Channel:**
 - All Unique Listings Percentage Distributions by contact channel.
 - This measures if we decrease the number of listed properties that just offer the “Contact Me” booking option.
 - **Booked Listings Distributions By Contact Channel:**
 - Booked Unique Listings Percentage Distributions by contact channel.
 - Measures if more unique properties are being booked by other channels. *

Better Understand “Contact Me”

We need to understand why Brazilians prefer the “Contact Me” option.

1. **Explore the browsing behavior of Brazilian users.** There is a possibility that the Brazilian users utilize the “Contact Me” option as the listings they are interested in only offer this way of booking. If that is the case, then we should work with hosts to better understand why they do not want to have other booking options for their listings and fix it.
2. **Data mine communication between the host and the user.** Try to find common topic or questions in those messages. This information could be provided to the hosts so they can include it with the property listing or with enough data, we can design an automated reply system.

Appendix

Appendix

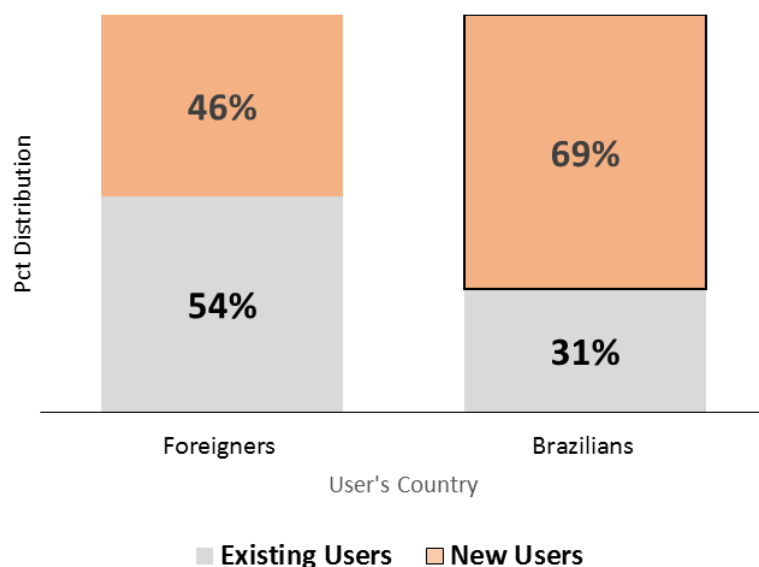
New Users Analysis (Part 1)

69% of booking contacts came from Brazilian New Users (compared to 46%)

(We recognize that there is some self selection bias due to the fact that we look at Rio and Brazilians, therefore, we would need to compare these numbers to other countries)

Brazilians have lower conversion rates (-15% New User, -19% Existing Users)

We want to focus on New Users as they represent a larger user base and gains in this group will potentially translate into a larger group of future existing users



	Conversion Rate *	
	Foreigners	Brazilians
New Users	42%	27%
Existing Users	59%	40%

* Booking Count / First Contact Count

New Users Analysis (Part 2)

- Successful bookings had on average more words in their first message (between 10% and 30%)
- Successful bookings for new users had more words (15% and 30%) than for existing users (10% and 19%)

	Word Count Of The First Message	
	Foreigners	Brazilians
Failed Booking		
New User	268	206
Existing User	267	192
Successful Booking		
New User	307	267
Existing User	294	229
Successful - Failed Booking		
New User	40	61
Existing User	27	37
New User (% Dif)	15%	30%
Existing User (% Dif)	10%	19%

* "Contact Me" Only

New Users Analysis (Part 3)

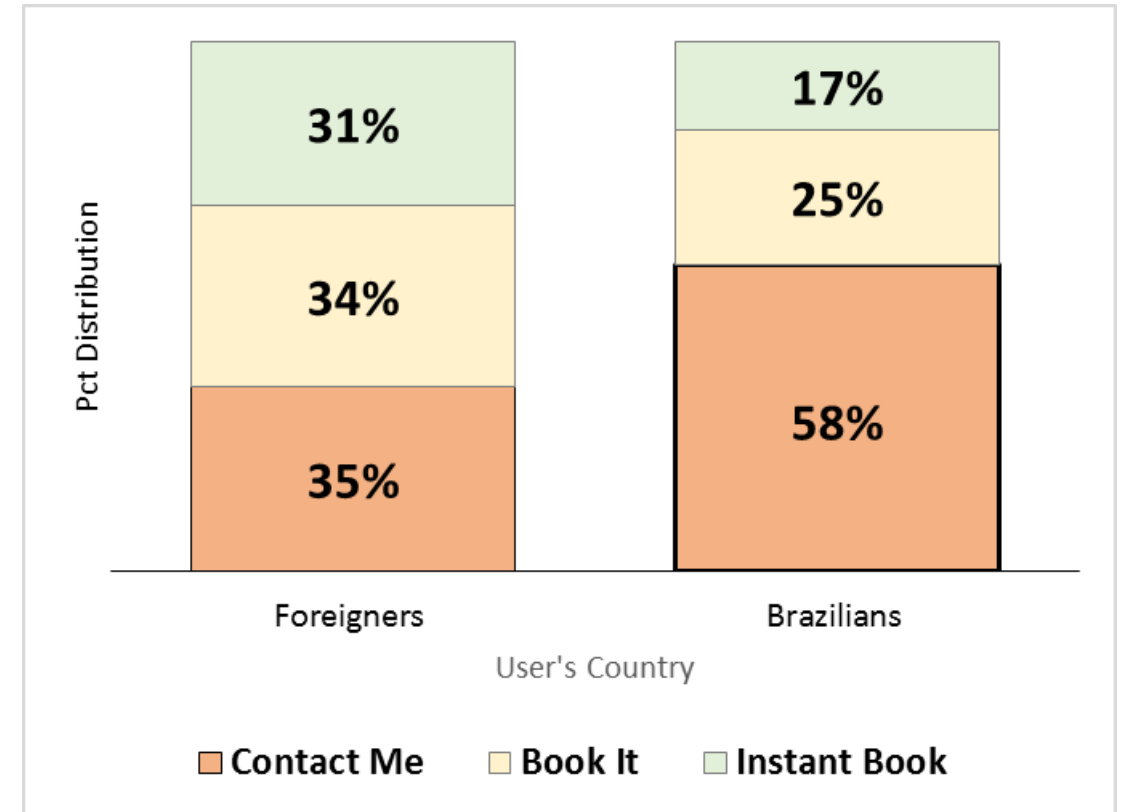
- Brazilians have shorter first message to the host (-61.9 and -40.2 characters)
- Also, they have much shorter user profiles (-3.2 and -7.0 words)
- Brazilians book listings with more reviews (3.3)
- It can be assumed that incomplete profiles and less information in messages might be a reason for lower conversion rate (trust?)

"Contact Me" and New Users Only

	Avg. Len. of First Message (characters)		Avg. Len. Of User Profile (words)		Avg. Num. Of Listing Reviews	
	No Booking	Booked	No Booking	Booked	No Booking	Booked
Brazilians	206.0	267.3	3.8	2.7	8.7	17.6
Foreigners	267.9	307.4	7.0	9.7	9.0	14.3
Difference	-61.9	-40.2	-3.2	-7.0	-0.3	3.3

“Contact Me” Analysis (Part 1)

- 58% of Brazilians initiate the contact with a host via “Contact Me” option
- A big question is why Brazilians do not use the Instant Book Option?
- Is it the trust issue on the host and user’s sides?



“Contact Me” Analysis (Part 2)

- 75% of “Contact Me” messages come from New Users
- Why do they prefer this type of booking?
- What information do they seek?
- How can we improve it?

"Contact Me"

	Foreigners		Brazilians	
	Contact Share	Booking Share	Contact Share	Booking Share
New User	59%	50%	75%	69%
Existing User	41%	50%	25%	31%

Modeling : Intro

- In order to better understand what impacts the bookings, a linear logistic model was built
- It is important to understand that the models are limited by the availability of data and that some of the observed results might be due to unaccounted variables
 - The country of origin is a good example of a potentially misleading variable. Some models showed that being from Brazil decreases the probability of booking. However, there might be other explanations to this fact. Maybe it is due to unobserved user characteristics or shortcomings in user profile rather than the fact that the user is from Brazil
 - However, we should also look into the potential fact that maybe our hosts do not want bookings from Brazilian guests. If that is the case, then we should investigate the origins of this situation and act accordingly

Modeling 1: Only Brazilian Bookings

- “Contact Me” and being a New User have the strongest negative impact on the probability of getting a successful booking(-3.73, -0.28)

0	contact_me_flag	[-3.727980057086825]
1	new_user_flag	[-0.2802596825210466]
2	location_unknown_flag	[0.007394300562890962]
3	m_interactions	[0.16178508753142082]
4	m_first_message_length_in_characters	[-0.00027934023201824586]
5	m_guests	[-0.0677917224496325]
6	words_in_user_profile	[-0.0003239430472334989]
7	room_apartment_flag	[0.04317297035229868]
8	room_private_flag	[0.15169835593109418]
9	total_reviews_pos	[0.016152795701454573]
10	interact_2_check_in_days	[-0.004778881598572779]
11	stay_duration_days	[-0.04807451054195284]

Modeling 2: What Defines a Brazilian User?

- “Contact Me” , being a New User, and booking a place with an unknown location have the strongest positive relationship with being a Brazilian User (0.85, 0.81, and 0.1 respectively)
- Booking a place had the strongest negative relationship with being a Brazilian (-0.34)

0	book_flag	[-0.34201324930188415]
1	contact_me_flag	[0.8519732109502396]
2	new_user_flag	[0.8064358076108182]
3	location_unknown_flag	[0.10082447292492748]
4	m_interactions	[-0.007633085505490978]
5	m_first_message_length_in_characters	[-0.0032097730588358606]
6	m_guests	[0.057998247521943554]
7	words_in_user_profile	[-0.004507536320170442]
8	room_aprt_flag	[0.19906801050853667]
9	room_private_flag	[0.1344828056317339]
10	total_reviews_pos	[-0.004954566784209933]
11	interact_2_check_in_days	[-0.002051140877476678]
12	stay_duration_days	[-0.013971190160498262]

Modeling 3: What Influences Booking (All Users)?

- “Contact Me” , being from Brazil, and being a New User have the strongest negative impact on the probability of getting a successful booking(-3.7, -0.4 and -0.2 respectively)

0	contact_me_flag	[-3.6916352088130915]
1	new_user_flag	[-0.17481105582023848]
2	br_country_flag	[-0.4091219692434835]
3	location_unknown_flag	[-0.027358793098680823]
4	m_interactions	[0.2123524918073225]
5	m_first_message_length_in_characters	[-0.0005528026690888459]
6	m_guests	[-0.048911079777550534]
7	words_in_user_profile	[0.0002113149186211171]
8	room_apartment_flag	[0.042928435199020246]
9	room_private_flag	[0.12936798408461705]
10	total_reviews_pos	[0.018582926382815314]
11	interact 2 check in days	[-0.004755524170973826]

Other Research Points

- One theory we explored was that Brazilians contact more hosts for the same travel period. Did not find a strong support for this claim
- “Contact Me” was preferred by Brazilians with all types of rooms
- On average, Brazilians and foreigners that used “Contact Me” had a slightly more guests
- Overall, foreigners had:
 - More interactions (ask more questions?)
 - Longer messages
 - Longer user profiles
 - Considered places with more reviews