Airbnb Product Analytics Report

Team 4

2019-05-14

At present, Airbnb is a community platform product with operations in 191 countries and often appears in excellent business analysis cases. Does its business have room for improvement?

ITALY
Truffle experience Rome
From $113/person
★ 4.98 (580)

ITALY
Learn to Row as a Venetian
From $56/person
★ 4.97 (917)

CUBA
Afro-Cuban Culture Guide
From $79/person
★ 4.96 (614)

JAPAN
Feeling Samurai Soul
From $91/person
★ 4.99 (1002)

ITALY
Hunt for truffles in the Tuscan woods
From $125/person
★ 4.96 (506)

- For the purpose of analysis, the following three questions are asked:

1. What characteristics does the **target user group** of Airbnb have?

2. What are the current **promotion channels** of Airbnb, which are not good enough and which need improvement?

3. Which part of the **current conversion rate** and **churn rate** is problematic, or is there room for improvement?

**User Portrait
Analysis**

**Promotion Channel
Analysis**

Funnel Analysis

- Data Name：Airbnb New User Bookings
- Data Source：https://www.kaggle.com/c/airbnb-recruiting-new-user-bookings/data
- Data Description：In this challenge, you are given a list of users along with their demographics, web session records, and some summary statistics. You are asked to predict which country a new user's first booking destination will be. All the users in this dataset are from the USA.
- Data Size：21w * 15（train_user）、104w * 6（sessions）

  Data format of Sessions is shown as below:

	user_id	action	action_type	action_detail	device_type	secs_elapsed
0	d1mm9tcy42	lookup	NaN	NaN	Windows Desktop	319.0
1	d1mm9tcy42	search_results	click	view_search_results	Windows Desktop	67753.0
2	d1mm9tcy42	lookup	NaN	NaN	Windows Desktop	301.0
3	d1mm9tcy42	search_results	click	view_search_results	Windows Desktop	22141.0
4	d1mm9tcy42	lookup	NaN	NaN	Windows Desktop	435.0

**Airbnb user gender ratio**

Legend:
- FEMALE
- MALE

MALE: 68209

FEMALE: 77524

Airbnb's male and female user ratio does not have big difference, female users ratio is more than male users ratio: 6.4%

Age_distribution_count
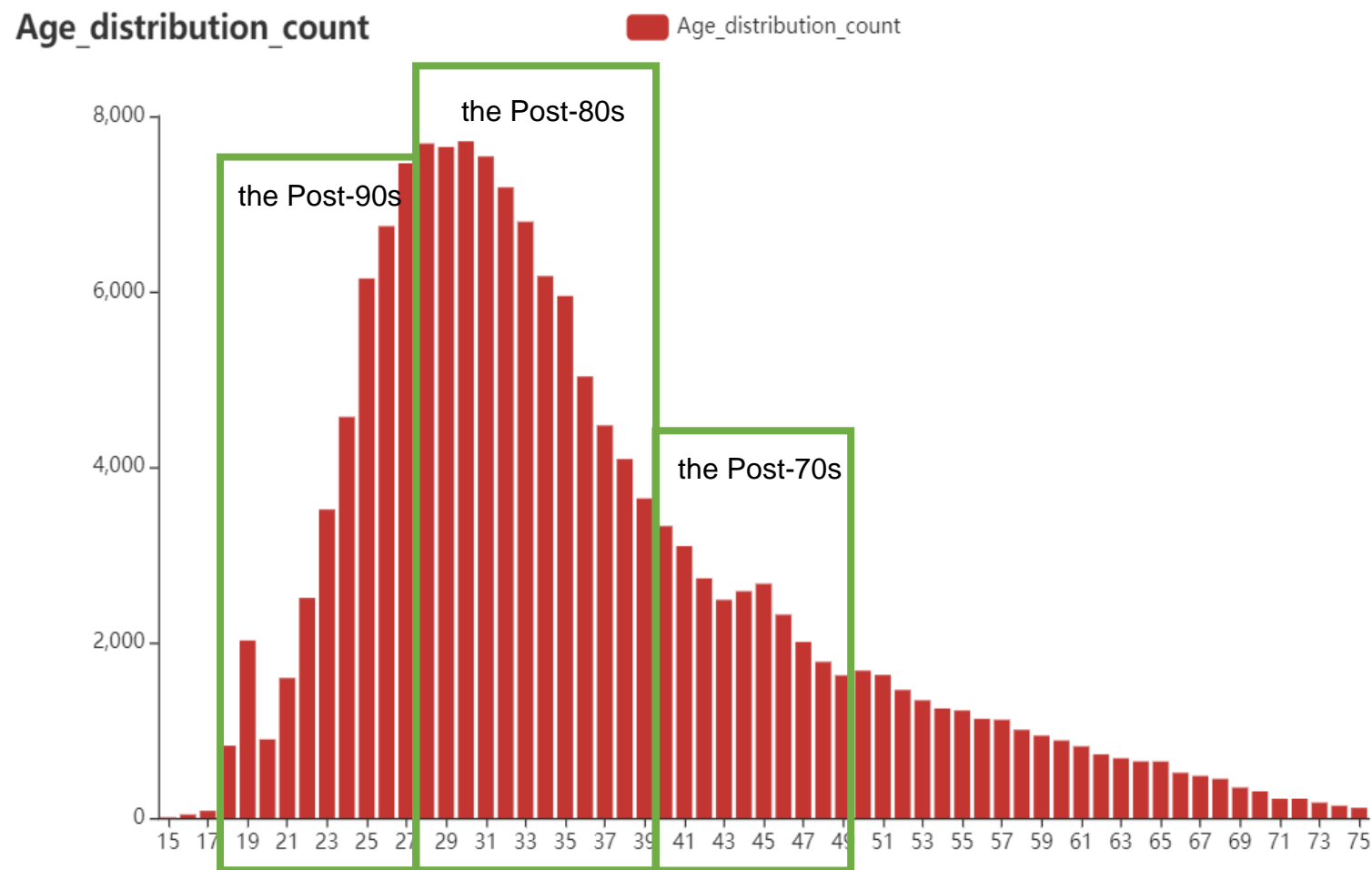
Airbnb's users are mainly "young and middle-aged groups", among which the largest number of users are the post-80s (29-39 years old), followed by 90s, and then 75s.
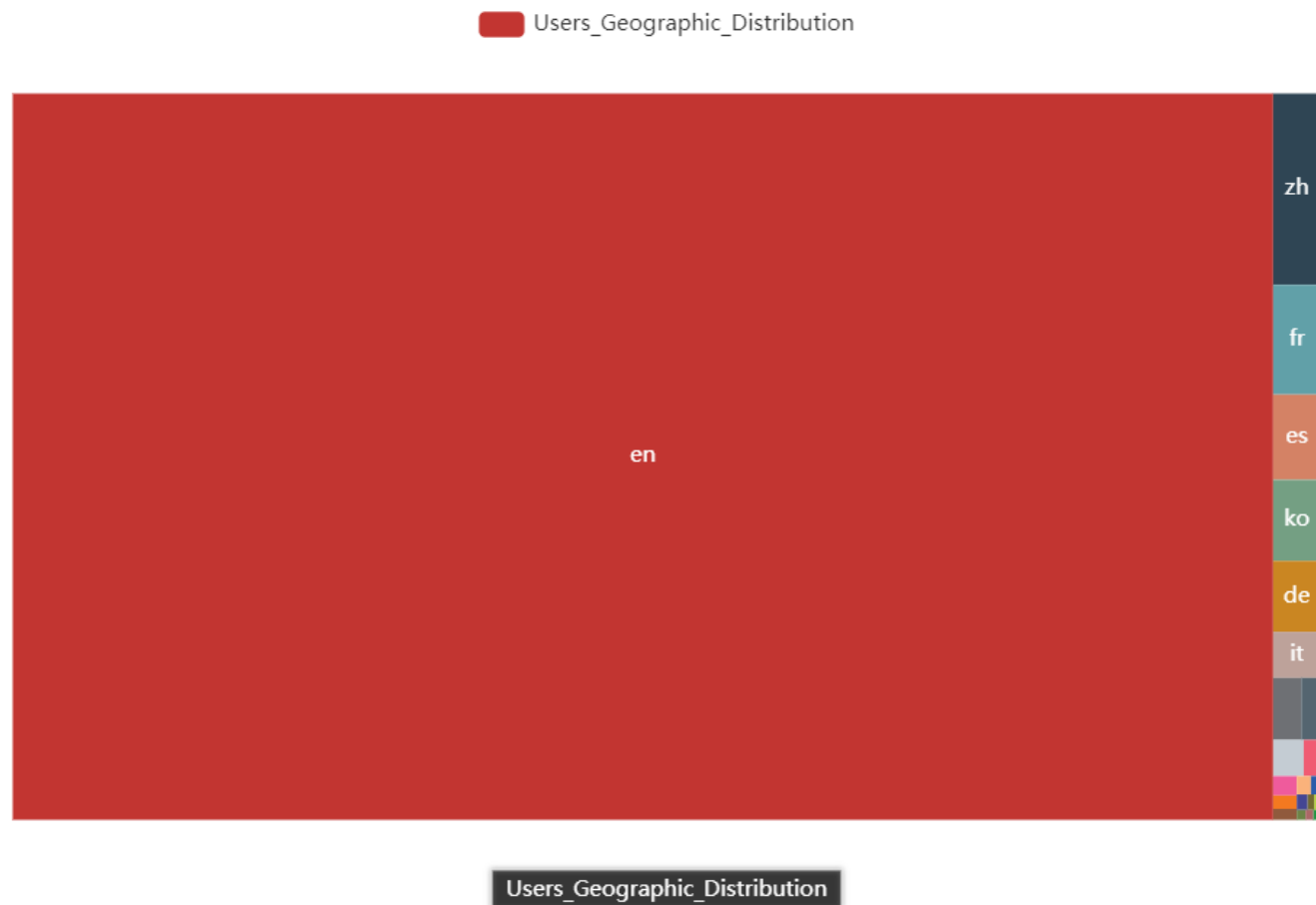
device_distribution

device_distribution
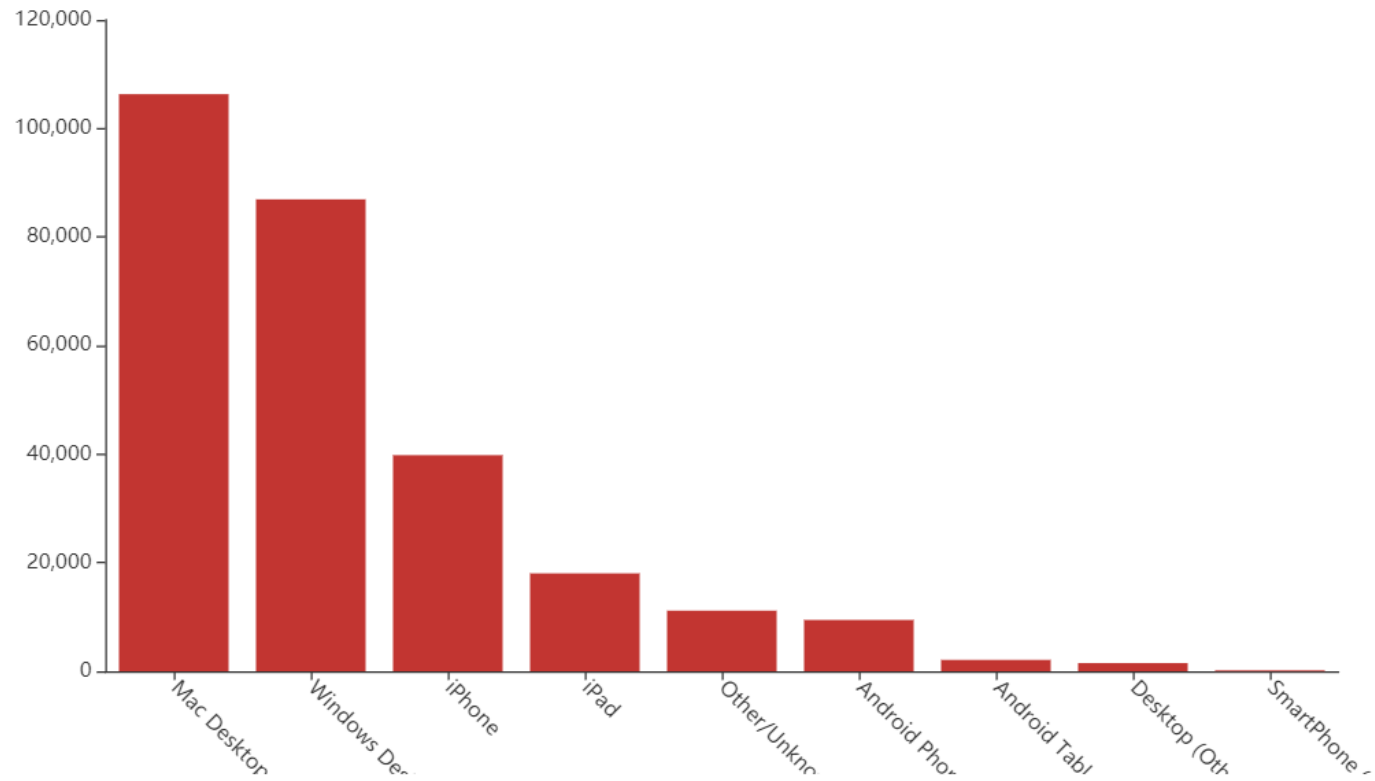
More Airbnb users use Mac than those use windows.

More Airbnb users use iPhones and iPads than those use Android.

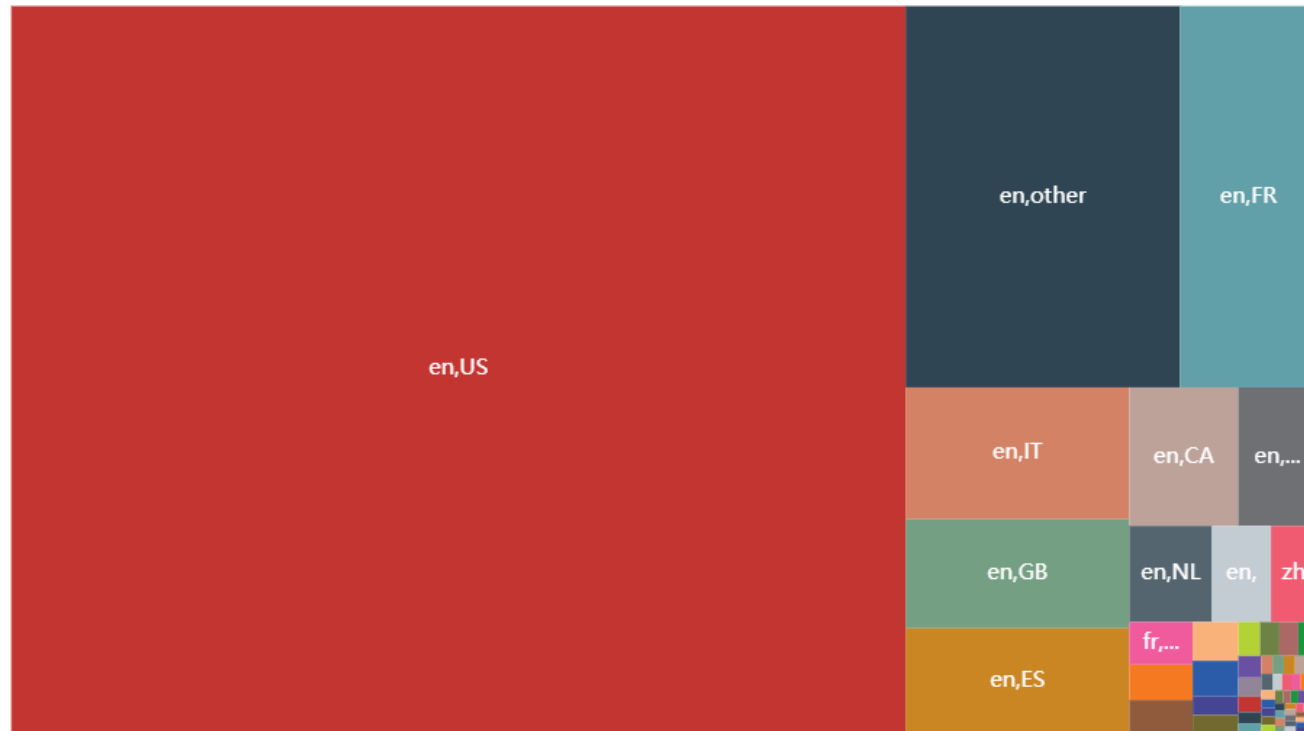Users_Geographic_Distribution

Users_Geographic_Distribution

Airbnb is really international, with users in multiple regions.

More than 90% of the users are in English-speaking countries (Europe and America); airbnb began to enter the Chinese market in 2013 (this data set ends in 2014), so although the number of Chinese users at this time ranked second, the proportion was very small.

country_destination

After all, Airbnb is still used more by users in Europe and the United States.

Monthly New Users

From the visualization results:
Airbnb's user growth curve is healthy, flat in the early period (before 2011), and began to grow rapidly after February 2012.
After 2012, the growth rate is fast.

The regularity of the increase of new users of Airbnb: from January to July of each year, Airbnb will usher in the peak of user growth. It is considered that summer (Northern Hemisphere) is the peak season of travel, and short-rent products are a type of travel consumption.

3   Airbnb Promotion Channel Analysis
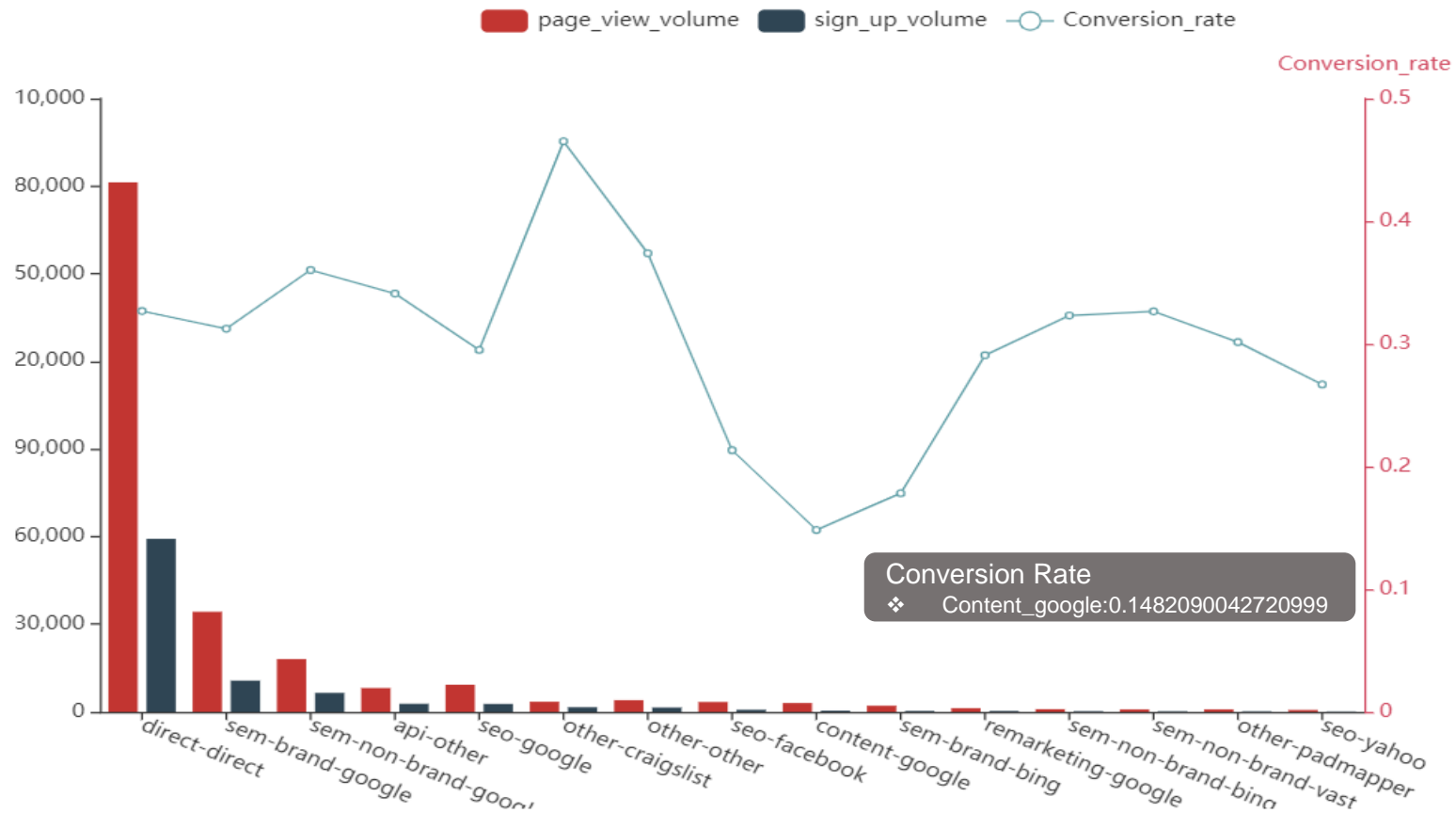
Channel registration volume:
Airbnb 's overall channel conversion rate is performing well, with most channels having conversion rates above 30%.

- Google Auctions (SEM) performed the best, where the number of registered brand auctions was greater than the number of non-brand auctions.
- The number of channel registrations conforms to the Pareto principle, and the registration volume of the first 7 channels (a total of 40 channels are promoted) has accounted for more than 90% of the total channel sources of Airbnb.
- content-google's 14.82% conversion rate is lower than other channels' conversion rate.
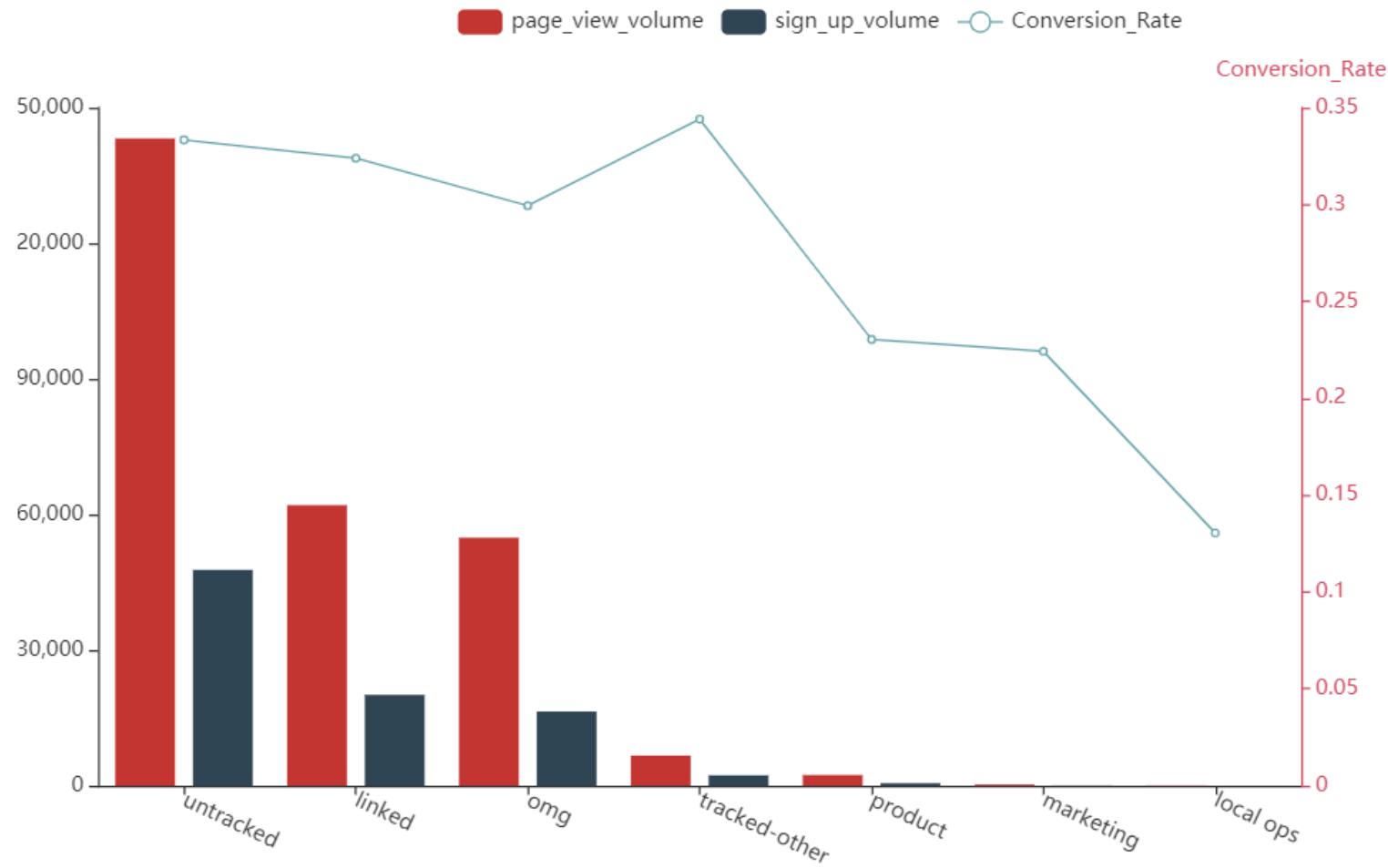
In terms of *marketing content*:

- The statistical function is abnormal and the data tracking effect is poor.
- The conversion rate of linked and omg marketing content is good.
- Compared with other marketing content, the conversion rate of local ops is very low.
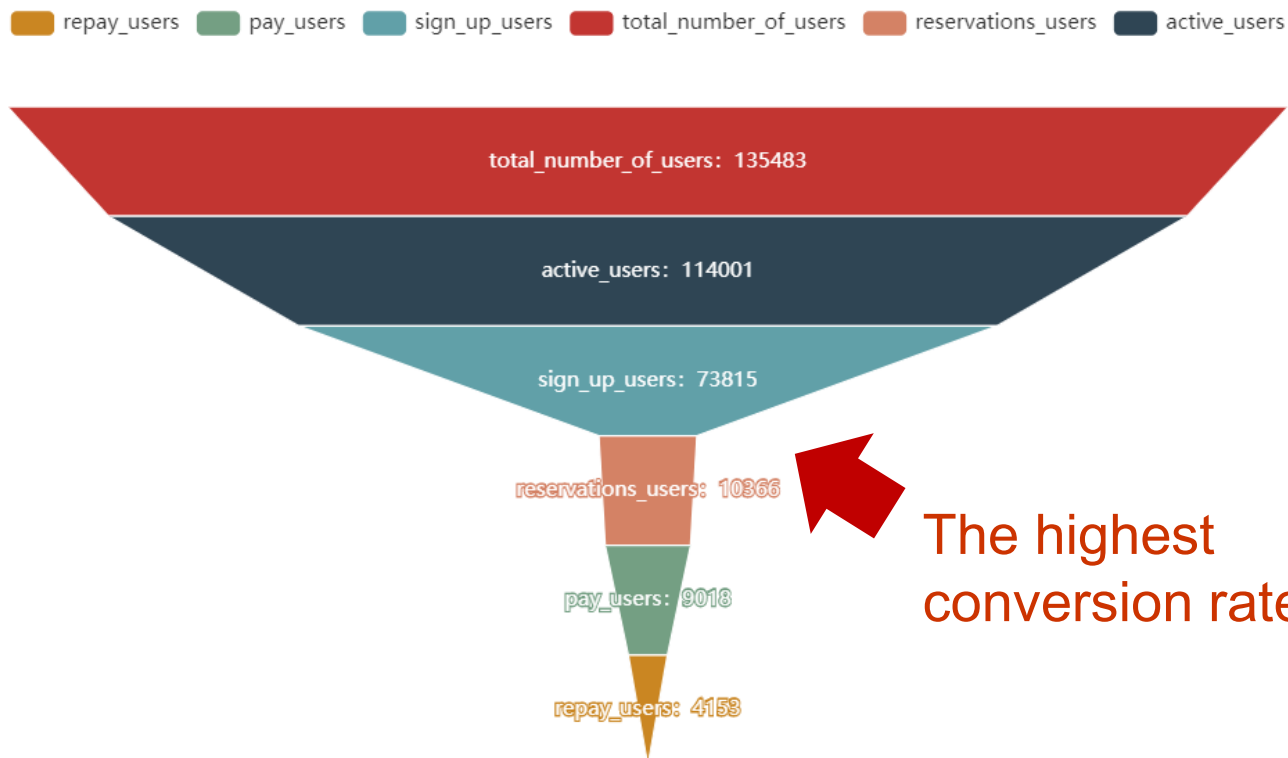
The highest conversion rate

From the visualization results:

- From registered users to order users is the one with the highest turnover rate in the Airbnb conversion funnel. Only 14% of registered users place orders, accounting for only 7.651% of all users.
- The active and repurchase performed well. 60% of the users who placed orders repurchase, indicating that Airbnb's services is great.
- About 13% of the users who placed the order did not make the final payment, requiring product R & D intervention

channel-provider			
direct-direct	181270	59234	0.326772
sem-brand-google	34273	10705	0.312345
sem-non-brand-google	18092	6516	0.360159
api-other	8167	2785	0.341006
seo-google	9282	2739	0.295087
other-craigslist	3475	1616	0.465036
other-other	4034	1508	0.373823
seo-facebook	3394	724	0.213318
content-google	3043	451	0.148209
sem-brand-bing	2104	375	0.178232
remarketing-google	1266	368	0.290679
sem-non-brand-bing	916	296	0.323144
sem-non-brand-vast	830	271	0.326506
other-padmapper	836	252	0.301435
seo-yahoo	652	174	0.266871
direct-other	301	164	0.544850
seo-bing	699	162	0.231760
seo-other	329	156	0.474164
other-facebook-open-graph	566	141	0.249117
content-facebook	597	68	0.113903
other-meetup	358	46	0.128492
sem-non-brand-other	144	45	0.312500
other-email-marketing	270	37	0.137037

Improvements on promotion channels

- From July to October is the peak season of the business. It is recommended that the operating department increase the intensity of marketing in July and October of each year, and increase the channel advertising.

- The content_google conversion rate is very low (only 15%) in the main channels (the channels with the top 7 registrations). It is recommended that the operation department calculate the ROI and ARPU (average revenue per customer) for this channel. If the ROI is too low, it is recommended to stop this Channel delivery. ROI = Conversion rate * ARPU value / CPC

- The promotion and conversion of all channels under the promotion of SEO are good. As a lower-cost customer acquisition method (mainly labor costs), SEO is recommended to support the management of SEO-related resources on a daily basis, and even consider expanding SEO team.