Determination of a favorable tariff for a telecom company

Project status: *completed*

Libraries used: `pandas`, `matplotlib`, `numpy`, `scipy`

Description of the project:

Megaline is a federal mobile operator. Clients are offered two tariff plans: "Smart" and "Ultra".

We have the data of 500 Megaline users for 2018.

Description of tariffs:

1. Tariff "Smart"

- monthly fee: 550 rubles
- included 500 minutes of calls, 50 messages and 15 GB of data
- the cost of services in excess of the tariff package:
    - minute of conversation: 3 rubles
    - message: 3 rubles
    - 1 GB of Internet traffic: 200 rubles

2. Tariff "Ultra"

- monthly fee: 1950 rubles
- included 3000 minutes of calls, 1000 messages and 30 GB of internet traffic
- the cost of services in excess of the tariff package:
    - minute of conversation: 1 ruble
    - message: 1 ruble
    - 1 GB of Internet traffic: 150 rubles

Note

Megaline always rounds seconds to minutes, and megabytes to gigabytes. Each call is rounded separately: even if it lasted only 1 second, will be counted as 1 minute. For web traffic, individual sessions are not counted. Instead, the monthly total is rounded up. If a subscriber uses 1025 megabytes this month, they will be charged for 2 gigabytes. Unused for the previous month calls, sms, internet is not carried over to the next month.

To adjust the advertising budget, the commercial department wants to understand which tariff brings in more money.

Our mission analyze the behavior of Clients and draw a conclusion - which tariff is better.

Research Progress

The study will take place in three stages:

1. Data review.
2. Data preprocessing.
3. Preliminary analysis of tariffs on a small sample of customers and verification of hypotheses:
     - the average revenue of users of the "Ultra" and "Smart" tariffs differ;
     - the average revenue of users from Moscow differs from the revenue of users from other regions.

Conclusions on the project:

- on average, at the "Ultra" tariff, users spend more minutes on calls, write more messages and spend more Internet traffic, but there are fewer such users;
- the "Smart" tariff is more popular, it brings more money, regardless of the region.