Analysis of the outflow of customers of the bank "Metanprom"

The data source : bank "Metanprom"

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Description of the project

The regional bank "Metanprom" is experiencing an outflow of customers. The bank's marketing department commissioned a study.

- The purpose of the study: To identify the most vulnerable customer segments that leave more often than others, and provide recommendations for retaining customers in the future.

Research objectives:

1. Determine how revenue affects customer retention.

2. Understand how age and gender affect customer retention.

3. Determine how the number of products received at the bank affects customer retention.

4. Consider the relationship between retention and customer activity.

5. Consider the geography of loyal customers.

6. Analyze the categories of active clients.

7. Give portraits of loyal and potentially disloyal customers.

8. Make a dashboard and presentation.

Conclusions and results of the research

1.   A study of the bank's clients was made in order to highlight the portraits of flowing and retained clients. A data frame with 10,000 records was examined.

2. As a result of the study, it turned out that customers with a low customer rating (less than 800), as well as older customers (over 70 years old), stay with the bank. However, there is a possibility that older clients do not announce their retirement from the bank due to passing away.

3. For clients of middle age (30-40 years) and older (50-60 years) 26% leave the bank more often than others, however, the older the client, the more likely it is to retain.

4. In absolute terms, Yaroslavl has the largest number of churning clients, however, and the sample is large there. While in a relative sense. The same share of customers in Rostov is leaking - 19%.

5. By gender, despite the fact that there are more women clients in the sample, most clients are men, both in relative and absolute units. The share of male clients who leave is 23%.

Conclusions and results of the research

6. The following trend is noteworthy: the higher the rating of the property, the greater part of the clients flow away. Up to 30% for a property rating of 5. For a rating above 5, the samples are small for conclusions. At the same time, the correlation of leakage with this characteristic showed a moderate relationship.

7. Also, a negative trend is observed among customers who use numerous bank products, and along with the distribution of active and inactive customers, it turns out that customers who have received some additional product recently are flowing away, this is confirmed by the correlation matrix. With 3 products, 30% of the departed are observed. At the same time, the sample for a larger number of products used is insignificant for any conclusions.

8. It can be seen that customers who use credit cards stay with the bank more often than customers without them (14.7% vs. 25.6%).

9. Retained Client Profile: Female, 40-50 or over 60, from Yaroslavl or Rybinsk, using 1-2 bank products, including a credit card, with an income below 100,000.

10. Leaking client: Male, 30-60 years old, from Yaroslavl or Rostov, using numerous bank products (2+), with an income of 100,000 - 180,000 rubles, rather does not have a credit card, and has been active recently.
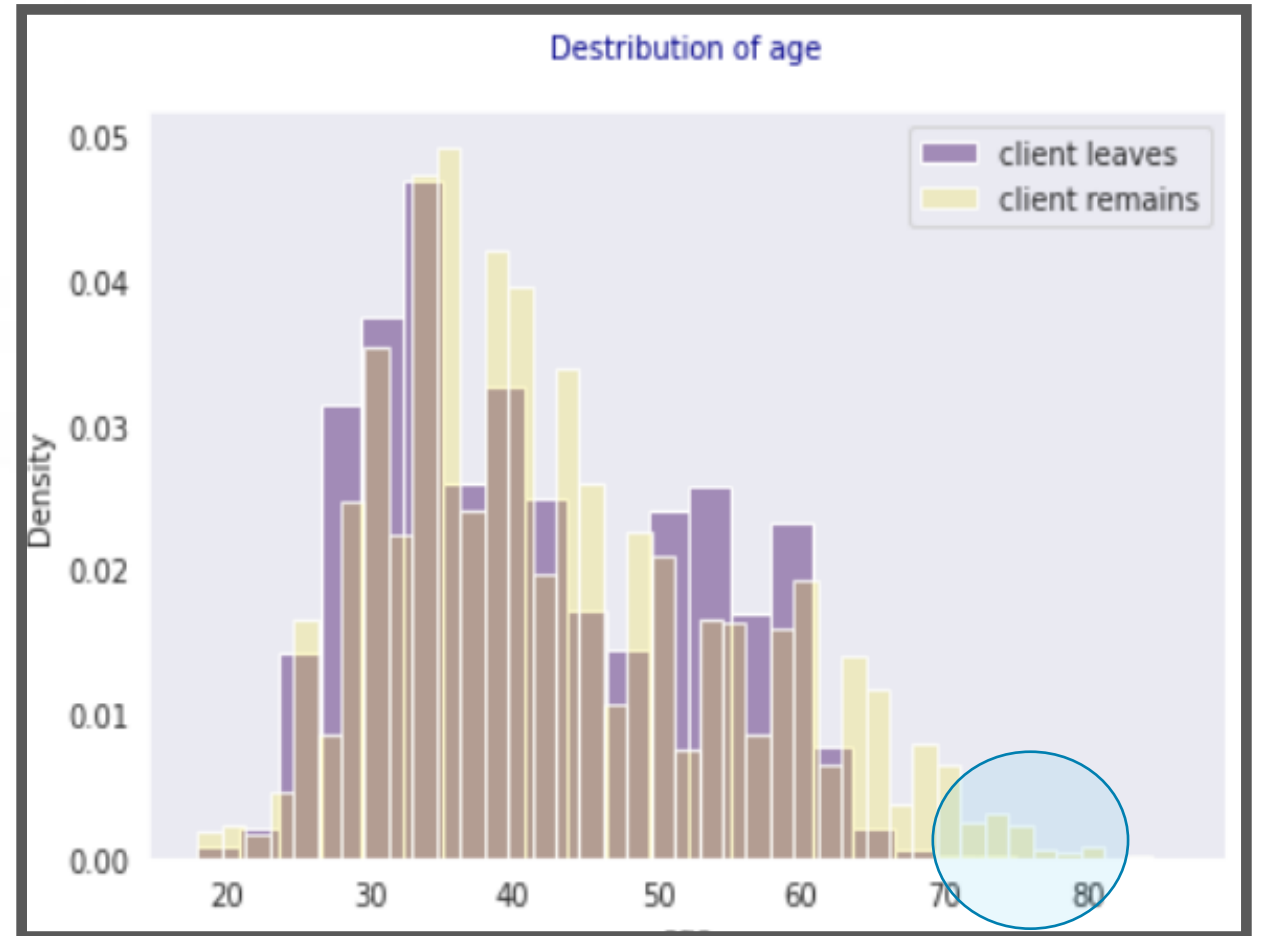
Credit rating distribution

Clients with a low client rating (<700) stay with the bank

Destribution of score
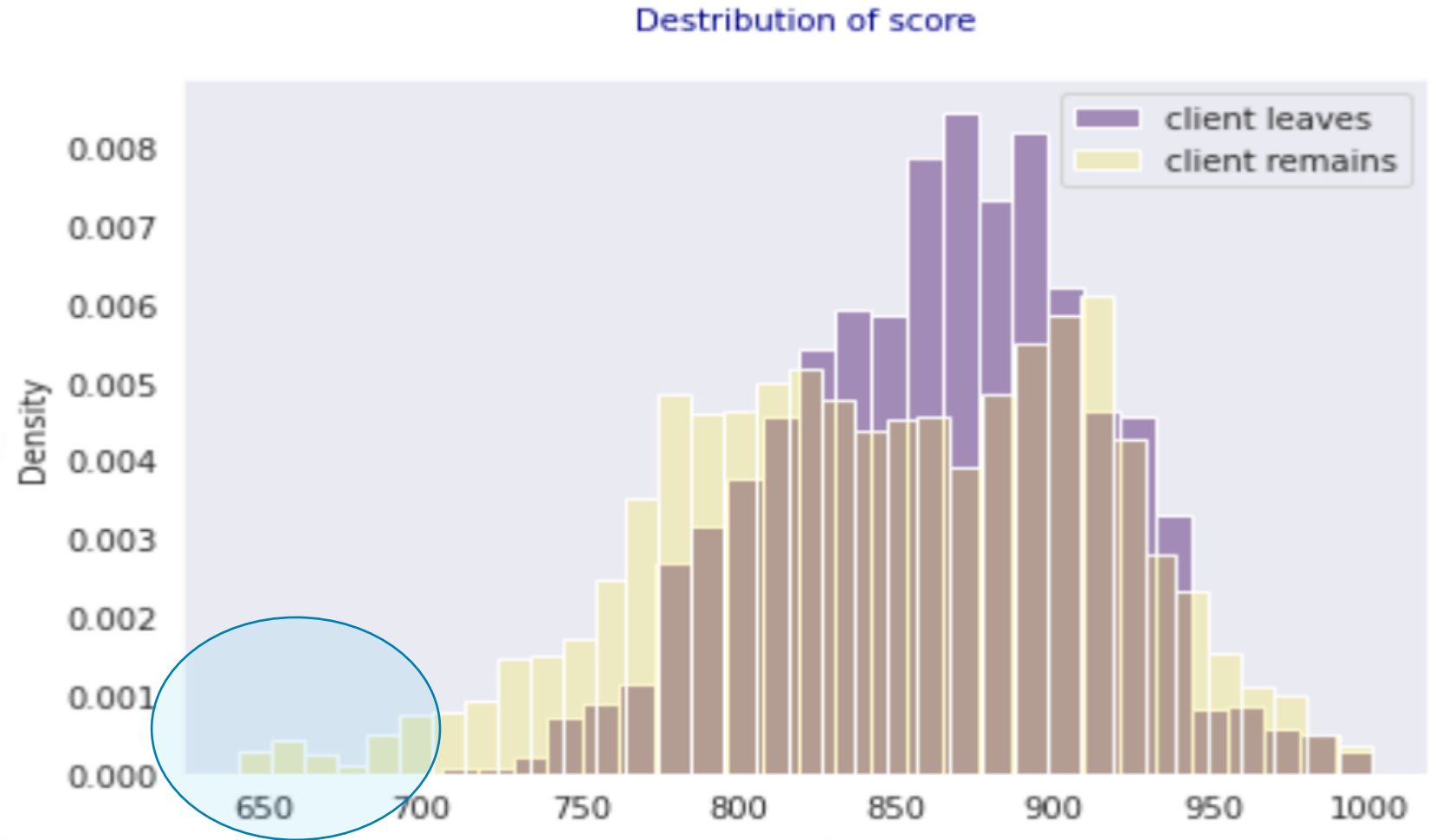
Client age distribution

Elderly clients (over 70 years old) stay with the bank. However, there is a possibility that older clients do not announce their retirement from the bank due to passing away.

Destribution of age
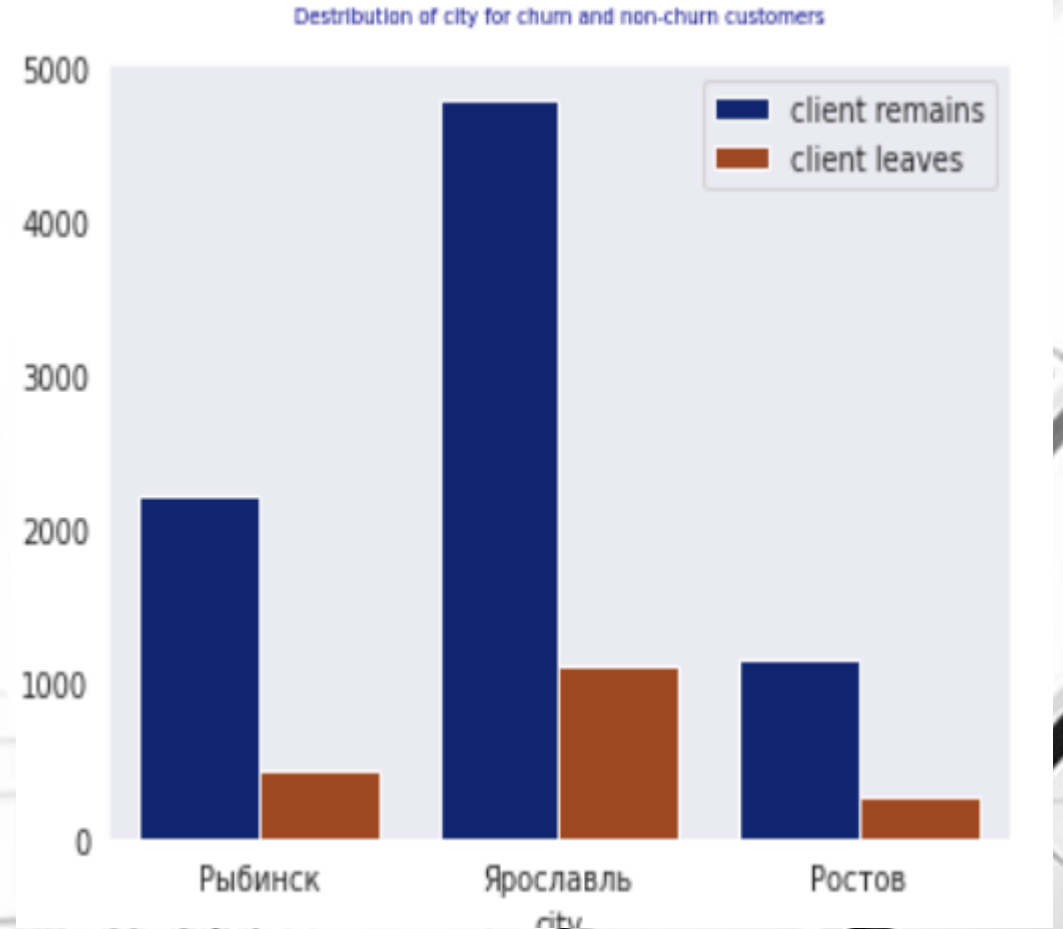
Distribution by age and gender of clients

- The highest outflow of clients in the group of 50-60 years among men

- The smallest outflow is among women 60+, a group of women aged 40-50 also stands out, and 9% of the outflow

age_category	gender	churn rate	count
30-50	Ж	13.7%	1777
30-50	М	22.3%	2247
40-50	Ж	8.8%	995
40-50	М	19.0%	1089
50-60	Ж	21.2%	992
50-60	М	33.1%	782
60+	Ж	3.1%	831
60+	М	16.3%	203
before 30	Ж	17.4%	396
before 30	М	27.0%	686

Clients geography

city	churn rate	count
Ростов	18.8%	1431
Рыбинск	16.2%	2662
Ярославль	19.0%	5905

The largest number of churned clients is in Yaroslavl and approximately the same share in Rostov (19%)

Destribution of city for churn and non-churn customers

- client remains
- client leaves

Credit rating distribution

The destribution of yaroslavl for different score
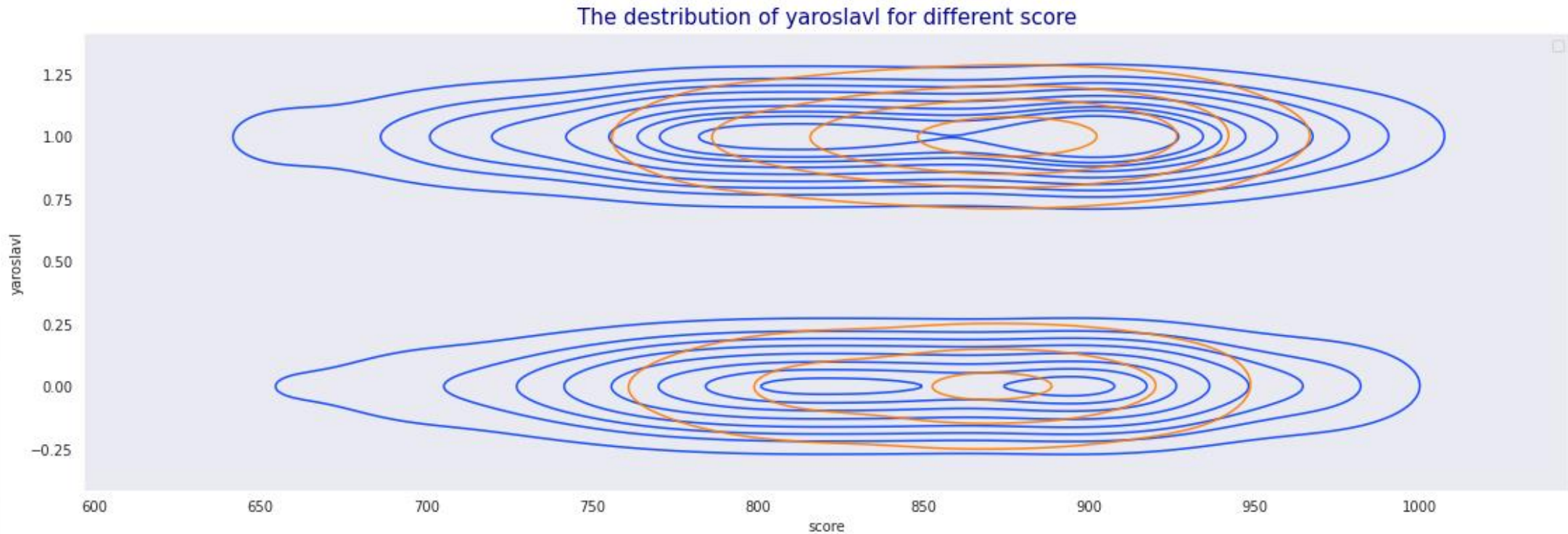
With a combination of cities and credit ratings, customers with a low rating remain in almost all cities: For Yaroslavl and Rostov, customers with a rating of 800 and below are retained

Gender distribution of clients

gender	churn rate	count
Ж	12.8%	4991
M	23.6%	5007

By gender, despite the fact that there are more women clients in the sample, most clients are men, both in relative and absolute units. The share of male clients who leave is 23%.

Destribution of gender for churn and non-churn customers
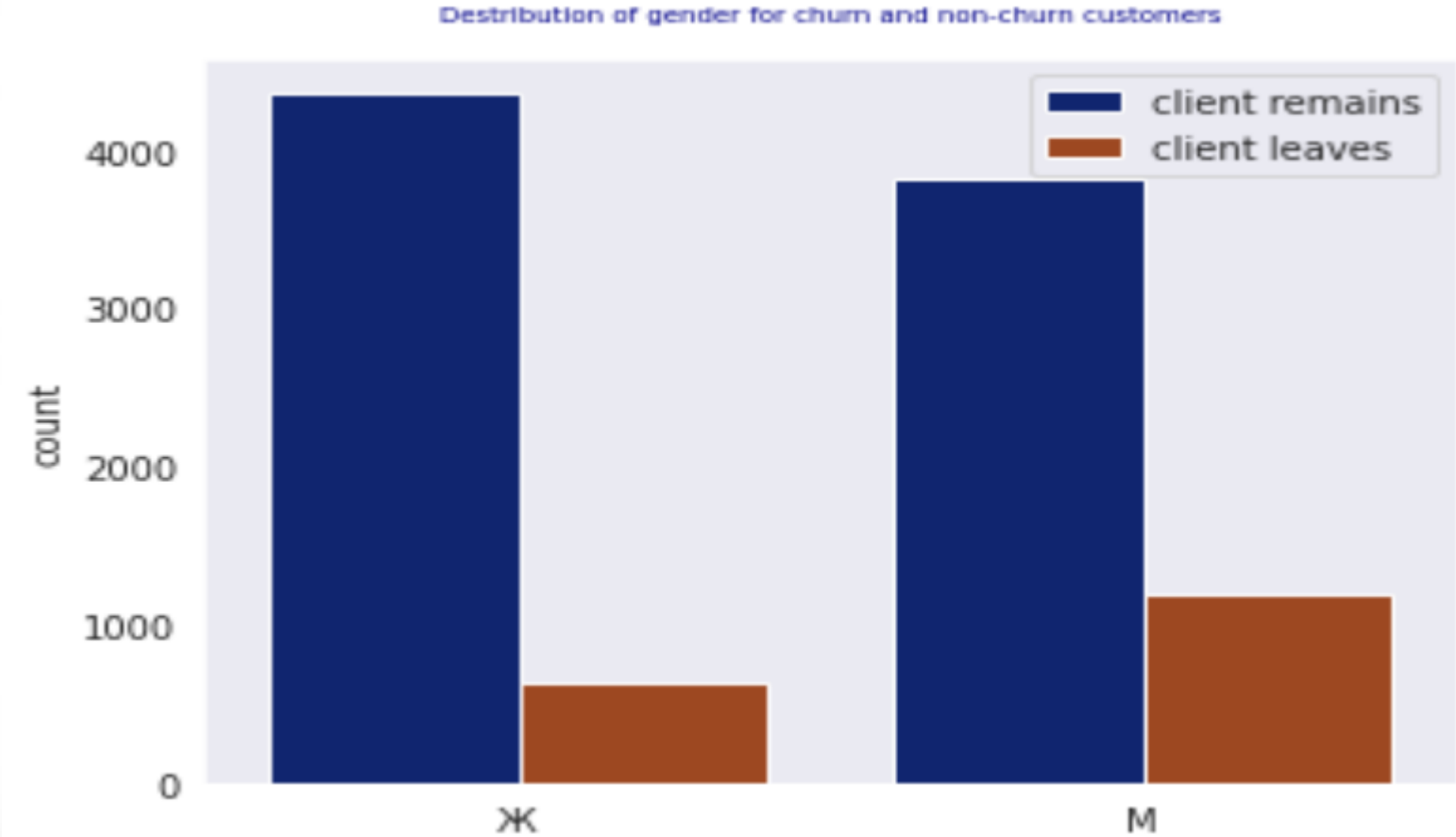
Customer Property Rating

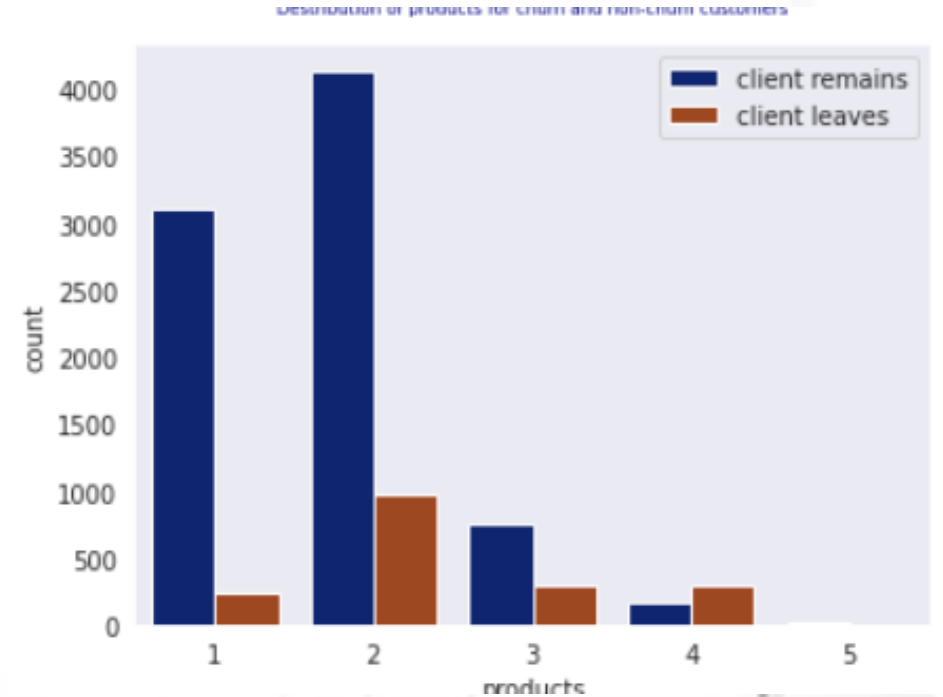| equity	churn rate	count
0	3.5%	2591
1	12.0%	774
2	15.8%	1052
3	20.9%	1542
4	25.1%	1850
5	30.1%	1918
6	36.0%	161
7	46.2%	80
8	35.3%	17
9	53.8%	13

The higher the rating of the property, the greater part of the clients flow away. Up to 30% for a property rating of 5. For a rating above 5, the samples are small for conclusions. At the same time, the correlation of leakage with this characteristic showed a moderate relationship, the largest of all.

	churn
score	0.23
city	0.017
gender	0.22
age	0.19
equity	0.35
balance	0.025
products	0.26
credit_card	0.2
last_activity	0.26
est_salary	0.048
churn	1
gender_code	0.22
yaroslavl	0.034
ribinsk	0.047
rostov	0

Phik correlation

Product quantity and churn.

products	churn rate	count
1	7.0%	3340
2	19.2%	5108
3	28.5%	1046
4	63.3%	474
5	30.0%	30

Distribution of products for churn and non-churn customers

A negative trend is observed among customers who use numerous bank products

Customer activity and churn

last_activity	churn rate	count
0	11.4%	4763
1	24.5%	5235

- Active customers churn more often
- The distribution of active and inactive clients, along with products, shows that clients who have received some additional products recently are leaking
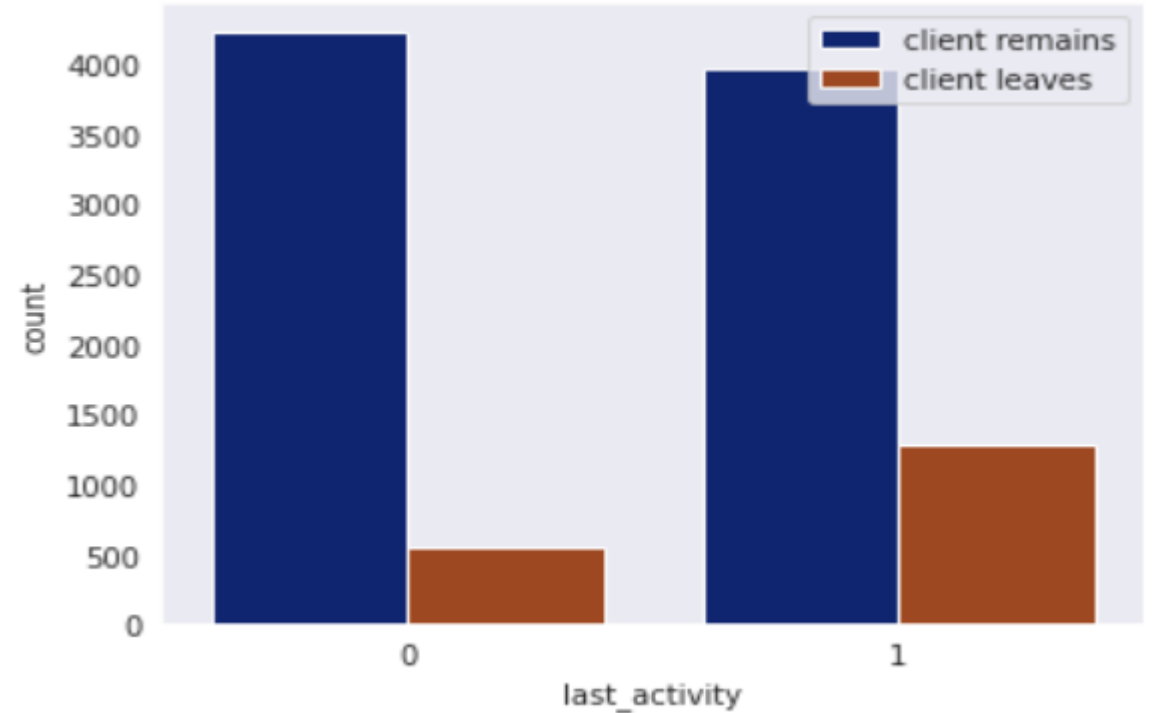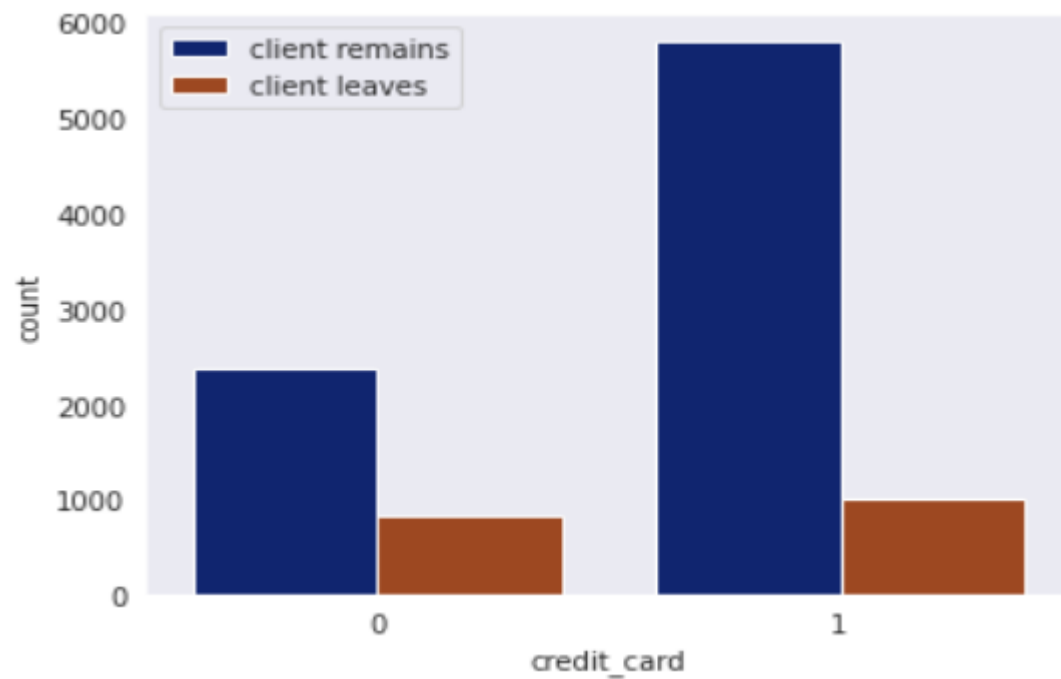
The phik-correlation matrix
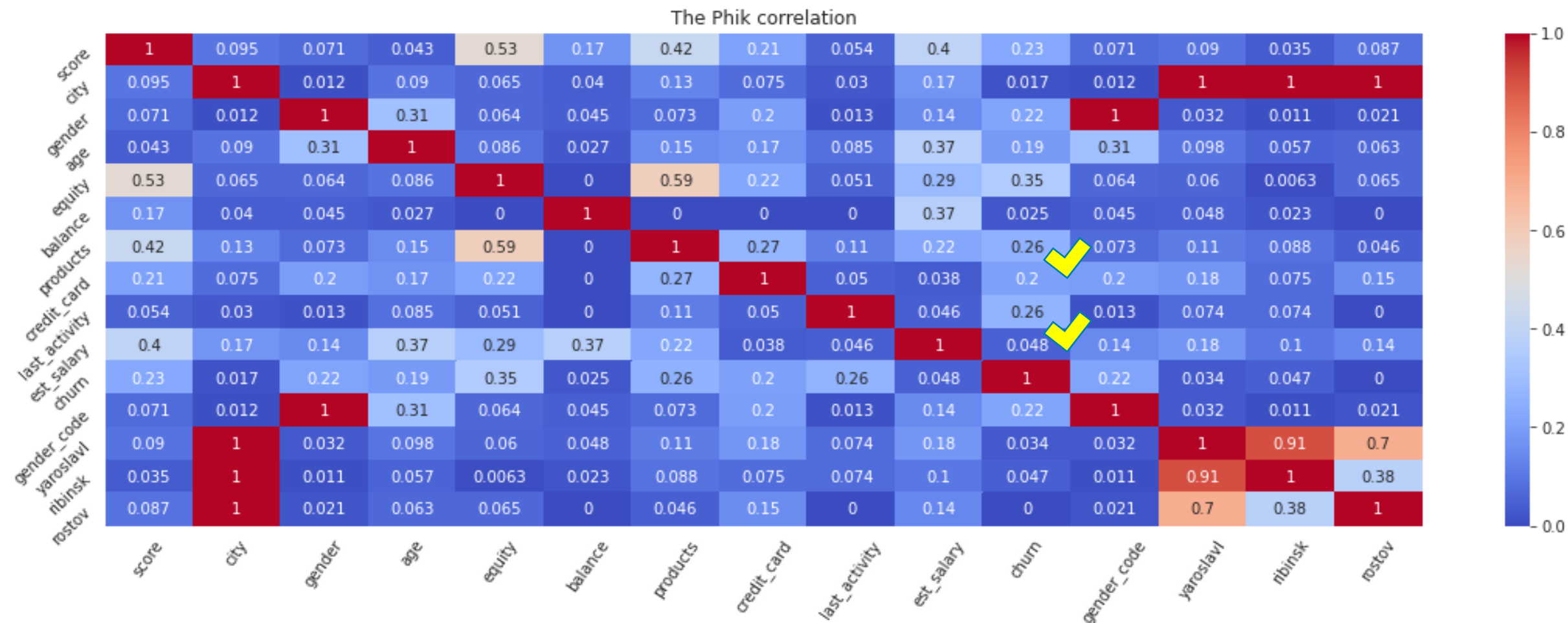
The trend towards active customer churn with additional products is confirmed by the correlation matrix

Credit card and churn

credit_card	churn rate	count
0	25.6%	3195
1	14.7%	6803

Customers who use credit cards stay with the bank more often than customers without them (14.7% vs. 25.6%)

Salary and churn in segments

gender	salary_category	churn rate	count
Ж	100к	10.1%	2196
Ж	100к-180к	15.8%	1860
Ж	180+	13.2%	935
М	100к	23.3%	1737
М	100к-180к	24.7%	1913
М	180+	22.5%	1357

- The largest outflow is observed in the segment of men with an income of 100,000 - 180,000 rubles - up to a quarter of clients
- The smallest outflow for women with an income of fewer than 100,000 rubles - 10.1%

Recommendations

1. Conduct additional research:
- ✓ get data on the dates of the introduction of new products and the flow of customers who received these products, see the dependence.
- ✓ to retain customers, 70+, in connection with their passing away.

2. Among Men aged 30-60 years, conduct an advertising campaign with additional discounts on additional products, or additional preferential conditions for using a credit card, with additional conditions for discounts from bank partners.

3. Conduct a similar promotion for people with income above 100,000 in Yaroslavl and Rostov.

Thanks for your attention

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