



Data analysis in banking sector

Elizaveta Rysyeva ICS5-61B
Language advisor: Elizaveta Razheva

START

Index

1. Problem	→	5. Segmentation by city	→
2. EDA	→	6. What influences the outflow?	→
3. Correction	→	7. Solution	→
4. Segmentation by using	→	8. End	→

Problem

Customers began to leave Beta Bank.
Every month. A little, but noticeable



1 Segmentation

2 Impact on outflow

3 Recommendations

EDA. NaN-Value in balance column



```
1    2592
0    1025
Name: creditcard, dtype: int64
```



```
2    2600
1     905
3      98
4       14
Name: products, dtype: int64
```



```
Ярославль    2418
Рыбинск      1199
Name: city, dtype: int64
```

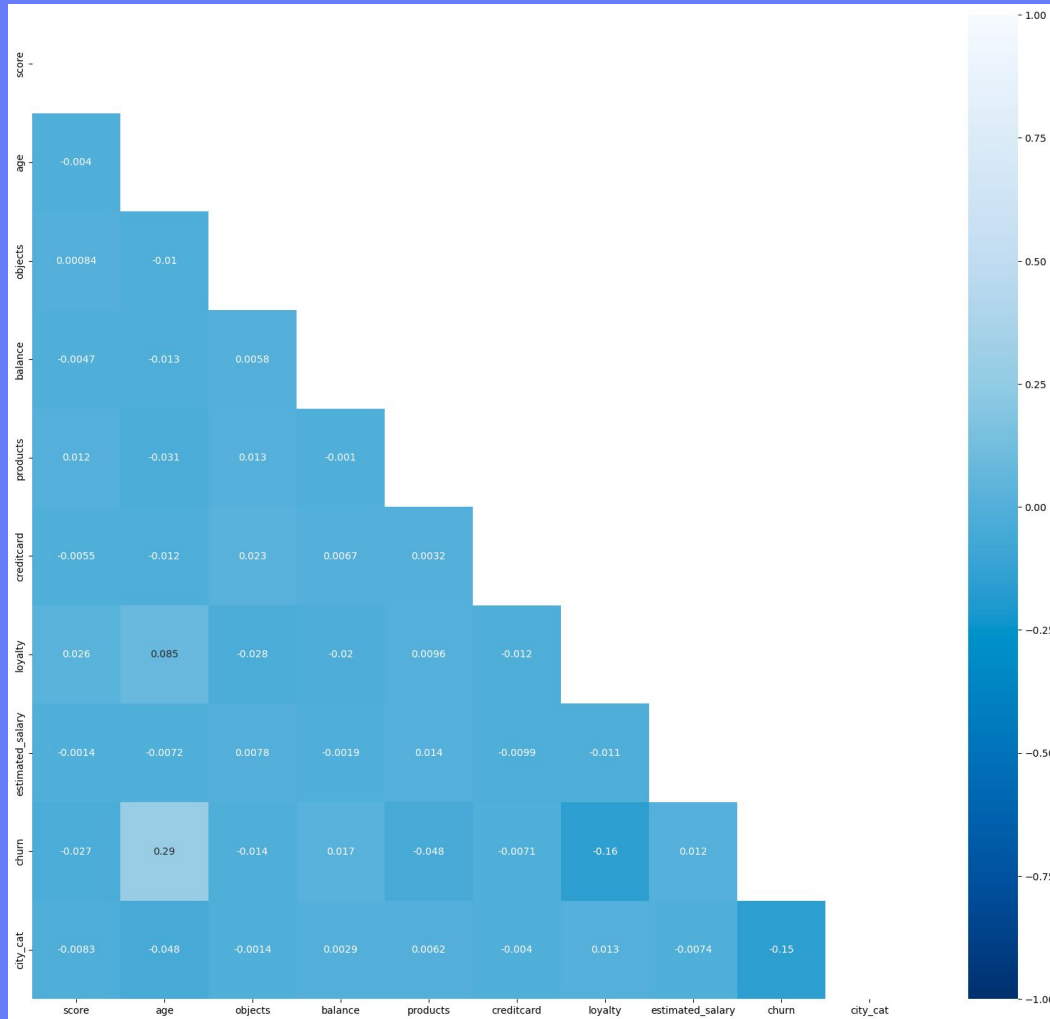


```
count    3617.000000
mean     98983.559549
std       57730.828955
min        90.070000
25%      49506.820000
50%      98618.790000
75%     148330.970000
max     199992.480000
Name: estimated_salary, dtype: float64
```

Reasons:

- 1 Nan-values can mean that client don't use debit card
- 2 Nan-values can mean that client use debit card but has a zero balance

Correlation



+ INFO

Segmentation by using products

One product

50,9%

Outflow is 28%, active and inactive clients are divided equally.

Two product

45,9%

The lowest outflow is 8%.

Three product

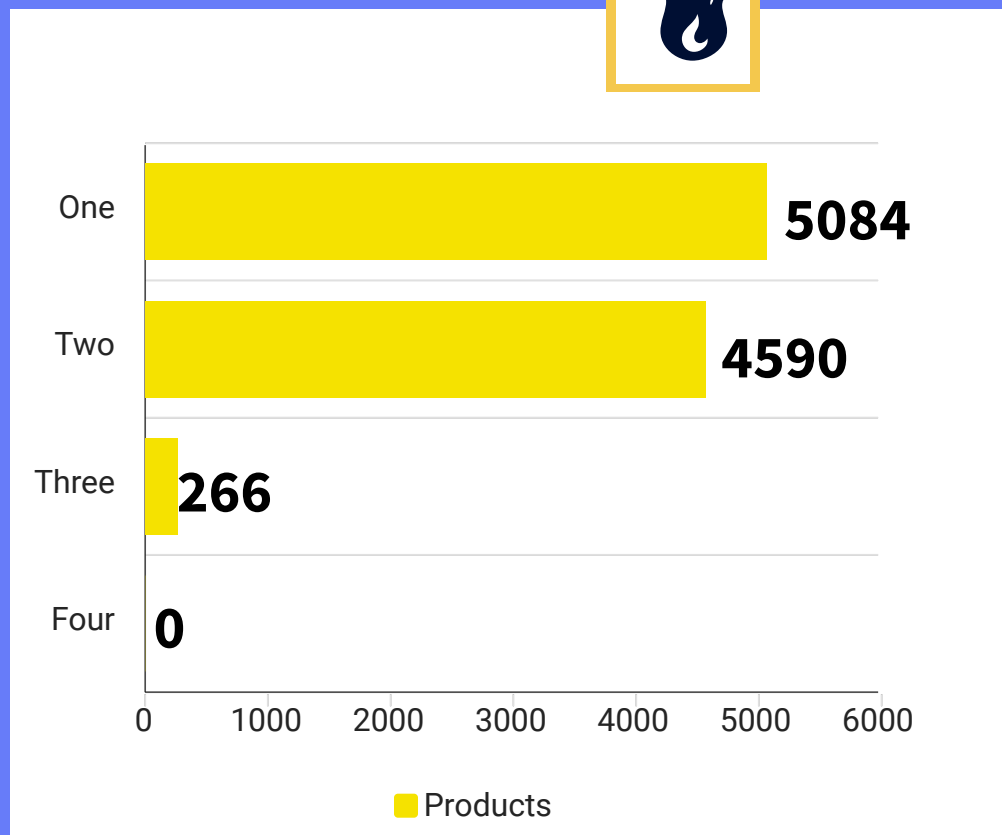
25,8%

High outflow – 86%.

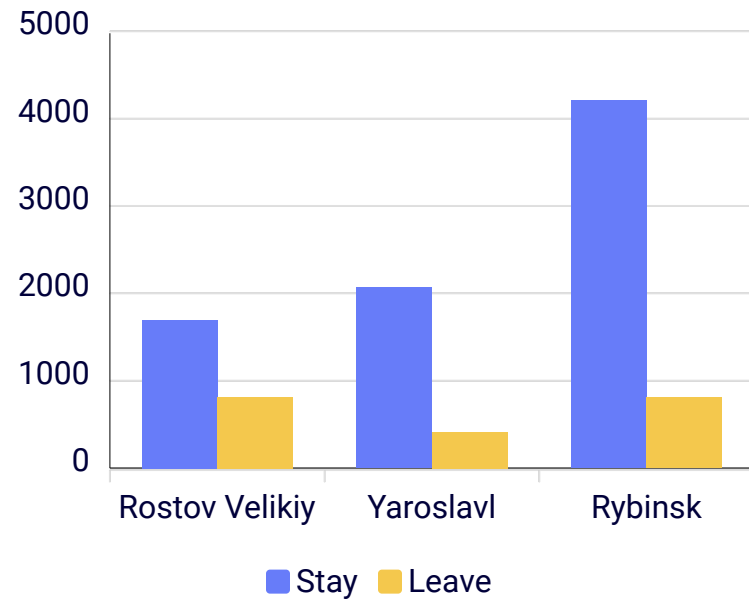
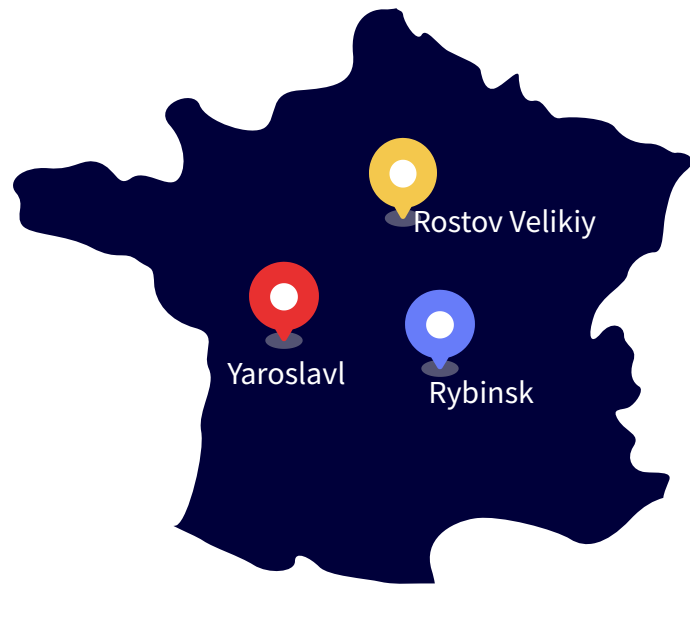
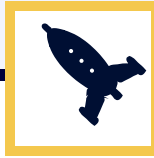
Four product

0,8%

100% outflow, the oldest group is the average age in the region of 45 years;

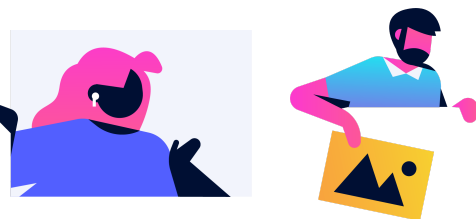


Segmentation by city



What influences the outflow?

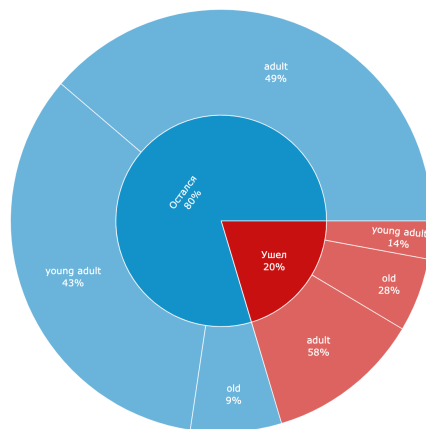
GENDER



53%

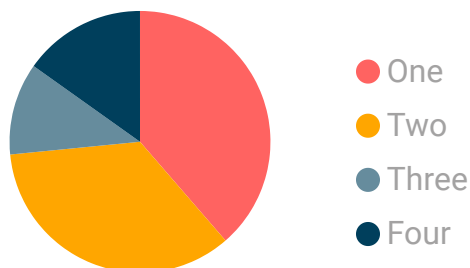
Women leave the bank more than men

AGE



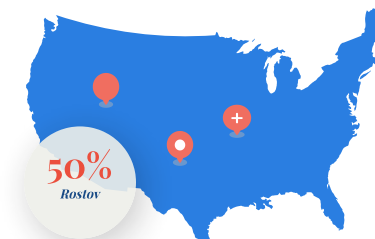
The outflow peak falls on customers of the age category in the range from 40 to 50 years.

PRODUCTS



Customers consuming three bank loan products will leave with an 86% probability.

CITY



We are observing a strange anomaly – almost 50% of the residents of Rostov Veliky fall into the outflow

Solution. Action plan

Debt consolidation

It is necessary to consolidate debt with some reduction in the interest rate for clients with 3-4 products.

New products

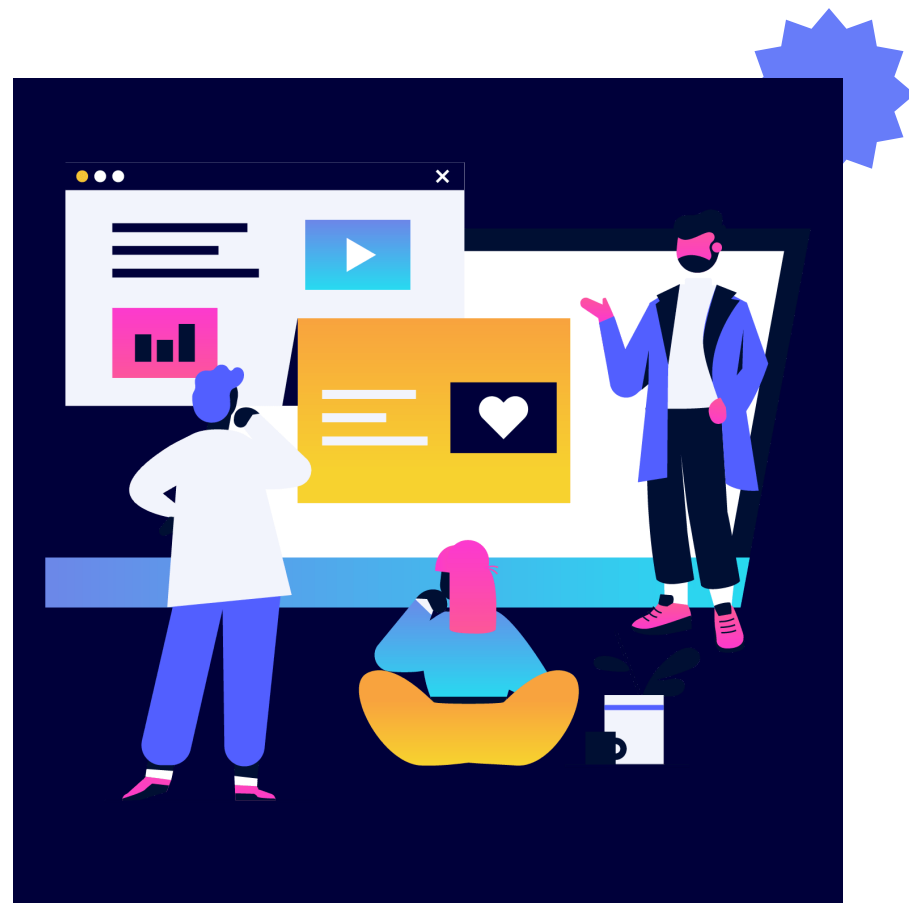
For retired users: a card of the Mir payment system
For middle-aged clients need to offer a second product at a reduced interest rate.

Marketing promotions

It is proposed to conduct marketing campaigns with large chain stores

Quality control

It is necessary to conduct a quality check rendering of services



**Thanks for
your attention.
Ask your questions**

