Bank clients segmentation

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Description and main aims

The regional bank needs to determine the profile of users who use its services. In addition, the bank needs to understand which users should be identified as prone to churn. To do so, we should:

➢ Segment the bank's client and understand which user characteristics affect their loyalty to identify areas to strengthen churn management.

➢ Analyse the bank's clients and segment users based on the number of consumed products.

For the analysis purposes we have dataset with characteristics of 10000 users from 3 cities: Rybinsk, Rostov Veliky and Yaroslavl

Results

**Specifics of users have been identified, with which it is possible to reduce churn:**

➢ Users with 1 product are less likely to be retained as customers than those with 2 products.

➢ As the number of products increases, the share of churn among users in all cities also increases. This effect may be caused by the low quality of bundled products, users being overloaded with products, and negative experience with additional products.

➢ Users over the age of 45 tend to churn, and one of the factors may be the need to have a non-zero balance. In the city of Rostov Veliky, for an unknown reason, there are no users with a zero balance, and the city has the highest churn rate, which is exacerbated in older age groups.

➢ The features of the product line allow attracting a younger audience and better retaining users in Rybinsk and Yaroslavl.

Number of users by cities
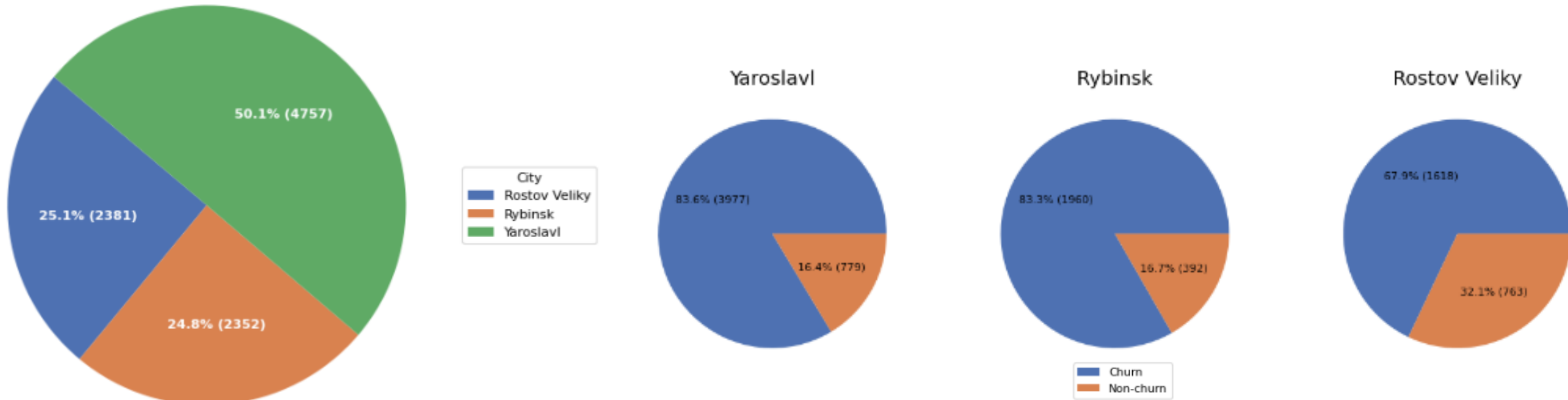
- The largest number of users is in Yaroslavl, almost 50%;

- The strongest user churn is observed in the city of Rostov Veliky (32%), while in other cities it is around 16.5%.

Churn of users with multiple products (1/2)

Distribution of users by the number of products
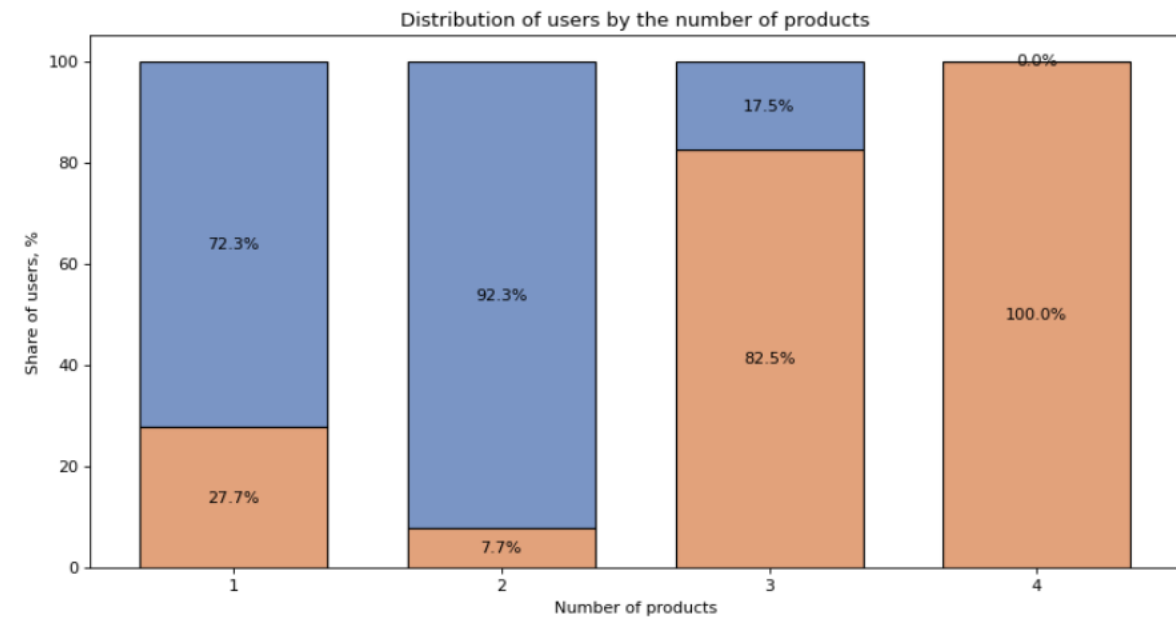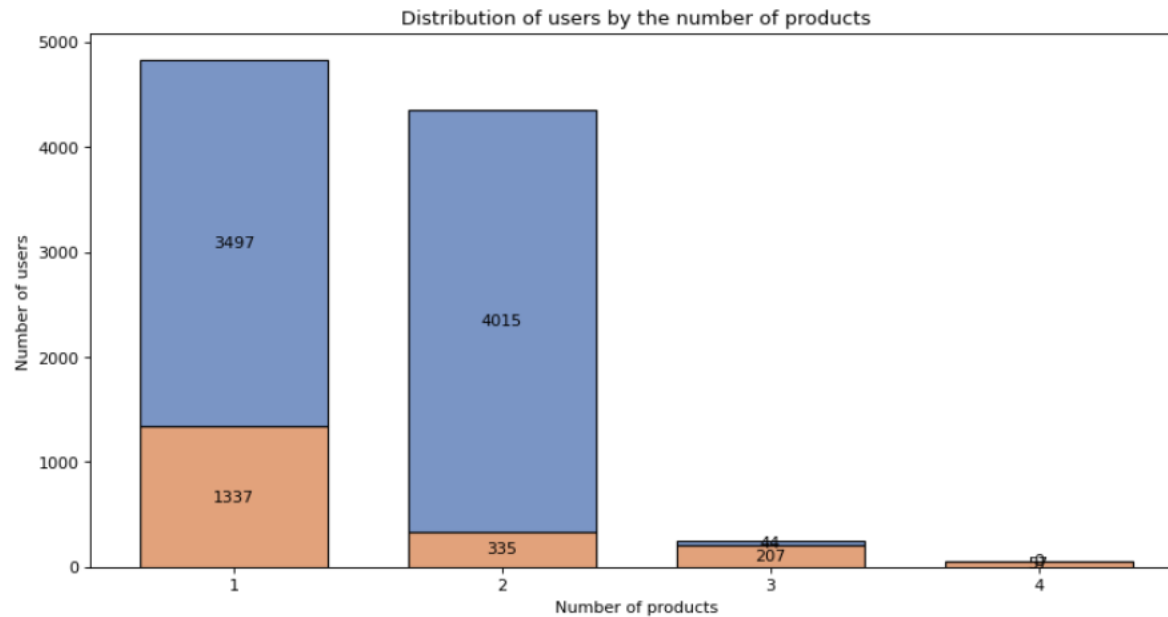
If a user has two products, they are less likely to churn compared to those with only one product. However, having a third or fourth product significantly worsens retention.

Possible reasons for this trend include:

1. Poor initial implementation of low-quality packaged products that do not retain customers;
2. Overloading users with products that are not designed for long-term retention;
3. Negative experience with one of the products that users additionally took.

# Churn of users with multiple products (2/2)
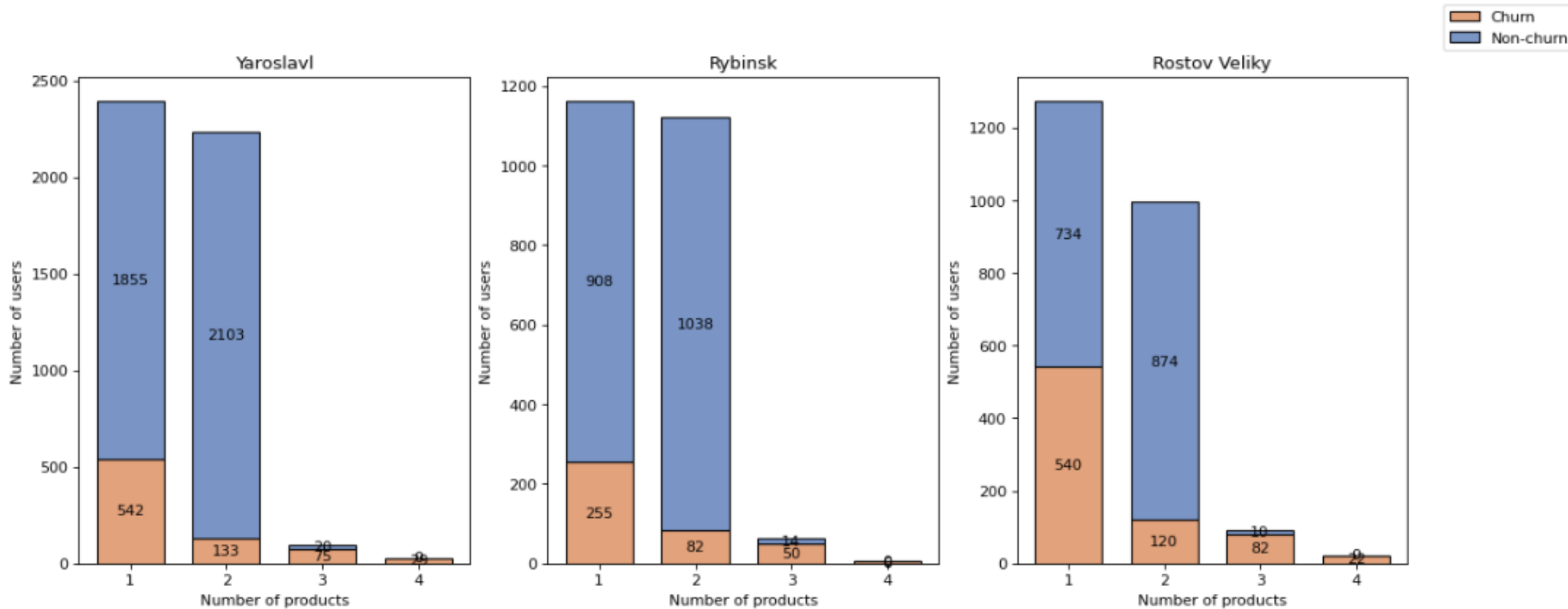
In the city of Rostov Veliky, there is a high share of churn among users with 1 product, whereas in other cities, churn is mainly observed among users with more than 2 bank products.

User balances by cities
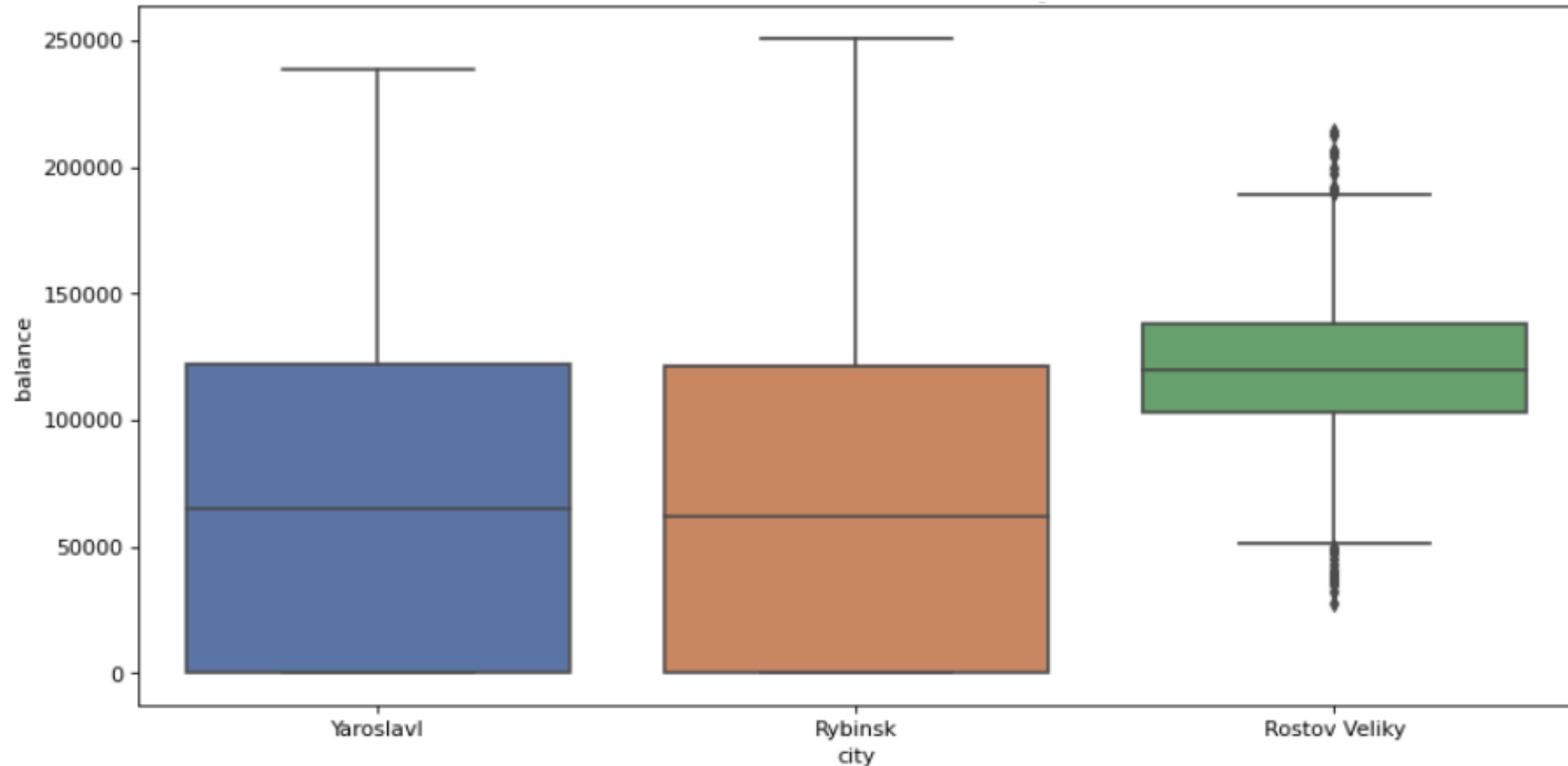
Taking into account the high churn rate and the absence of zero balances for users in the city of Rostov Veliky, it can be assumed that these characteristics are interrelated. It is necessary to review the product line in the city to control churn.

Churn of users by age groups (1/2)

Distribution of users by age groups and churn
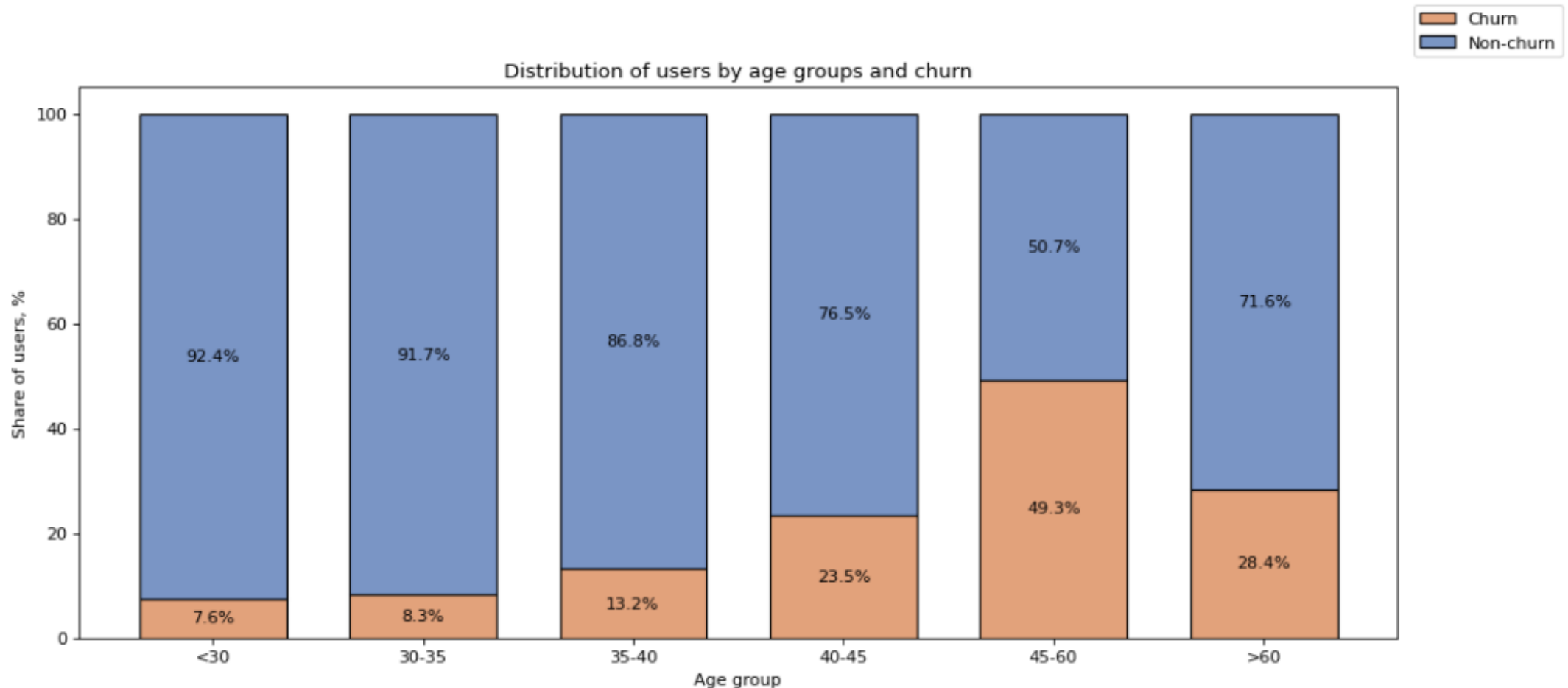
The highest churn rate is observed in the age group **"45-60".** At the same time, the churn rate in the **">60"** group is only slightly higher than in the **"40-45"** group.

It is likely that an evaluation of the product line with a focus on developing offerings for these groups is needed.

Churn of users by age groups (2/2)
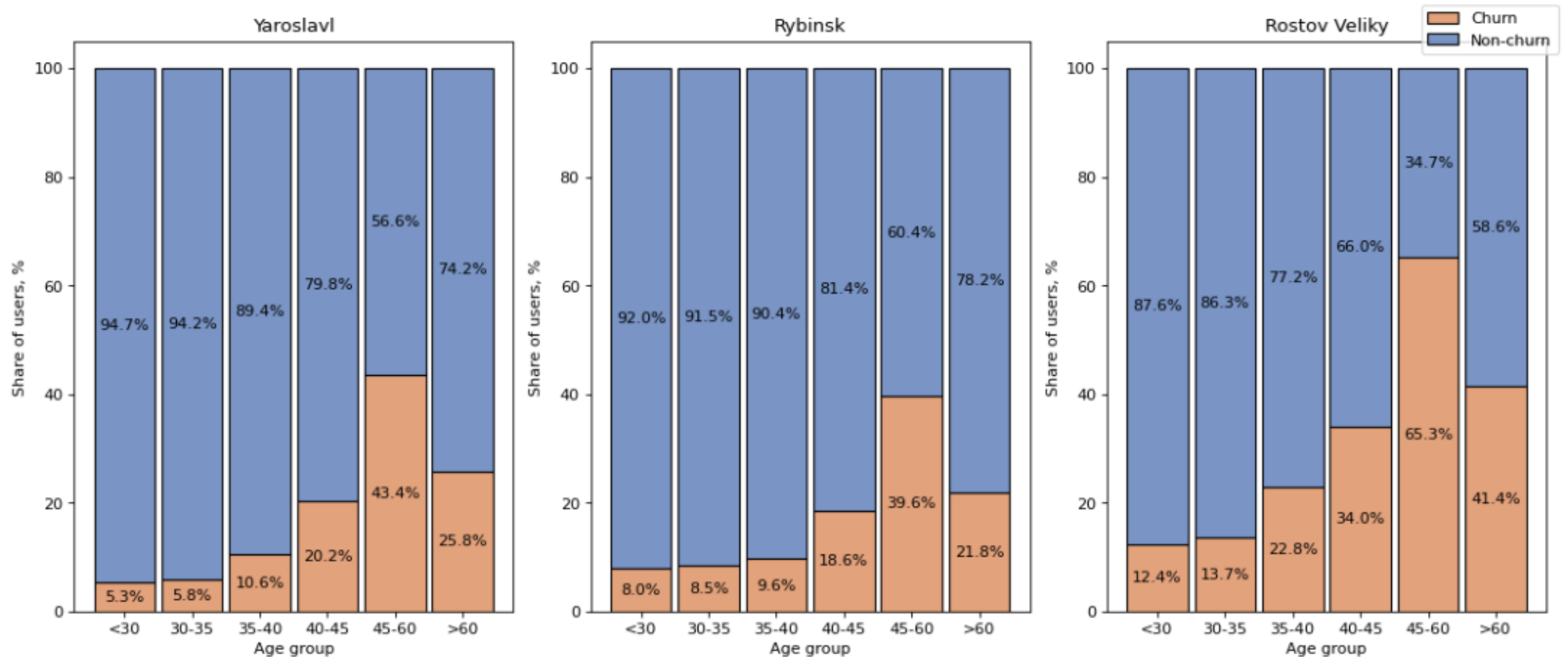
Yaroslavl and Rybinsk have comparable churn rates across all categories, while in Rostov Veliky the churn rate is noticeably higher across all categories.

Segmentation of users by the number of products

As the number of products exceeds 2, users show a strong increase in churn rate across all cities:

- **1 product:** a larger number of users in all cities (4834). On average, churn in this group is 27.7%, about 22% in Yaroslavl and Rybinsk, and 42% in the city of Rostov Veliky.
- **2 products:** 4350 users. Such users are less prone to churn: 6% and 7% in Yaroslavl and Rybinsk, respectively, 12% in the city of Rostov Veliky.
- **3 products:** 251 users. A sharp increase in churn compared to 2 products: 78% and 79% in Rybinsk and Yaroslavl, respectively, 89% in the city of Rostov Veliky.
- **4 products:** less than 1% of users (57). All users in this segment have churned.

**Recommendation:**
1. Check which products users purchase as add-ons to identify the reasons for high churn among customers with 3 and 4 products. Such an effect may be caused by low-quality bundle products, user overload with unnecessary products, and negative experience.
2. Compare categories of users with 1 and 2 products to determine what causes users with 2 products to be better retained.

Segment "Users over 45 years old"

They tend to churn, and one of the factors may be the need to have a non-zero balance. In the city of Rostov Veliky, for an unknown reason, there are no users with a zero balance, and the city has the highest churn rate, which is exacerbated in older age groups.

Recommendation: if possible, expand the product line of Yaroslavl/Rybinsk to Rostov Veliky and consider age-specific offers.
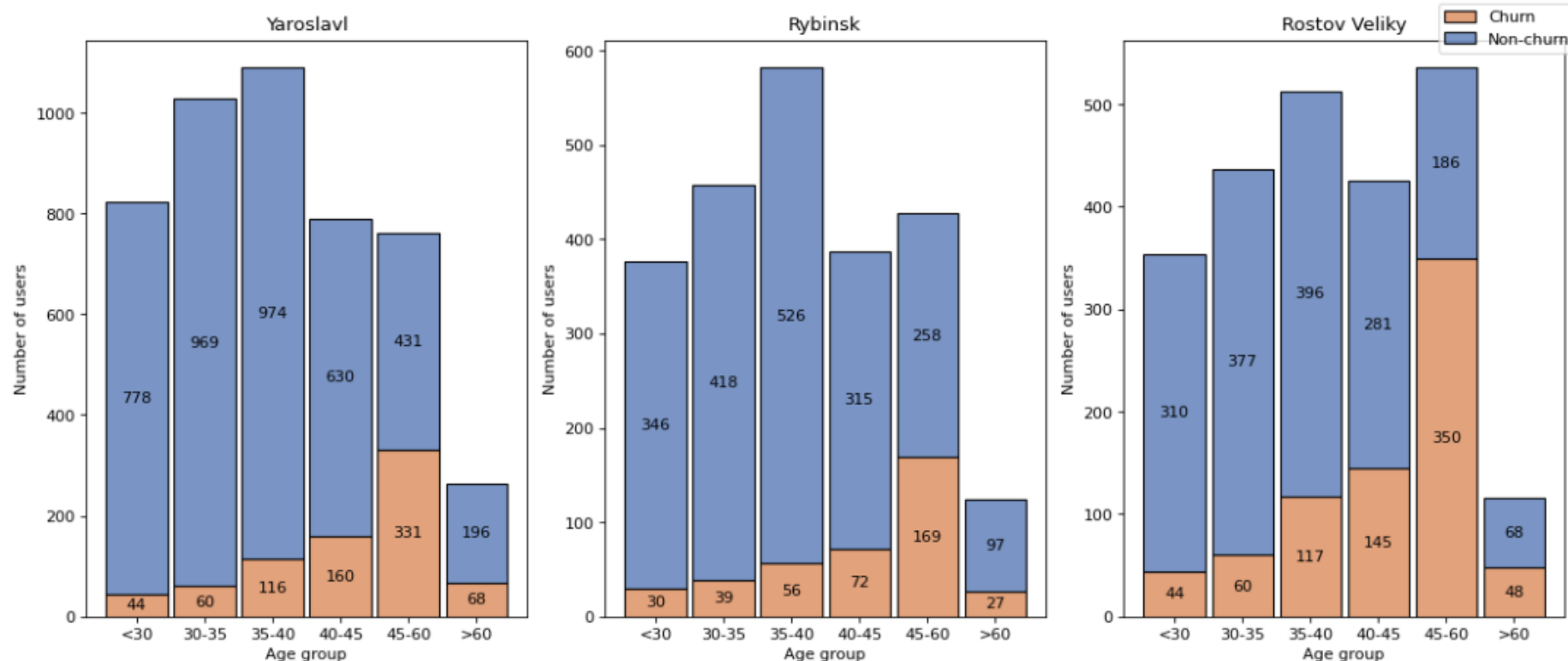
Segment "Users from Yaroslavl"

People of both genders aged 30-45 who use credit cards and own property.

➤ The largest number of clients **(50% of bank users);**

➤ The average age of users is about **38.5 years**, 0.5-1 year younger than in other cities. The majority of users are aged **27-40;**

➤ Strong churn among users in the **"45-60 years"** age group, as well as noticeable churn in the **"40-45 years"** and **">60 years"** groups. Churn in the city is 16.4%, comparable to Rybinsk and twice as low as in Rostov Veliky;

➤ Distribution of men and women among users: **55%/45%;**

➤ Average credit rating: **650**, about **70%** of users have a credit card;

➤ Average user balance: **62.6 thousand rubles.** A significant number of users do not have a balance.

➤ On average, there are about **5 objects per user**, and the number of users without objects is insignificant.

Рекомендация: similar recommendations as for the segments by number of products and **«Users over 45 years old»**.

Segment "Users from Rostov Veliky"

People of both genders aged 35-60 with a high churn rate who use credit cards, own property, and maintain a non-zero balance on their account.

➢ Shares popularity with Rybinsk **(25% of bank users);**

➢ The average age of users is about **40 years**, the highest among other cities. The category of users **"45-60 years old"** predominates, most of whom have churned;

➢ Churn rate is significantly higher across all age categories than in other cities. On average, churn rate is **32%;**

➢ Distribution of men and women among users**: 53%/47%;**

➢ Average credit rating: **652**, about **72%** of users have a credit card;

➢ Average user balance: **119.8 thousand rubles**. The distinctive feature of the city is the absence of users with zero balance;

➢ On average, each user has about **5 objects**, and the number of users without objects is negligible.

Recommendation: compare the product line with Yaroslavl and Rybinsk. If there are differences, analyze the feasibility of transferring the product lines from Yaroslavl and Rybinsk with a lower churn rate. It is possible that the lack of products that do not require a balance is leading to a sharp increase in churn.

Segment "Users from Rybinsk"

People of both genders aged up to 40 years who use credit cards and own property.

➢ Shares popularity with the city of Rostov Veliky **(25% of bank users);**

➢ The average age of users is about **39 years**. The majority of users are aged **27-40 years**;

➢ There is a significant churn of users in the **"45-60 years"** group, as well as noticeable churn in the **"40-45 years"** group. The churn rate in the city is **16.7%**, which is comparable to Yaroslavl and two times lower than Rostov Veliky;

➢ The distribution of men and women among users is **56%/44%**;

➢ The average credit rating is **652**, and about **70%** of users have a credit card;

➢ The average user balance is **62,000 rubles**. There are a significant number of users who do not have a balance;

➢ On average, each user has about **5 objects**, and the number of users without objects is insignificant.

Recommendation: similar recommendations as for segments based on the number of products and **"Users older than 45"**.