CUSTOMER SEGMENTATION ANALYSIS REPORT

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The purpose of making the report

Based on creating the RFM model (Recency, Frequency, Monetary), I would like to assist the Customer Support Team in answering key questions about their customers: who they are, what their characteristics are, and how their purchasing behavior is reflected in the sales data.

This analysis aims to empower the Customer Support Team:

✓ Be able to tailor strategies for each distinctive customer segment

✓ Have better understand the unique needs and behaviors of different customer groups.

RFM Model

What is RFM Model?

The RFM model serves as a critical data analysis tool within the Customer360 analytics platform—an integrated platform centered around customer interactions.
This model focuses on analyzing transaction data, offering a holistic view of customer behavior. It aids the company in gaining a deeper understanding of its customers, providing valuable insights into customer behavior through a comprehensive lens.

"RFM" is an abbreviation for three key factors:
1.Recency (R): This metric gauges the time elapsed since the customer's last purchase or interaction with the company, providing insights into the current 'vitality' of the relationship between the customer and the company.
2.Frequency (F): The frequency of a customer's shopping or interaction with your company within a specific timeframe. It indicates whether the customer has a habit of making frequent purchases or interactions.
3.Monetary (M): This is the total value that a customer has spent on your products or services within a specific timeframe. This factor indicates the actual value of each transaction made by the customer.

The benefits of the RFM model for the goal of year-end sales growth

1. **Deepening Customer Understanding**: The RFM model enables you to **categorize customers into groups** based on their behavior. This helps you gain a better understanding of the needs, preferences, and consumption patterns of each group.

2. **Personalized Customer Care**: By analyzing RFM, you can **create personalized care plans** for each customer group, providing them with content, offers, and interactions tailored to their current relationship with you.

3. **Optimizing Marketing Campaigns**: The RFM model helps you **create precisely targeted marketing campaigns** while optimizing resources based on the priorities and value of each customer group.

4. **Increasing Conversion Rates**: Through personalized care and interactions, the RFM model has the potential to **increase customer conversion rates** from shopping or interaction, thereby boosting sales and profits.

5. **Reducing Churn Rates**: By interacting and delivering value to customers based on their needs, the RFM model helps **reduce churn rates** and **maintain long-term customer relationships**.

6. **Resource Optimization**: RFM analysis helps you **focus resources on customer groups with high potential**, optimizing resources and cutting unnecessary costs.

In summary, the RFM model brings significant benefits to optimizing marketing processes and customer care, maximizing the value from each customer relationship

Explanation of the scoring scale for the R, F, M indices

In this analysis, each R, F, M index is divided into four levels: 1-2-3-4, corresponding to increasing or decreasing levels of positive behavior.

Ví dụ:

R – Recency (time since last purchase): the number of days from the customer's last purchase to the report deployment date. A customer with R = 1 indicates the lowest number of days (from the last purchase to September 1), and R = 4 indicates the highest number of days. The lower the index, the more recent the customer's purchase (more positive behavior).

F – Frequency (frequency of purchases): The total number of customer purchases. A customer with F=1 indicates the fewest purchase occasions, while F=4 indicates the highest average number of purchases within a year, placing them in the highest category.

M – Monetary (total Spending): the total amount of money spent by the customer. A customer with M=1 indicates the lowest spending, while M=4 indicates the highest spending within a year, placing them in the highest category.

(Positive Behavior Increasing Gradually)
Worst --> Best :
R: 4 --> 1
F: 1 --> 4
M: 1 --> 4

Scoring Range for Each Scale

* Based on Current Data

Metrics	Level	Range	Unit
R	1	1 – 30	Days
	2	31 – 61	Days
	3	62 – 91	Days
	4	92	Days
F	1		
	2	1	Times
	3		
	4	2 – 5	Times
M	1	0 – 12.097	VND
	2	12.143 – 41.855	VND
	3		
	4	95.000 – 1.120.000	VND

Data transform: SQL

Log Data:
- CustomerID: Customer identification code.
- Purchase_Date: Date of purchase.
- GMV: Gross Merchandise Value, total value of the order.

Each customer will have one or more orders.

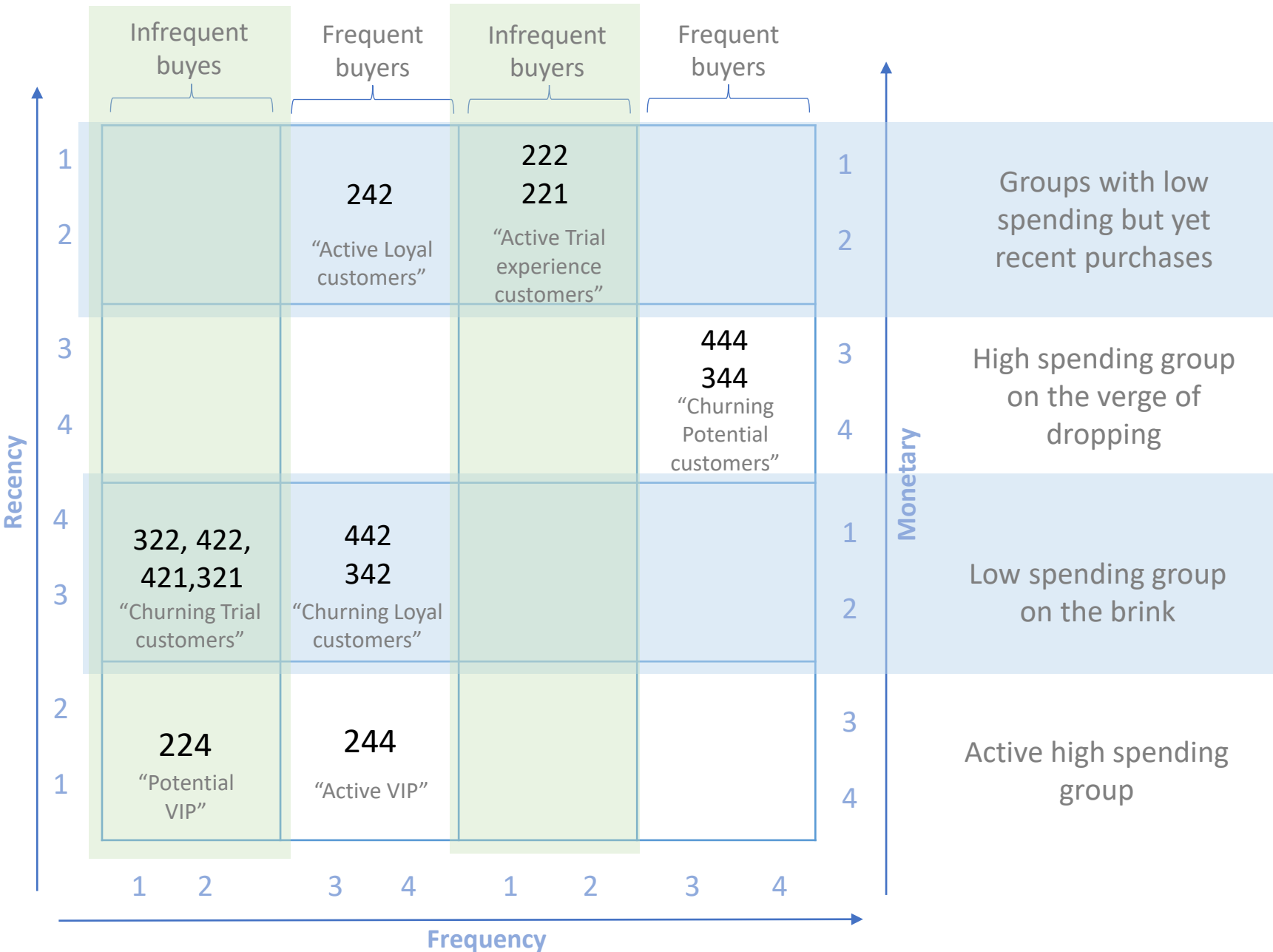| ID	CustomerID	Purchase_Date	GMV
0	1327813	2022-06-01 00:00:00.000	95,000
1	1157830	2022-06-01 00:00:00.000	75,000
2	873915	2022-07-01 00:00:00.000	95,000
3	3505071	2022-07-01 00:00:00.000	90,000
4	2930918	2022-07-01 00:00:00.000	109,091

Output (OLAP data):
- Recency: Number of days since the customer's last purchase, calculated up to the analysis date.
- Frequency: Purchase frequency of the customer.
- Monetary: Total value of all orders.
- R, F, M: Scores based on the values of Recency, Frequency, and Monetary using the Statistical IQR method.
- RFM: Combination of the three scores, R, F, M.

CustomerID	Recency	Frequency	Monetary	R	F	M	rfm
196,526	61	1	80,000	2	2	4	224
2,398,522	61	1	80,000	2	2	4	224
2,436,564	61	1	80,000	2	2	4	224
2,310,075	61	1	80,000	2	2	4	224
2,299,275	61	1	80,000	2	2	4	224
570,978	61	1	80,000	2	2	4	224
2,333,862	61	1	80,000	2	2	4	224
2,124,448	61	1	80,000	2	2	4	224
2,066,861	61	1	80,000	2	2	4	224
1,792,727	61	1	80,000	2	2	4	224

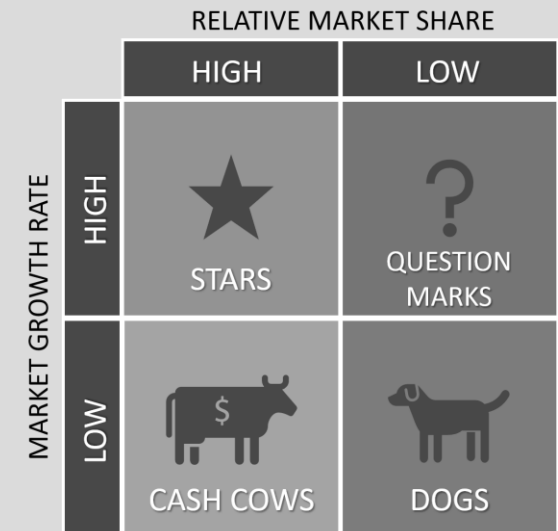** SQL code snippet*

Analysis

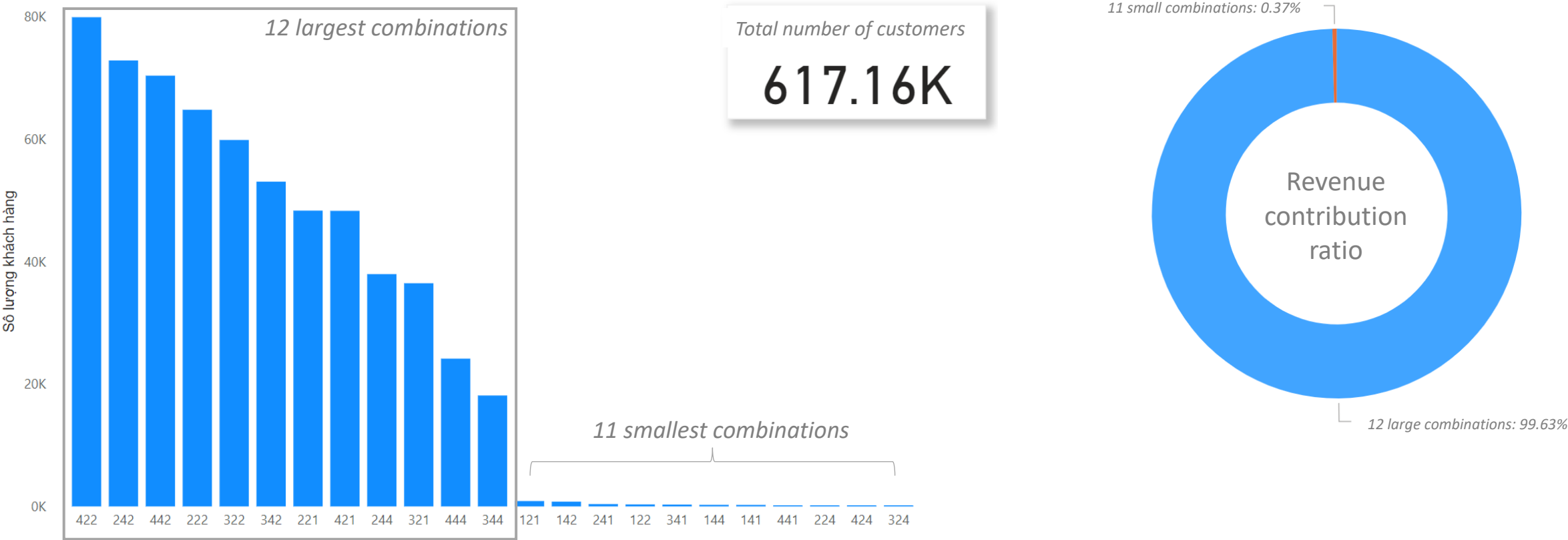# RFM Matrix - 12 main combinations are divided into 6 major customer groups as follows:

Recency (vertical axis) / **Frequency** (horizontal axis) / **Monetary**

Column groupings (Frequency):
- Infrequent buyes (1, 2)
- Frequent buyers (3, 4)
- Infrequent buyers (1, 2)
- Frequent buyers (3, 4)

				Monetary	Description
Recency 1–2		**242** "Active Loyal customers"	**222 221** "Active Trial experience customers"		**1–2** Groups with low spending but yet recent purchases
Recency 3–4				**444 344** "Churning Potential customers"	**3–4** High spending group on the verge of dropping
Recency 4–3	**322, 422, 421, 321** "Churning Trial customers"	**442 342** "Churning Loyal customers"			**1–2** Low spending group on the brink
Recency 2–1	**224** "Potential VIP"	**244** "Active VIP"			**3–4** Active high spending group

- RFM Matrix is inspired by the BCG Matrix in Marketing for product control and segmentation

RELATIVE MARKET SHARE — HIGH / LOW
MARKET GROWTH RATE — HIGH / LOW

- STARS
- QUESTION MARKS
- CASH COWS
- DOGS

This report will mainly focus on 12 largest combinations which bring 99.63% of revenue
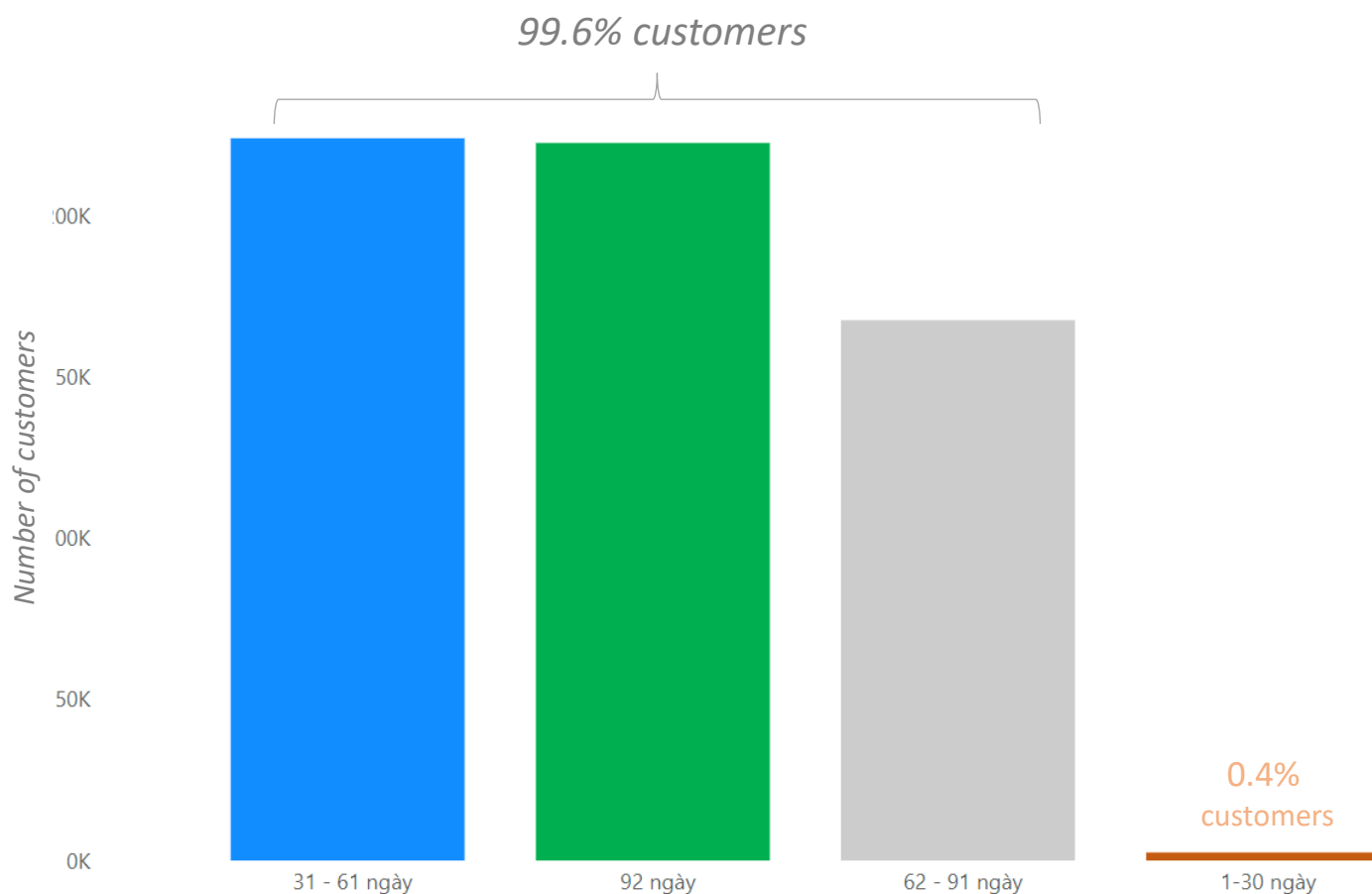
After analyzing data, over **617K customers** are divided into **23 RFM combinations**.
Each combination will have **3 attributes: R** – the number of days from the customer's last purchase to the report deployment date, **F** – average numbers of order per contract year, **M** – total paid amount per contract year.

Among them, **12 LARGEST** combinations make up 96% of total customers. The remaining **11 smaller combinations** only accounts for 4% of the customer base.

12 largest combinations

11 smallest combinations

Total number of customers

617.16K

11 small combinations: 0.37%

Revenue contribution ratio

12 large combinations: 99.63%

Customer repurchase behaviors (Recency metric)

99.6% customers did not return to make purchases within 1 – 3 months

99.6% customers

Number of customers

00K

50K

00K

50K

0K

0.4% customers

31 - 61 ngày   92 ngày   62 - 91 ngày   1-30 ngày

The highest customer ratio là is the customers group with the latest purchase within 1 – 2 months, making up 36.33%.

The group with latest purchase from 92 days ago accounts 36%, is a warning sign indicating there were a lot of customers having stop making purchases

Only 0.4% of customer base had the latest purchases within lesser than 1 month.

Concern: How to encourage customers in the 31 – 61 days group come back to purchase more frequently.
We need to investigate the reason why there were so many customers in the 92 days group stopping purchasing.

Customer purchase frequency (Frequency metric)

45% of customers fall into the most frequent purchasing group (0.5 – 5 times/ year)

This group brings 80% revenue, about 21B/ year. Loyal customers with low spending account the highest ratio in this group .
But small ratio of VIP and potential customer with high spending leads to high revenue for this group.

80.58%
Revenue
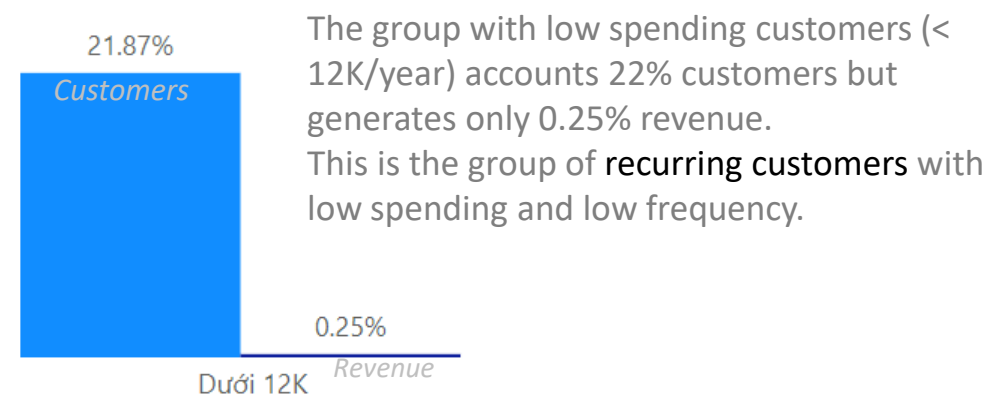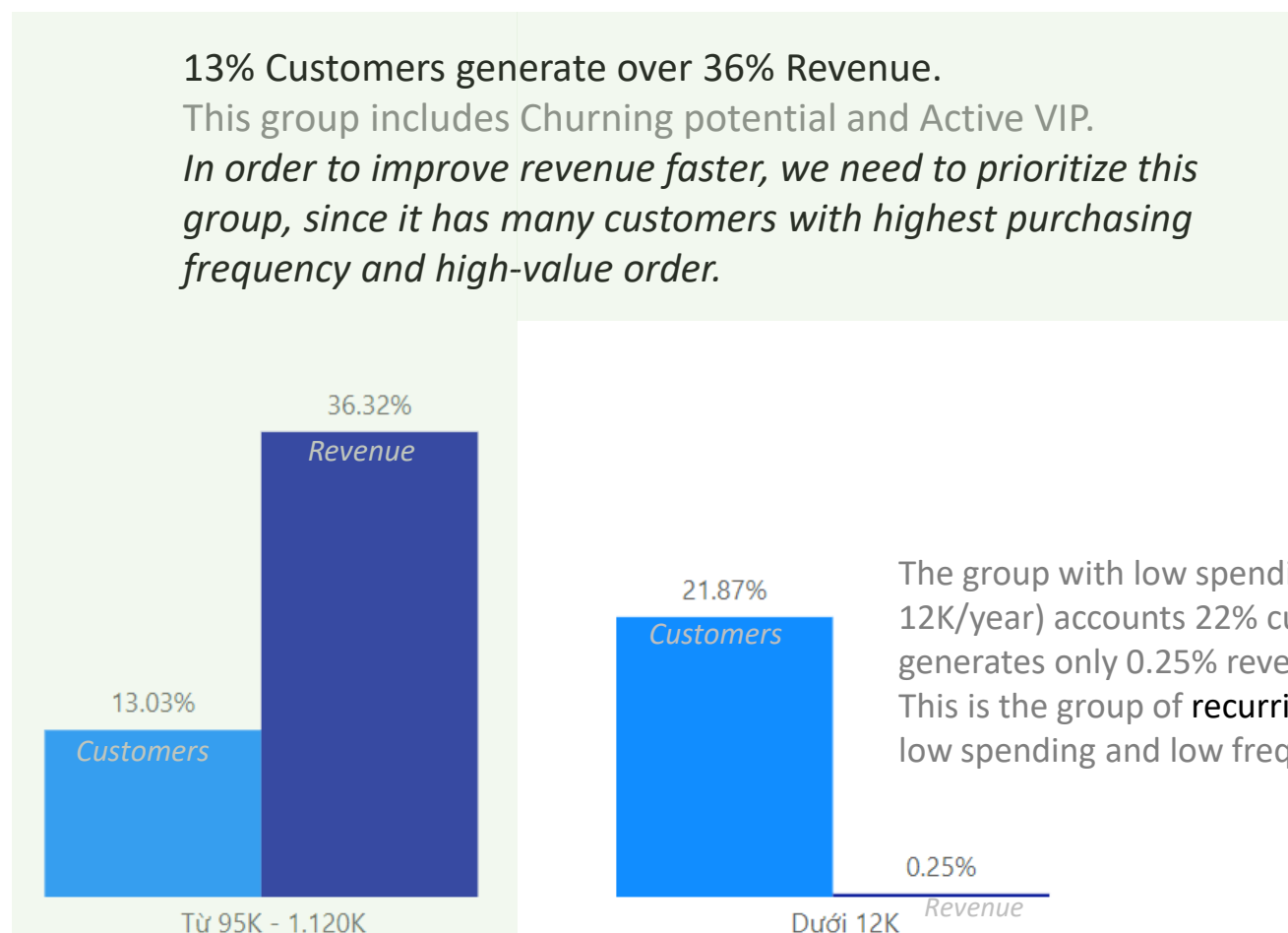
45.12%
customers

Từ 0.5 - 5 lần
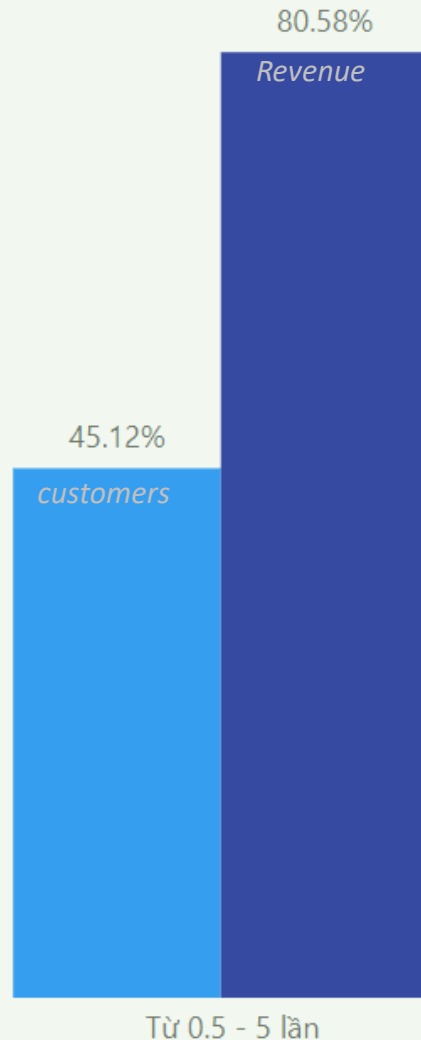
This group has purchasing frequency below 0.5 times/ year, but accounts for nearly 55% of customers, only bring 19% of total revenue, about 5B/ year. This group includes recurring customers and trial experience customers.

54.88%
Customers

19.42%
Revenue

Dưới 0.5 lần
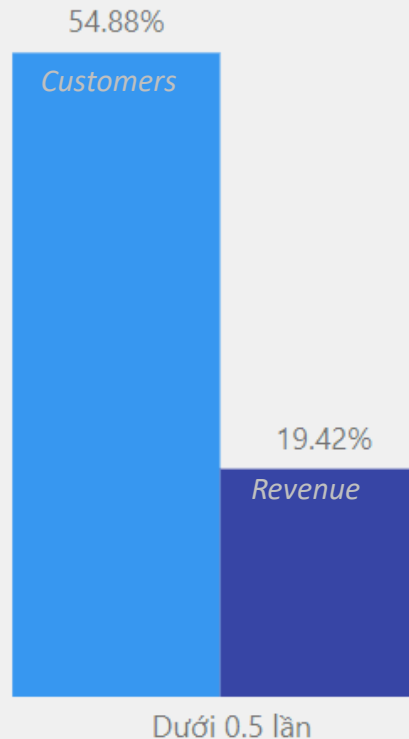
Customer spending level (Monetary metric)

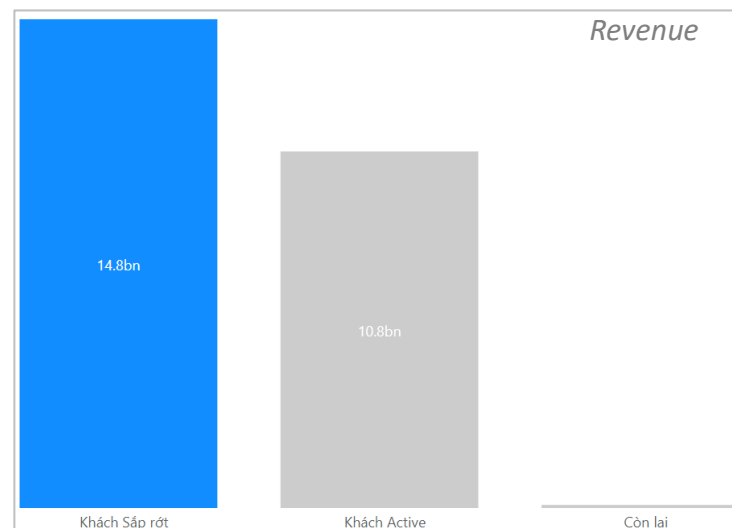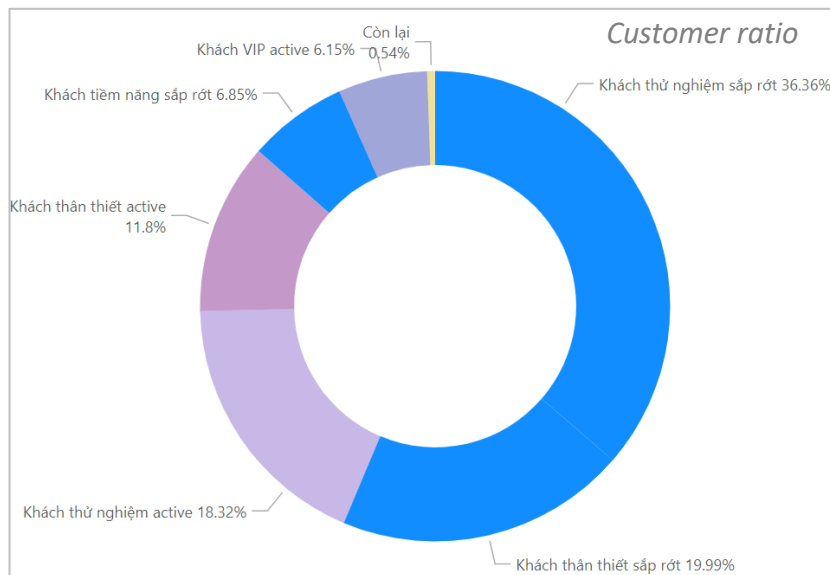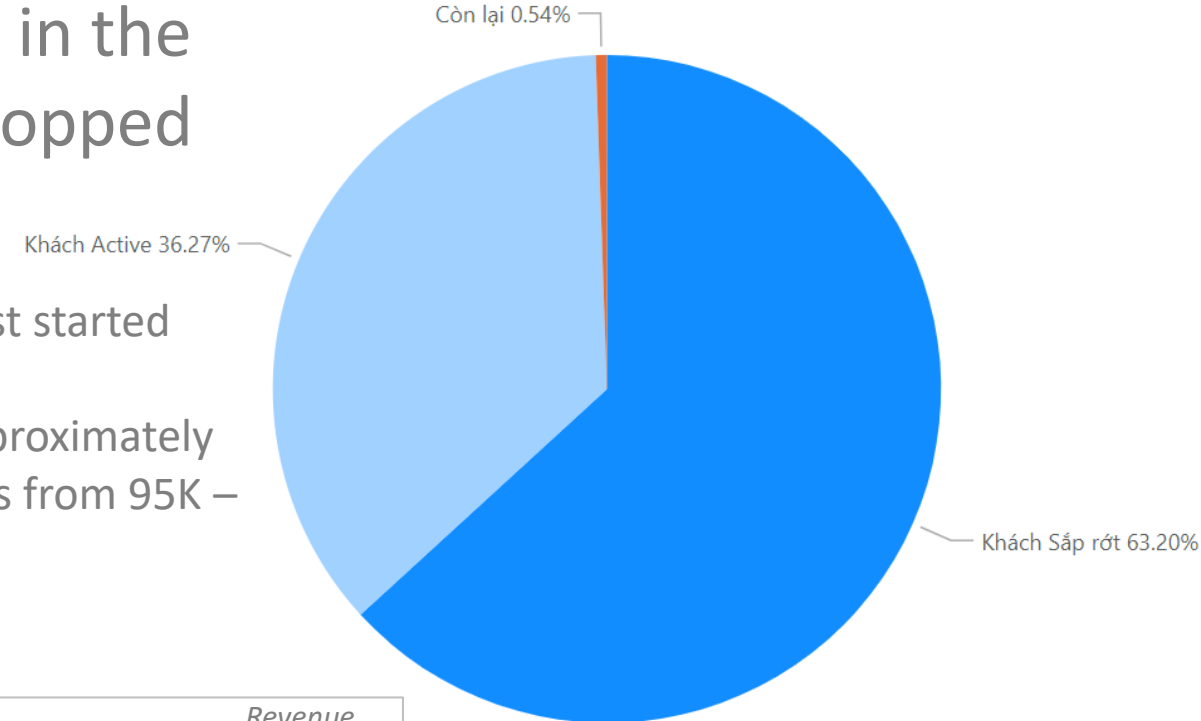# 65% Customers contributing 63% Revenue has spent from 12K – 42K/customer/year

This is the largest group, including loyal customers (churning/active), trial experience customers (churning/active), having frequent purchases with low-value orders. The customers in this group might be sensitive with price, just started to purchase for trial or have low income.

65.10%
Customers

63.42%
Revenue

13% Customers generate over 36% Revenue.
This group includes Churning potential and Active VIP.
In order to improve revenue faster, we need to prioritize this group, since it has many customers with highest purchasing frequency and high-value order.

36.32%
Revenue

21.87%
Customers

The group with low spending customers (< 12K/year) accounts 22% customers but generates only 0.25% revenue.
This is the group of **recurring customers** with low spending and low frequency.

13.03%
Customers

0.25%
Revenue

Từ 12K - 42K

Từ 95K - 1.120K

Dưới 12K

Customer status (Churning – Active)

62% customers – 390.038 customers , are in the status of **"churned"** or **"churning"**, have stopped purchasing for 2 – 3 months.

In this group, **36% customers are trial experience customers** – just started purchasing recently with low-value orders and low frequency .
About **20% customers** are loyal, with many low-value orders. Approximately **7% potential customers**, purchased many times with order values from 95K – 1.200.000/year

Còn lại 0.54%

Khách Active 36.27%

Khách Sắp rớt 63.20%

Customer ratio

Còn lại 0.54%
Khách VIP active 6.15%
Khách tiềm năng sắp rớt 6.85%
Khách thân thiết active 11.8%
Khách thử nghiệm active 18.32%
Khách thân thiết sắp rớt 19.99%
Khách thử nghiệm sắp rớt 36.36%

Revenue

14.8bn

10.8bn

Khách Sắp rớt   Khách Active   Còn lại

Concern: The group generating nearly 5B/year are churning. We need to investigate the reason this group are about to stop purchasing and find solution to keep these customers with us.

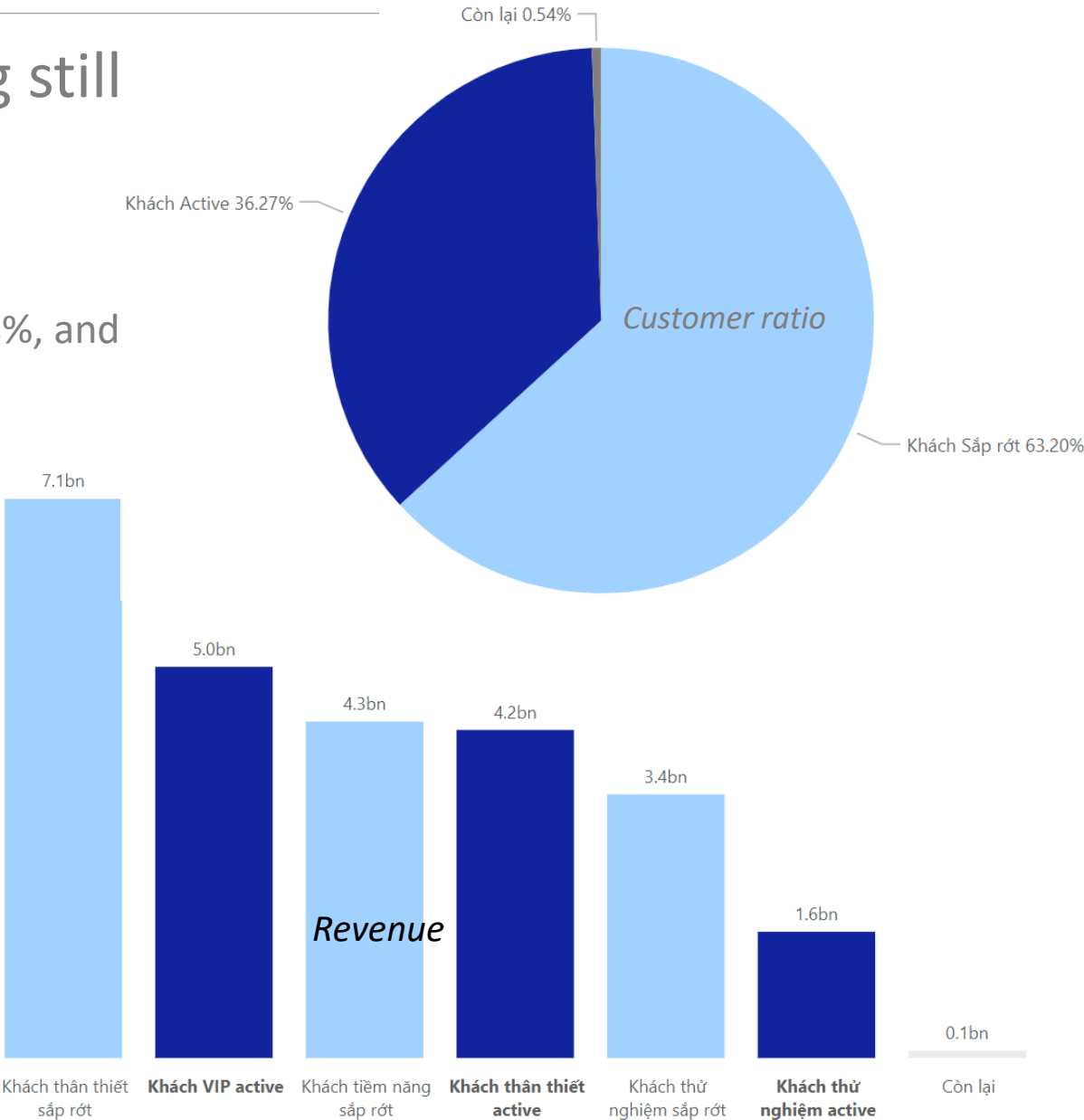*Customer status (Churning – Active)*

About 35% customers are active, meaning still having purchase within 1-2months.

Active VIP accounts for 6.15%, Loyal customers accounts for 11.8%, and Active trial customers are 18.32%.

The group of active customers generated 5B revenue, accounting for 42% total revenue per year. We will improve much of our revenue if we can encourage this group to increase their order values.

Active loyal customers bring 4.2B revenue và Active trial customers generated 1.6B revenue

Concern: What makes 18.32% customers continue purchasing while over 36% customers have stopped?

Còn lại 0.54%

Khách Active 36.27%

Customer ratio

Khách Sắp rớt 63.20%

7.1bn

5.0bn

4.3bn

4.2bn

3.4bn

Revenue

1.6bn

0.1bn

Khách thân thiết sắp rớt | **Khách VIP active** | Khách tiềm năng sắp rớt | **Khách thân thiết active** | Khách thử nghiệm sắp rớt | **Khách thử nghiệm active** | Còn lại

Detailed Analysis

The group of "Churning loyal customers" has the highest revenue ratio – nearly 28%, approximately 7.1 Billiions

This group ranked second in term of customer numbers. But it ranked first in term of revenue contribution.
If this group stop purchasing, we will lose 7.1B next year.

"Churning loyal customers" 28% Revenue.
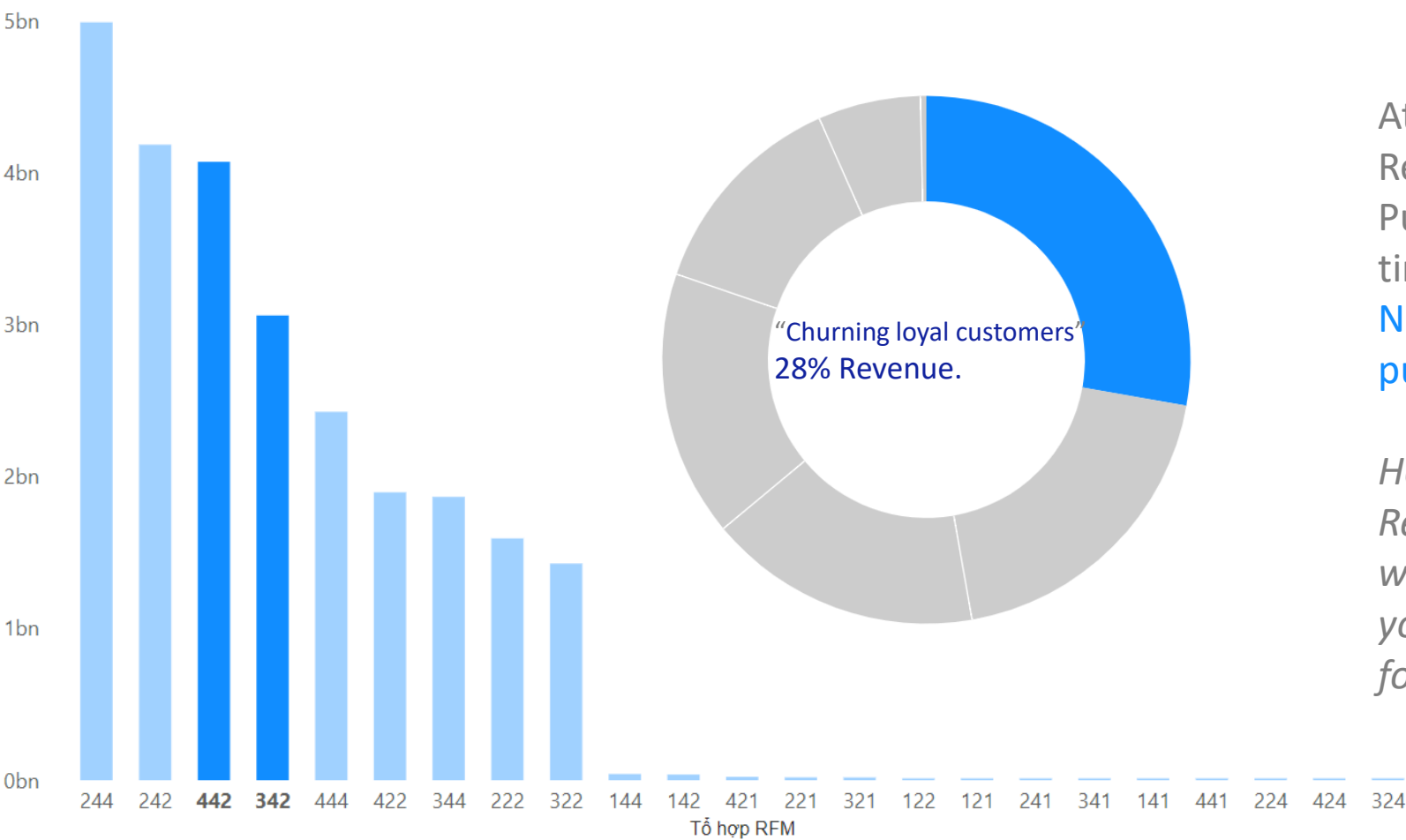
Attributes of this group:
Revenue per customer: 12,1K – 42K
Purchasing frequency per year: 0.5 – 5 times
Number of days from the lastest purchases: 62 - 92 days

How to encourage this group come back? Recommendation: Rebuild relationship with this group through email, call, "thank you" letter or offer promotion customed for each customer.

Tổ hợp RFM

244   242   **442**   **342**   444   422   344   222   322   144   142   421   221   321   122   121   241   341   141   441   224   424   324

"Active VIP" group has the 2nd highest revenue contribution – 2 Billions

This group has only 1 RFM combination, only accounting for 6.15% customers but generating 19% revenue.
This is also the RFM combination has the highest revenue , based on large number of high-value orders.
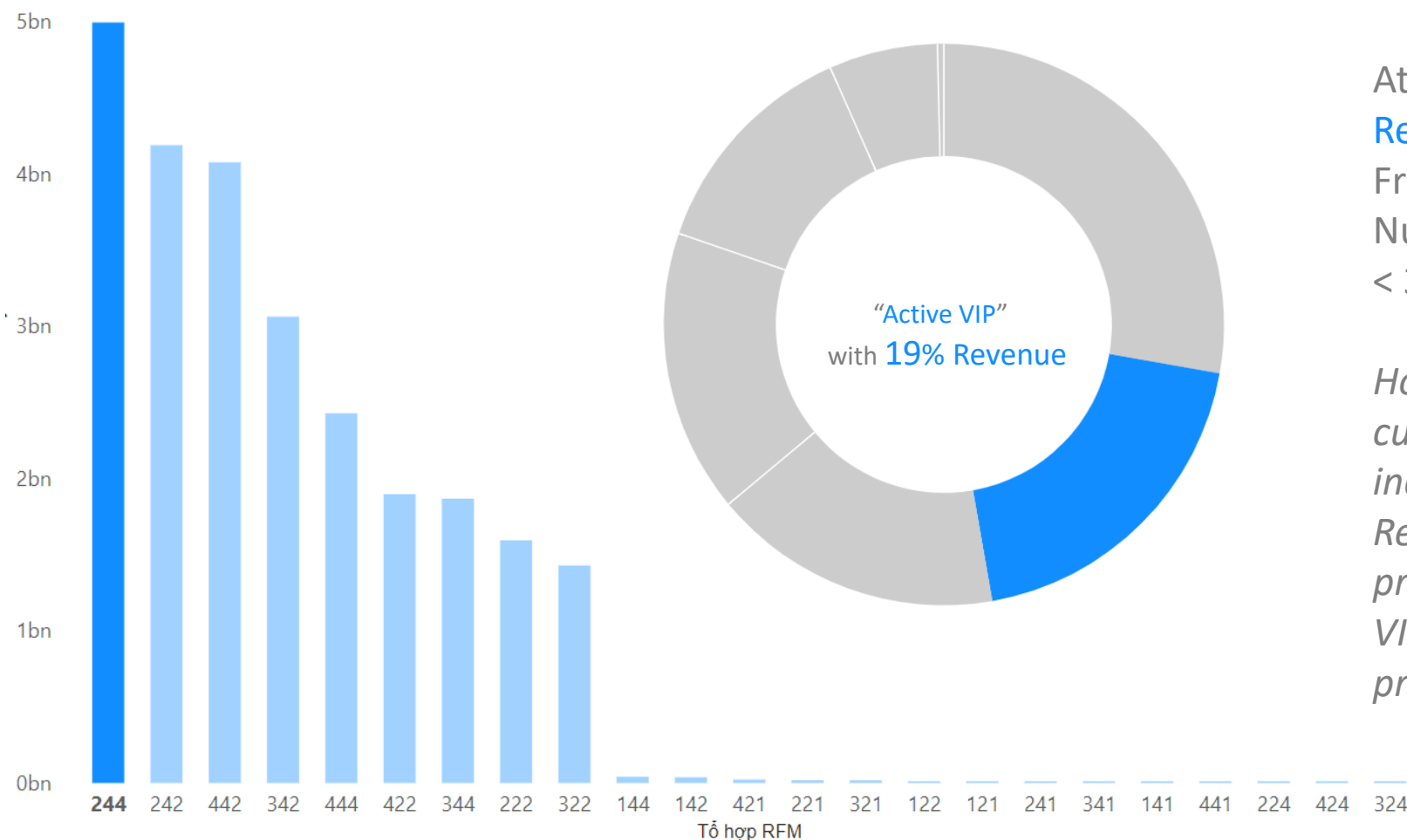
"Active VIP"
with **19% Revenue**

Attributes of this group:
Revenue per customer: 95K – 1.120K
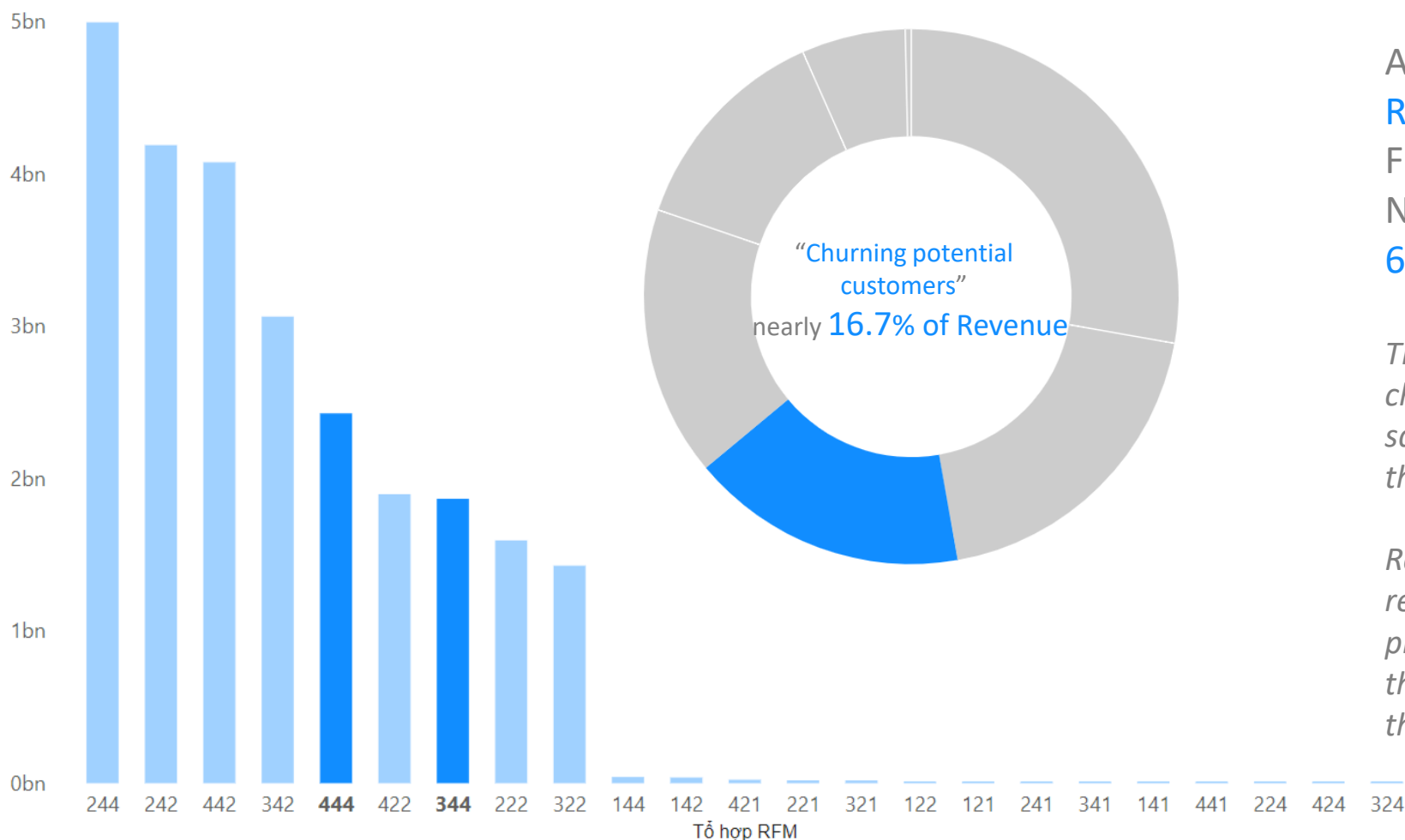Frequency per year: 0.5 – 5 times
Number of days from the latest purchases:
< 30 days

How to maintain relationship with this customers, and encourage them to increase their value of orders?
Recommendation: Create special promotion, and customed service for each VIP customer, send notifications about new products based on their purchasing history.

Tổ hợp RFM

Bar chart x-axis labels: 244 242 442 342 444 422 344 222 322 144 142 421 221 321 122 121 241 341 141 441 224 424 324

"Churning potential customers" group has the 3rd highest revenue contribution – about 4.2 billions

This group has only 2 RFM combinations, contributing over 16.72% of revenue. They had high purchasing frequency, with high order value, but have stop purchasing for 2 – 3 months.

"Churning potential customers"
nearly 16.7% of Revenue

Tổ hợp RFM

Attributes of this group:
Revenue per customer: 95K – 1.120K
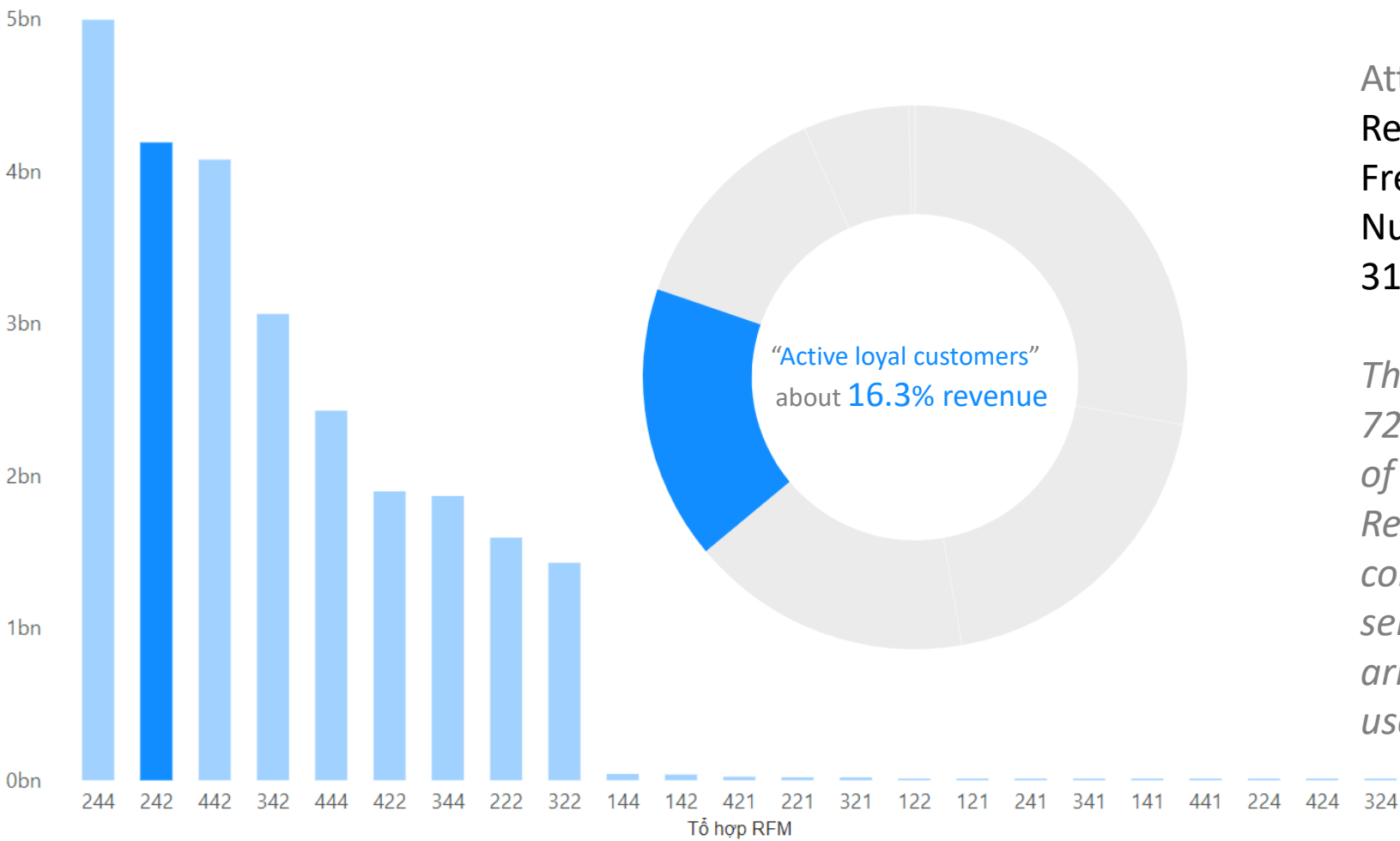Frequency per year: 0.5 – 5 times
Number of days from the latest purchases: 62 – 92 days

This group has stopped purchasing, they might change their shopping location (because of not satisfying about experience with us, or changing their living locations,..)

Recommendation: We should figure out how to recontact with them (to offer voucher, gifts, new product notifications) for receiving feedback about their shopping experience, understand the reasons they stopped shopping with us.

"Active loyal customer" group has the 2nd highest revenue contribution – about 5 billions

There is only 1 RFM combination in this group, but accounting for **16.31% of revenue**. This group has frequent purchases, 1-2 months ago from the latest purchases, with low-value orders.

"Active loyal customers"
about 16.3% revenue

Attributes of this group:

Revenue per customer: 12.1K – 41.9K
Frequency per year: 0.5 – 5 times
Number of days from the latest purchases:
31 - 61 days

This is the 2nd largest customer group (over 72.800 customers). How to increase value of each order?
Recommendation: selling products as combo, promoting "buy 2 get 1 free", sending notifications about sales events, arranging shelves with products commonly used together.

Chart x-axis labels (Tổ hợp RFM): 244, 242, 442, 342, 444, 422, 344, 222, 322, 144, 142, 421, 221, 321, 122, 121, 241, 341, 141, 441, 224, 424, 324

"Churning trial experience customer" and "Active trial experience customer" are the 2 groups with the lowest revenue contributions

Total revenue contributions
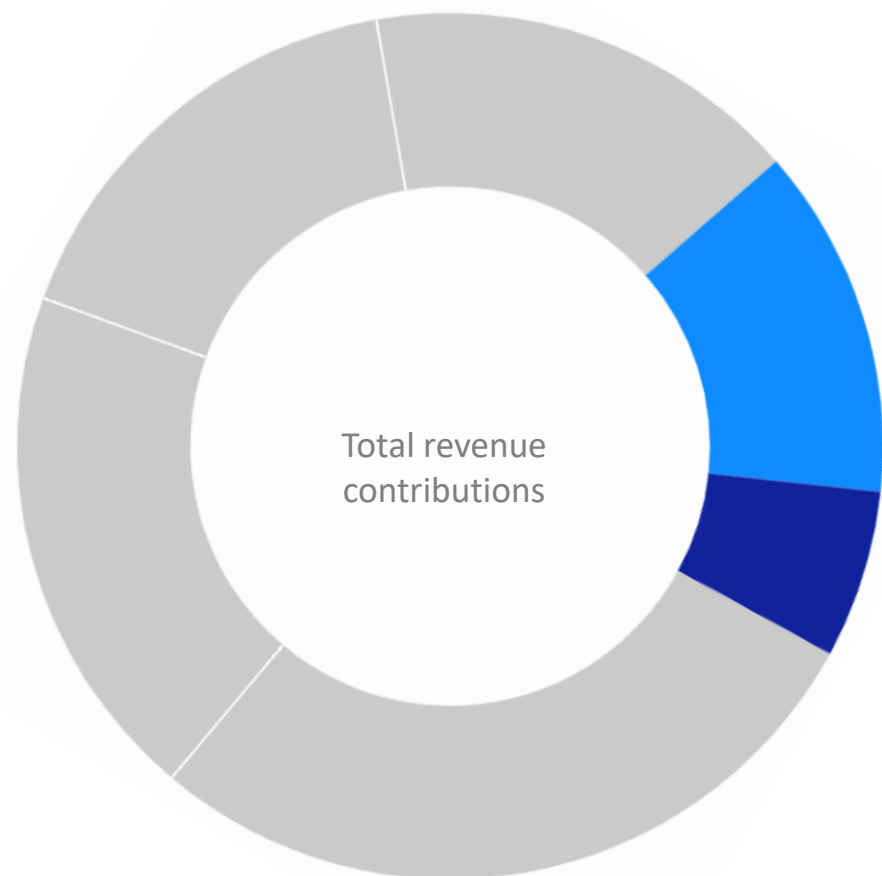
The group of "Churning trial customer" : 36.3% of customers generated 13.1% of revenue.
The group of "Active trial customer": 18.32% of customers generated 6.28% of revenue.

Recommendation: Even though they are the largest customer groups, they generated lowest revenue. We should prioritize optimizing revenue from other groups.
Then have better solutions for reducing churning customers through figuring out the reasons customers stopping shopping with us.

Conclusion

Prioritize taking actions with the small customer groups but generating high revenue: active VIP group and Churning potential customer group.

Segments	Tỉ lệ khách hàng	Tỉ lệ Doanh thu ▼
Khách thân thiết sắp rớt	19.99%	27.79%
Khách VIP active	6.15%	19.44%
Khách tiềm năng sắp rớt	6.85%	16.72%
Khách thân thiết active	11.80%	16.31%
Khách thử nghiệm sắp rớt	36.36%	13.10%
Khách thử nghiệm active	18.32%	6.28%
Còn lại	0.54%	0.37%
Total	100.00%	100.00%

Ratio table

Segments	Số lượng Khách hàng	Tổng Doanh thu ▼
Khách thân thiết sắp rớt	123370	7,133,873,350
Khách VIP active	37931	4,991,429,154
Khách tiềm năng sắp rớt	42245	4,291,791,637
Khách thân thiết active	72818	4,185,698,881
Khách thử nghiệm sắp rớt	224423	3,363,113,133
Khách thử nghiệm active	113070	1,610,945,331
Còn lại	3307	94,393,307
Total	617164	25,671,244,793

Numerical table

* Even generating the highest revenue, but the number of customers in "Churning loyal customer" are too large, that we need more time to divide this group into smaller groups for better analysis and deeper behavioral research.