



CUSTOMER ANALYTICS

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CUSTOMER SEGMENTATION

CUSTOMER SEGMENTATION

Dividing customers into segments is an essential practice in business for several reasons:

More effective marketing	<ul style="list-style-type: none">Segmentation helps businesses tailor messages, offers, and channels based on specific needs and preferences of different customers.
Improved customer understanding	<ul style="list-style-type: none">By analyzing customer data, businesses can gain a deeper understanding of the characteristics, behaviors, and preferences of different customer segments.
Enhanced customer experiences	<ul style="list-style-type: none">Segmentation allows businesses to personalize customer experiences across all touchpoints, which can increase customer satisfaction and loyalty.
Resource optimization	<ul style="list-style-type: none">Segmentation helps businesses allocate resources to the most profitable and high-potential customer segments, optimizing resources and cutting unnecessary costs.
Identification of new opportunities	<ul style="list-style-type: none">Segmentation can help identify niche customer segments or markets, which empowers businesses to expand their product offerings and enter new markets.

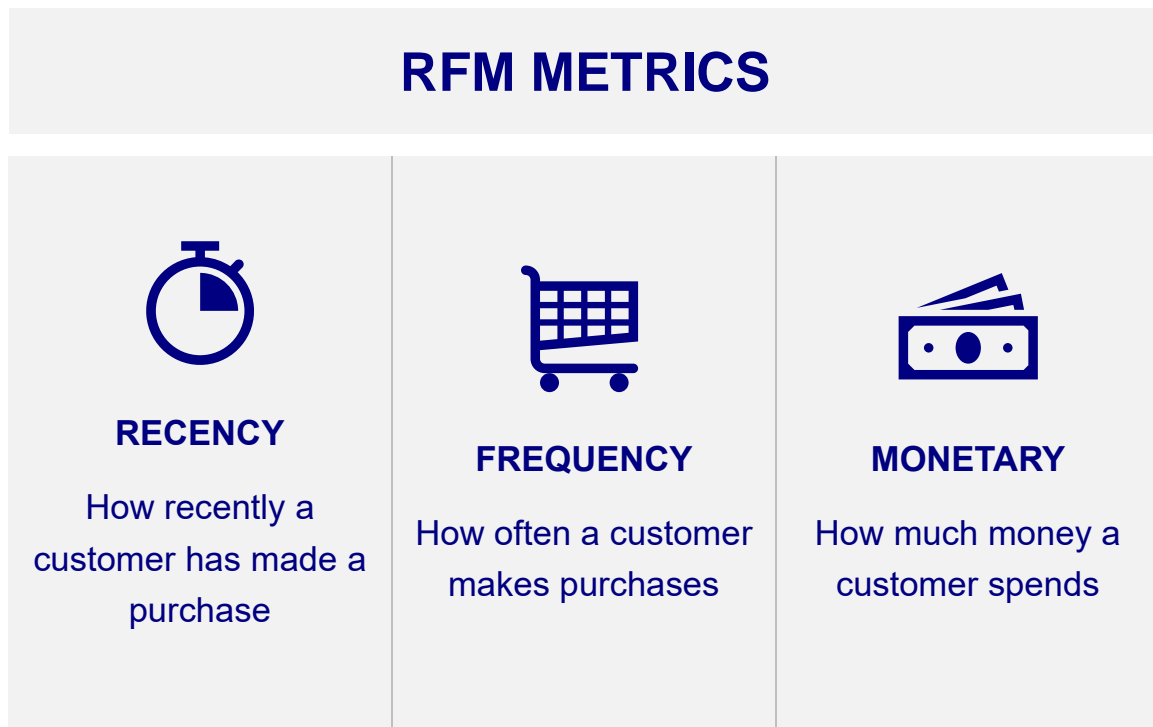
RFM MODEL

RFM model is a **customer segmentation method** that helps businesses identify their most valuable customers **based on purchasing behavior**.

RFM metrics:

- Recency (R):** Number of days since the customer's most recent transaction.
- Frequency (F):** Total number of transactions made by the customer.
- Monetary (M):** Total amount the customer has spent on all transactions.

Once each customer has been assigned a score for each factor, the scores are combined to create an overall RFM score. Customers with high RFM scores are considered the most valuable, as they are more likely to make repeat purchases and spend more money.



The RFM model is a valuable tool for businesses of all sizes to improve customer segmentation, marketing effectiveness, and customer retention efforts. By understanding and using RFM scores, companies can identify their most valuable customers and develop targeted strategies to keep them happy and profitable.

RFM CALCULATION

OVERVIEW OF DATASET

The dataset used in this analysis is the customer transaction dataset. It contains all the transactions occurring from June 1st to August 31st in 2022 of 942.339 customers.

Below are the variables of the customer transaction dataset:

Variable name	Data type	Description
ID	int	The unique identifier for each transaction
CustomerID	varchar(200)	The unique identifier for each customer
Purchase_Date	datetime	The date and time when each transaction was generated
GMV	int	The amount of each transaction

DATA PROCESSING STEPS

To conduct the RFM model-based customer segmentation analysis, the original dataset needs to be transformed properly. The main steps and relevant tasks involved in the data transformation are as follows:

1. Select appropriate variables from the given dataset, in this case, the following three variables have been chosen: CustomerID, Purchase_Date, and GMV.
2. Convert the variable Purchase_Date from datetime to date format.
3. Create three essential aggregated variables Recency, Frequency, and Monetary.
4. Use IQR to determine the range of the variables Recency, Frequency, and Monetary.
5. Assign a value from 1 to 4 for each R, F, and M metric.
6. Concatenate R, F, and M to create RFM metrics.
7. Map data to create customer segments with similar characteristics.

Table below is the summary of the target dataset (936661 instances)

Variable name	Recency	Frequency	Monetary
Min	1	1	242
25%	31	1	70.000
50%	62	1	75.000
75%	92	1	95.000
Max	92	26	8.400.000

CUSTOMER SEGMENT BASED ON RFM SCORE

Based on the distribution of data, RFM score was divided into 4 tiered groups:

Metric	Level	Tier	Range
R	Low	1	At least 92 days ago
		2	From 62 to 91 days ago
	High	3	From 32 to 61 days ago
		4	From 1 to 31 days ago
F	Low	1	
		2	1 time
	High	3	
		4	2 times or more
M	Low	1	From 0 to 70.000 VND
		2	From 70.001 to 75.000 VND
	High	3	From 75.001 VND to 95.000 VND
		4	More than 95.000 VND

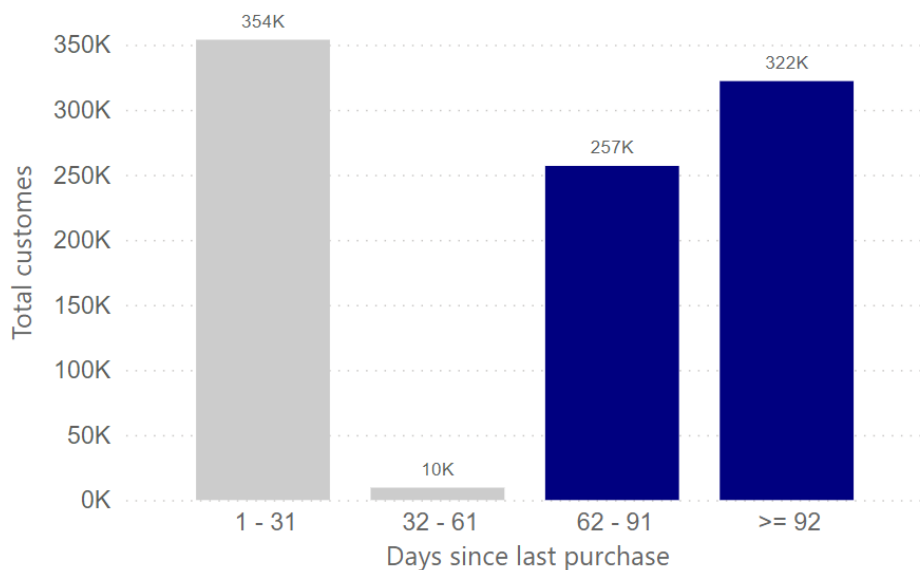
Segment	Level	RFM Scores	Description
Champions	H – H – H	343, 344, 443, 444	Bought recently, buy often, and spend the most
Loyal Customers	H – H – L	341, 342, 441, 442	Do not spend much but bought regularly and recently
Potential Loyalist	H – L – H	323, 324, 423, 424	Recent customers and spent a good amount but bought only once
Needs Attention	L – H – H	143, 144, 243, 244	Have strong purchase history but have not returned for a long time
New Customers	H – L – L	321, 322, 421, 422	Bought recently, but not often
At Risk	L – H – L	142, 141, 241, 242	Spent small money but often, but a long time ago
Can't Lose Them	L – L – H	123, 223, 124, 224	Made biggest purchases, but only bought once and a long time ago
Lost Customers	L – L – L	121, 221, 122, 222	Lowest recency, frequency, and monetary scores

RFM ANALYSIS

Recency

Even though the company maintained a moderate portion (37,5%) of customers who have returned recently, the number of customers who have not returned still accounts for a large percentage.

61% of all customers stop using the company's service for more than 2 months



61% of churned customers is not a small number. Moreover, keeping existing customers is less cost-effective than trying to acquire new ones, and these groups also contributed more than 50% of the total revenue the company generated in the past three months.

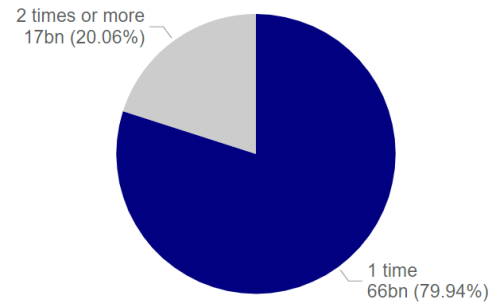
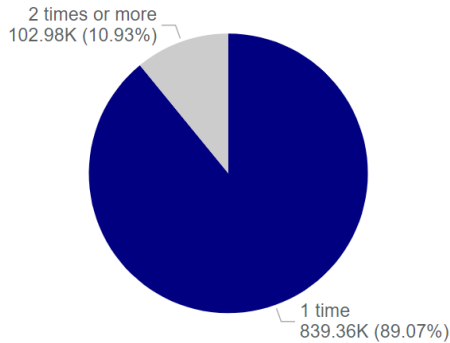
Therefore, the company should further analyze to identify the pain points that lead to customer attrition in this group. Also, the company should have a specific strategy to make customers in this group come back and make more transactions in the future.

Frequency

Many of the company's customers are one-time customers, indicating that those customers only made one transaction during the last three months.

About 90% of all customers are one-time customers

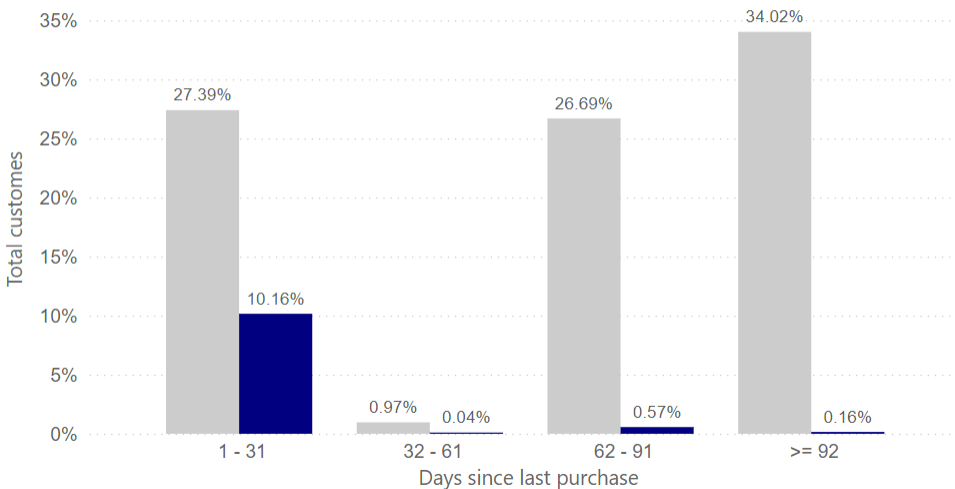
... which accounts for 80% of total revenue



However, the revenue generated by these transient customers accounted for 80%, equivalent to 66 billion VND. Therefore, the company should implement proper marketing strategies to convert these customers into loyal patrons.

Only 10% of customers coming back to make more transactions in August

● 1 time ● 2 times or more

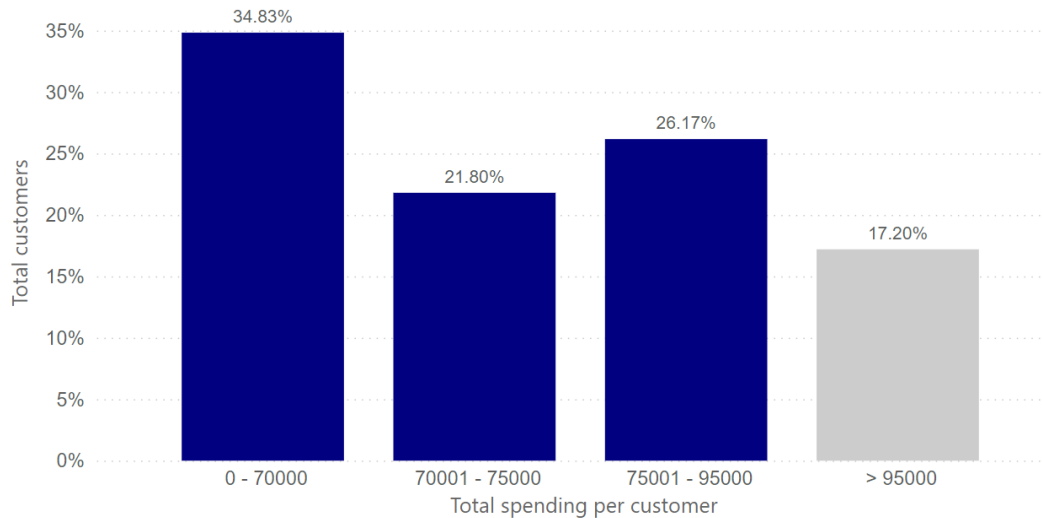


The number of new customers coming every month is relatively high. However, only 10% of customers were to make second transactions recently. Hence, the company should actively seek feedback through surveys, interviews, or social media interactions and analyze that feedback to identify areas for improvement, address pain points, and refine products or services accordingly.

MONETARY

For the last three months, the total amount of money a customer would spend ranged from 242 VND to 8,4 million VND. However, most customers only spent less than 95.000 VND for all the transactions they made with the company.

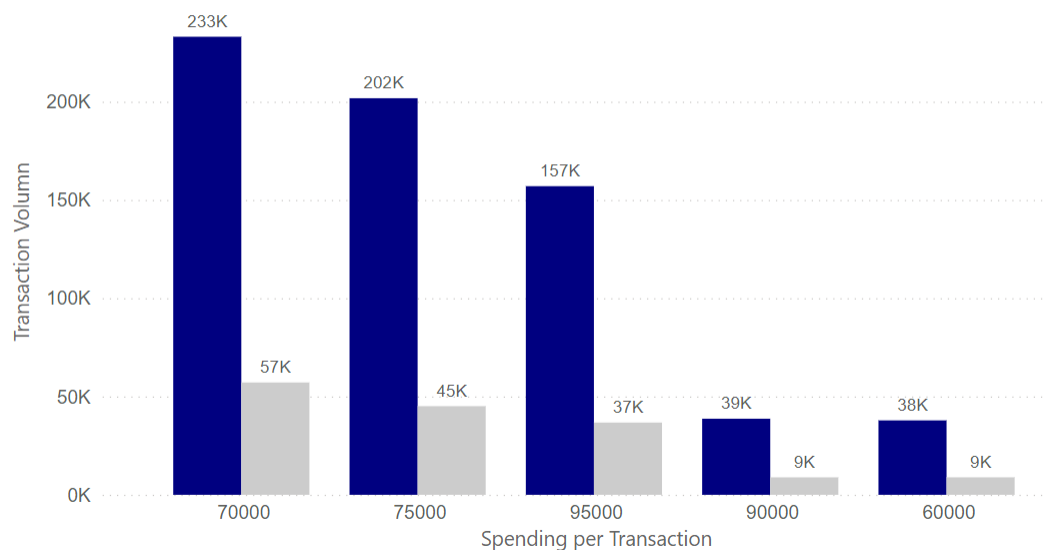
More than 82% of customers spent less than 95000 VND for all of their transactions



Specifically, customers usually choose service packs of 70000, 75000, and 95000 VND when using the company's service.

Transaction volume by spending value

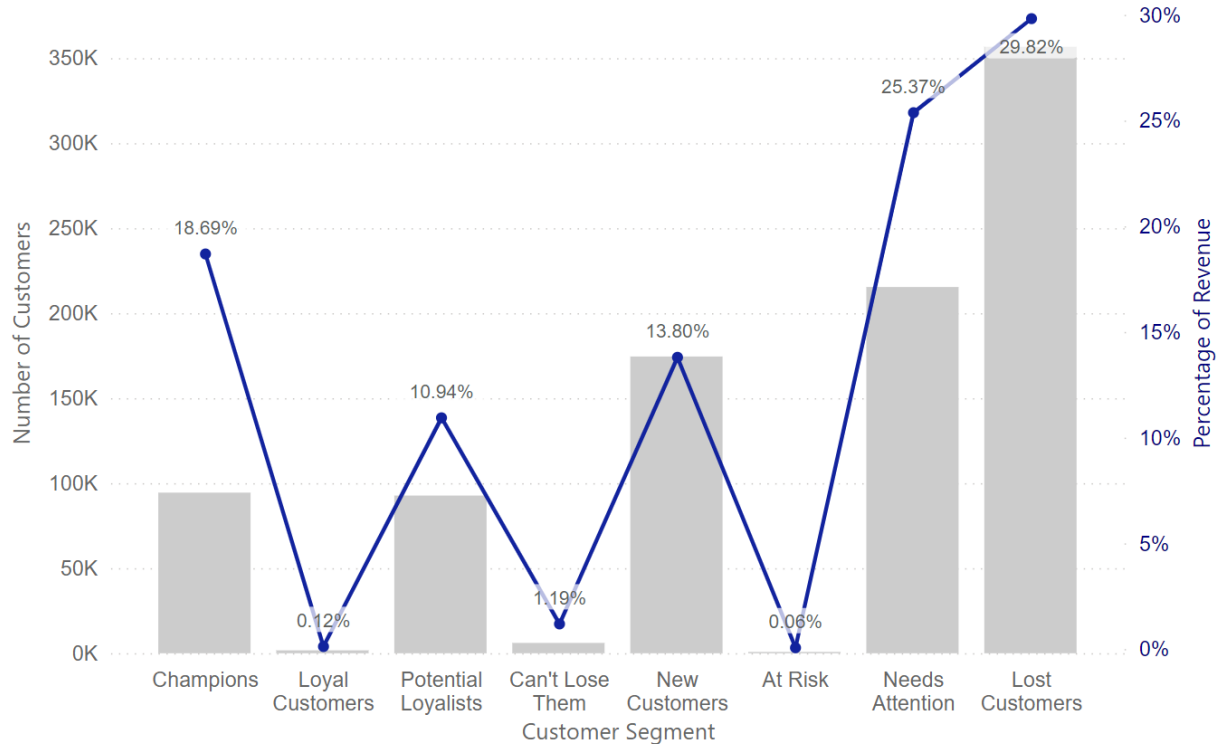
● 1 time ● 2 times or more



CUSTOMER SEGMENT ANALYSIS

Total customers and revenue generation by segments

● Count of CustomerID ● %GT Sum of Monetary



Segment	No. of customer		Total Revenue	
Champions		10.02%		18.69%
Loyal Customers		0.18%		0.12%
Potential Loyalists		9.84%		10.94%
Needs Attention		0.64%		1.19%
New Customers		18.52%		13.80%
At Risk		0.08%		0.06%
Can't Lose Them		22.86%		25.37%
Lost Customers		37.85%		29.82%
Total		100.00%		100.00%

CHAMPIONS

Even though customers in the Champions segment only account for a small portion of total customers compared to others, they contributed 18,69% of total revenue, equivalent to 15,5 billion VND, which ranked third among customer segments generating the most revenue for the company.

Moreover, this group includes customers who regularly use the company's service with the highest purchases. They are also the type of customers who are more likely to continue doing business, which brings stable revenue for the company in the future.

Therefore, focusing on keeping them happy should be a top priority. The company should further analyze their individual preferences to personalize their experiences.

POTENTIAL LOYALISTS

Potential Loyalists are an important customer segment the company should pay attention to besides Champions. This group has used the service within the past 1 month with high payment, but their frequency is not very high (only 1 time).

The customers in this group have the potential to become Loyal or even Champions if they are carefully nurtured. Therefore, the company can leverage its frequency by showcasing positive reviews to build trust and credibility. Providing attractive discounts, free trials, or introductory offers are also good options to entice them to come back to use the company's service.

NEW CUSTOMERS

Accounting for more than 19% of total customers and contributing roughly 14% of total revenue, New Customers is another segment that the company should notice. They are customers who have used the company's service recently (within 1 month) but have not spent much. In this case, the company should start building relationships with these customers by providing onboard support and special offers to increase their visits.

NEEDS ATTENTION

The "Needs Attention" customer segment is the customers who only made one purchase in the past, but their payment was high. Also, the date since the last purchase was more than 2 months ago.

These customers are valuable to businesses because of their high purchasing power. The company can bring them back through relevant promotions and run surveys to find out what went wrong and avoid losing them to competitors.

LOST CUSTOMERS

Lost Customers are the leading customer segments in terms of the number of customers and revenue generation compared to other groups.

They are the customers who only made one transaction a long time ago, with the total spending lower than 70.000 VND. Therefore, it would be a waste of resources for the company to try to reactivate the customers in this segment.

Instead, the company should focus on identifying the reason why they stop using the company's service. By doing this, businesses can minimize the number of lost customers and improve overall customer retention in the future.