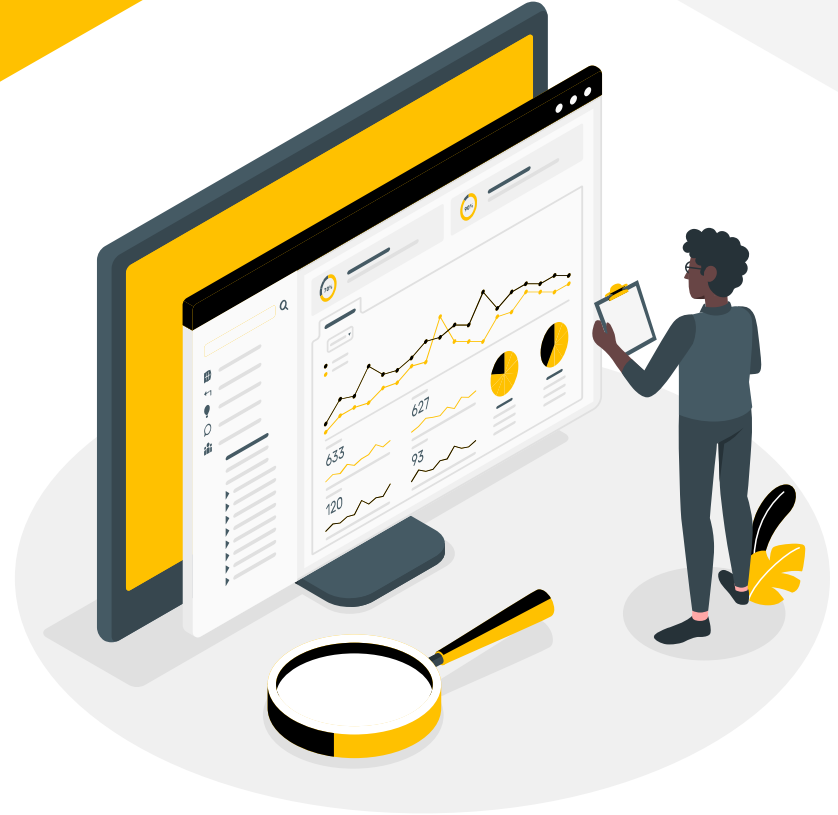


MoMo Marketing Campaign Analysis





A Loyalty Program

On January 2022, Momo - a digital wallet app company - launched a loyalty program to improve users' retention

Based on transaction data in the first 3 months, our goal is to analyze the program's efficiency

How to evaluate the success of the campaign?

01

DATA PROCESSING

Calculate 'Loyalty Points' and rank users accordingly

02

RETENTION ANALYSIS

Analyze users' behaviors and retention rate

03

PROFIT MAXIMIZATION

Adjust cashback rate to reduce costs



How can we cut down cashback costs while maintain users' retention?

Executive Summary

Campaign Overview:

- MoMo launched a loyalty program in January 2022 to improve user retention.

Key Findings:

- DIAMOND tier leads in GMV and cashback costs, with a 2% cashback-to-GMV ratio.
- GOLD tier also maintains a 2% cashback-to-GMV ratio.
- SILVER tier has the lowest cashback-to-GMV ratio (1%), making it the most cost-effective.
- STANDARD tier, despite significant GMV, offers no cashback.
- Higher-ranking users (DIAMOND, GOLD) show higher retention rates and loyalty.
- STANDARD users make more purchases but have the lowest retention rate.

Recommendations:

- Introduce small cashback incentives for the STANDARD tier to boost loyalty.
- Adjust cashback rates for high-demand services like CVS and Marketplace to balance costs.
- Focus on retaining STANDARD users with targeted loyalty programs and promotions.
- Leverage high retention rates among DIAMOND and GOLD users by offering exclusive perks and rewards.

Data Processing

01



Cleaned Datasets

Table	Column Name	Data Type	Meaning
Loyalty Points	Service Group	str	The service group user has transacted with
	Point Mechanism	int	Loyalty Points received for every 1000 VND
	Maximum Points per Trans	int	Maximum points allowed to receive each transaction

Table	Column Name	Data Type	Meaning
Benefits	ClassID	int	ID of Ranking (1 for Standard, 2 for Silver, 3 for Gold, 4 for Diamond)
	Group	str	Service Group
	%cashback	int	%cashback based on Service Group and Ranking

Cleaned Datasets

Table	Column Name	Data Type	Meaning
Transactions	DATE	date	Date of transaction
	Order_id	int	ID of each order
	User_id	int	ID of User
	GMV	int	Amount of money transacted
	Service Group	str	Service group transacted with

Table	Column Name	Data Type	Meaning
Merchants	Service ID	str	ID of Service
	Service Group	str	Name of Service Group
	Merchant	str	Name of Merchant
	MerchantID	int	ID of Merchant

Calculate “Loyalty Points” by combining tables “Transactions” with “Loyalty Points”

Table	Column Name	Data Type	Meaning
Transactions	DATE	date	Date of transaction
	Order_id	int	ID of each order
	User_id	int	ID of User
	GMV	int	Amount of money transacted
	Service Group	str	Service group transacted with

Table	Column Name	Data Type	Meaning
Loyalty Points	Service Group	str	The service group user has transacted with
	Point Mechanism	int	Loyalty Points received for every 1000 VND
	Maximum Points per Trans	int	Maximum points allowed to receive each transaction



New column “**Loyalty points**” = “GMV” : 1000 x “Point Mechanism”

*as long as “Loyalty points” ≤ “Maximum Points per Trans”

Rank users based on 30-day accumulated Loyalty Points

A. Calculate 30-day accumulated Loyalty Points

- 1) Filter Transactions by User:
 - For each user, isolate their transaction history.
- 2) For Each Transaction:
 - Date Range: Calculate the date range from the current transaction date to 30 days prior.
 - Loyalty Points Calculation: For each transaction within this date range (including the current one), calculate the sum of “Loyalty Points.”
- 3) Output:
 - Return the sum of “30-day-points“ for each transaction.

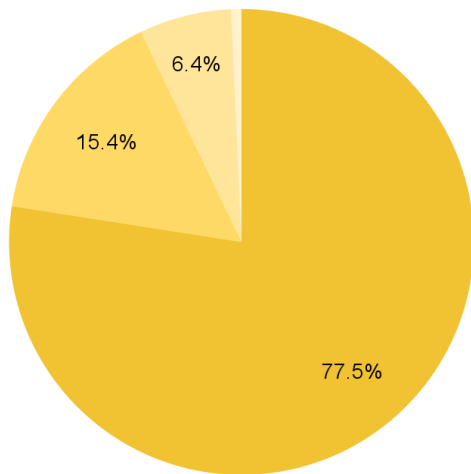
B. Rank users



At the end of March 2022, users are ranked as followed

Percentage of Users by Rankings

Standards Silvers Golds Diamonds



Number of Users by Rankings

Standard	1512
Silver	301
Gold	125
Diamond	14

Calculate “Cashback” by combining tables “Transactions” with “Loyalty Benefits”

Table	Column Name	Data Type	Meaning
Transactions	DATE	date	Date of transaction
	Order_id	int	ID of each order
	User_id	int	ID of User
	GMV	int	Amount of money transacted
	Service Group	str	Service group transacted with
	Rank	str	Ranking
	Loyalty Points	int	Loyalty points up to the date of transaction
	ClassID	int	Numerical value of ranking

Table	Column Name	Data Type	Meaning
Loyalty Points	ClassID	int	ID of Ranking (1 for Standard, 2 for Silver, 3 for Gold, 4 for Diamond)
	Group	str	Service Group
	%cashback	int	%cashback based on Service Group and Ranking

New column **“Cashback”**
 = “GMV” : 1000 x “%cashback”

*as long as “Cashback” ≤ 10,000VND

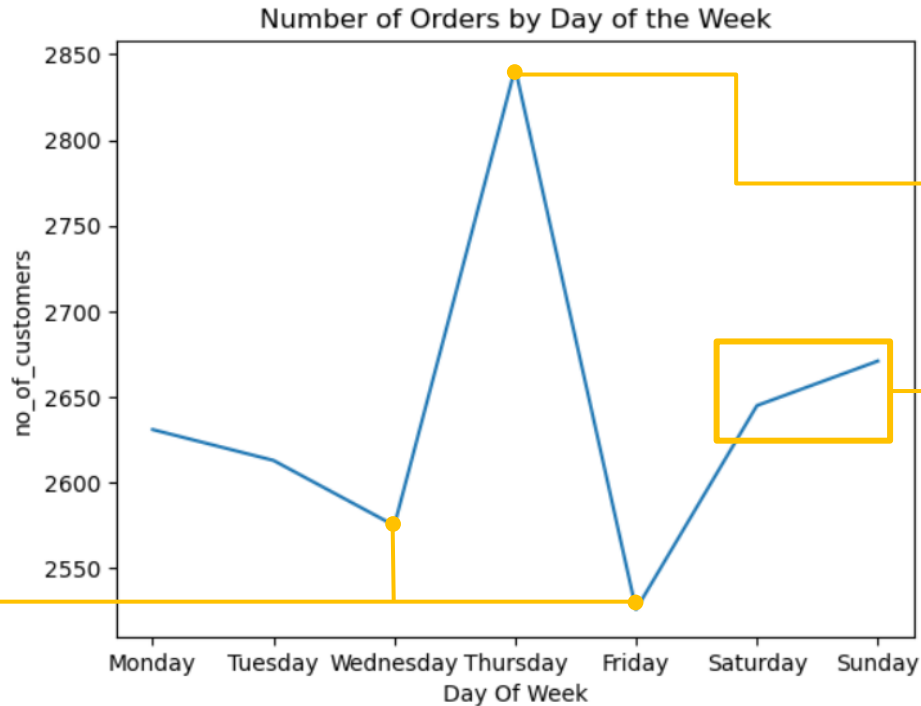


Daily, Weekly Retention
Monthly Cohort Analysis

Retention Analysis

02

Orders peak mid-week and drop significantly around the same time, showing fluctuating demand.

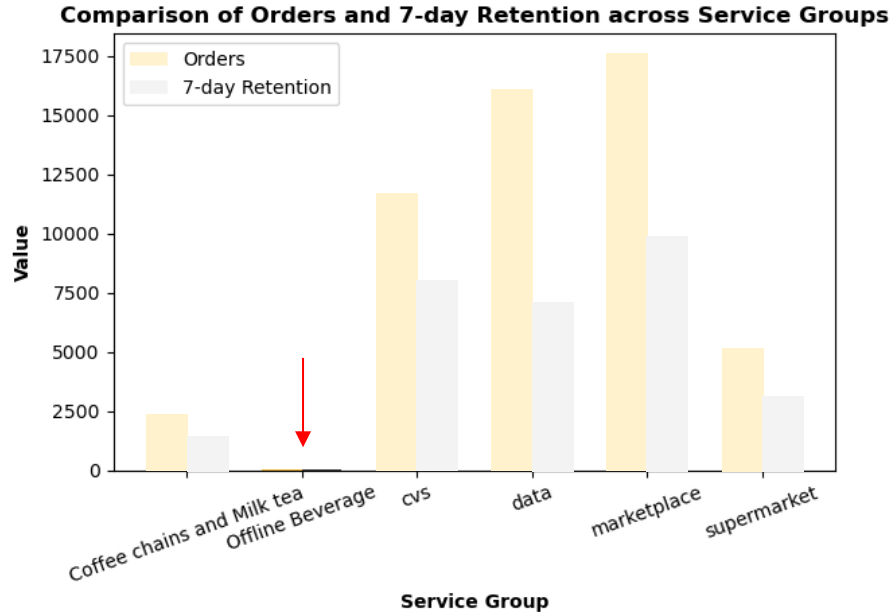


Address dips by offering specific marketing campaigns + research external factors

Leverage Thursday peak by running promotions or ads

The Saturday recovery shows growth potential. Weekend promotions could boost orders and balance the week's distribution.

Offline Beverage: It has a small user base, but those customers are extremely loyal



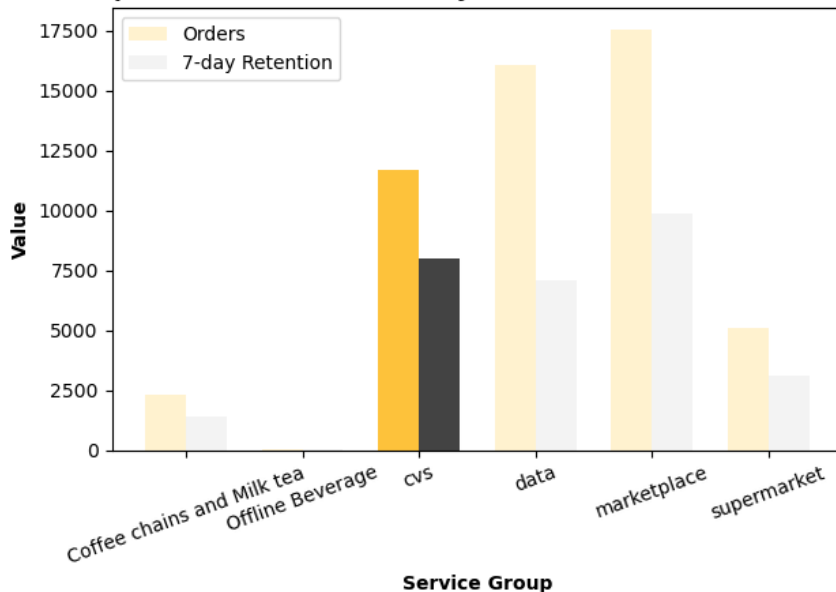
Offline beverage has only minimal order volume

Service Group	Retention / Orders Ratio
Coffee chains and Milk tea	0.62
Offline Beverage	0.73
CVS	0.69
Data	0.44
Marketplace	0.56
Supermarket	0.61

The high retention ratio suggests that customers who do place orders are very loyal and consistently return within 7 days

CVS: Despite moderate purchase volume, CVS users show strong loyalty, returning on a weekly basis.

Comparison of Orders and 7-day Retention across Service Groups

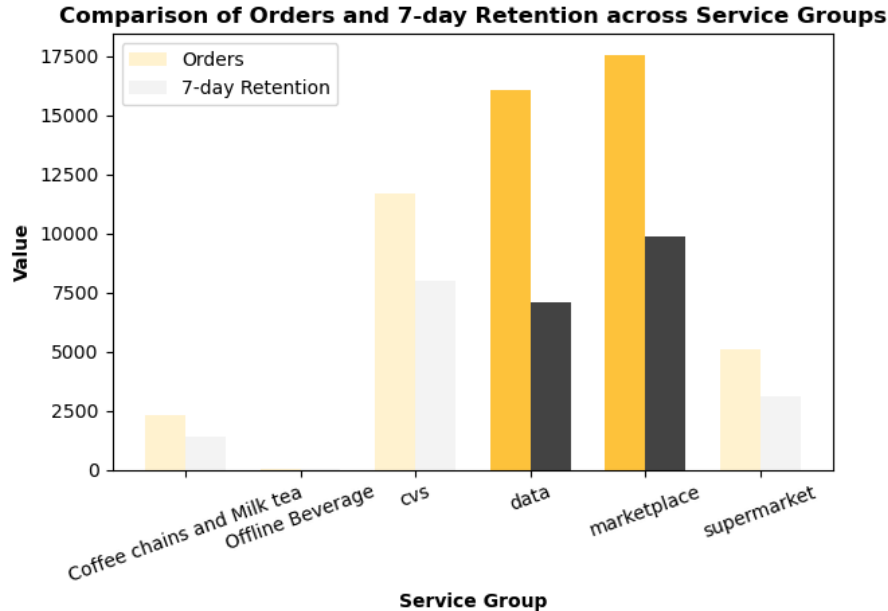


CVS has only a medium number of total orders

Service Group	Retention / Orders Ratio
Coffee chains and Milk tea	0.62
Offline Beverage	0.73
CVS	0.69
Data	0.44
Marketplace	0.56
Supermarket	0.61

However, around 70% of the time, CVS customers who ordered the previous week place another order the following week

Marketplace and Data: They are in high demand but can only satisfy customers' short-term needs



Their numbers excel in both order volume and weekly retention

Service Group	Retention / Orders Ratio
Coffee chains and Milk tea	0.62
Offline Beverage	0.73
CVS	0.69
Data	0.44
Marketplace	0.56
Supermarket	0.61

Highly demanded as they are, the ratios are relatively small, meaning they can only cater short-term customers' need

Recommendation based on weekly retention rates

A. For Service Group

1) Offline Beverage:

- Expand customer base, try increasing first-time customers with first-time deals

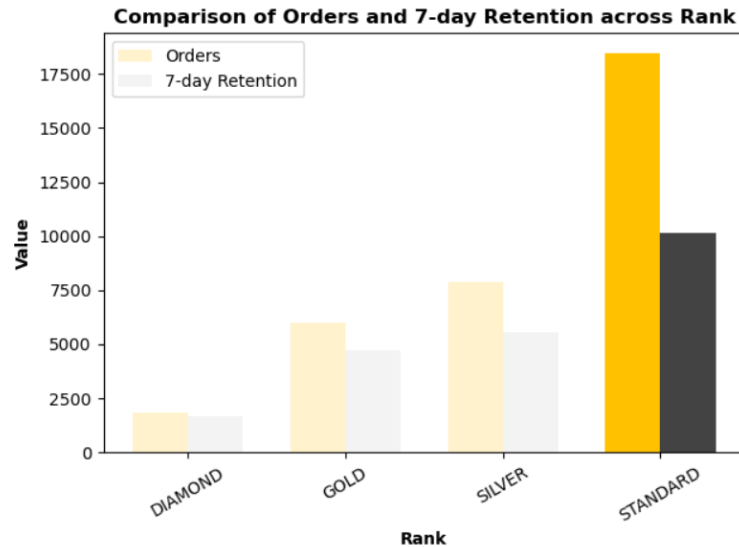
2) CVS:

- Maintain strong customer retention while encouraging more purchases by offering cumulative discounts for additional orders.

3) Marketplace and Data:

- Invest in loyalty programs especially for these groups for better retention
- Improve post-purchase engagement with follow-up emails and upselling/ cross-selling

Retention rates are closely tied to ranking, with Standard users making significantly more purchases



STANDARD users place more orders than other ranks but have the lowest retention, indicating a large, casual user base with limited long-term engagement.

Ranking	Retention / Orders Ratio
Standard	0.55
Silver	0.71
Gold	0.79
Diamond	0.91

The higher the ranking, the more users commit to purchasing with MoMo

Recommendation based on weekly retention rates

B. For User Ranking

1) Focus on Engagement from low-retention groups

- Target users from Standard rank with loyalty programs and time-limited offers
- Promote easy rank upgrades for low-rank users to encourage usual purchase

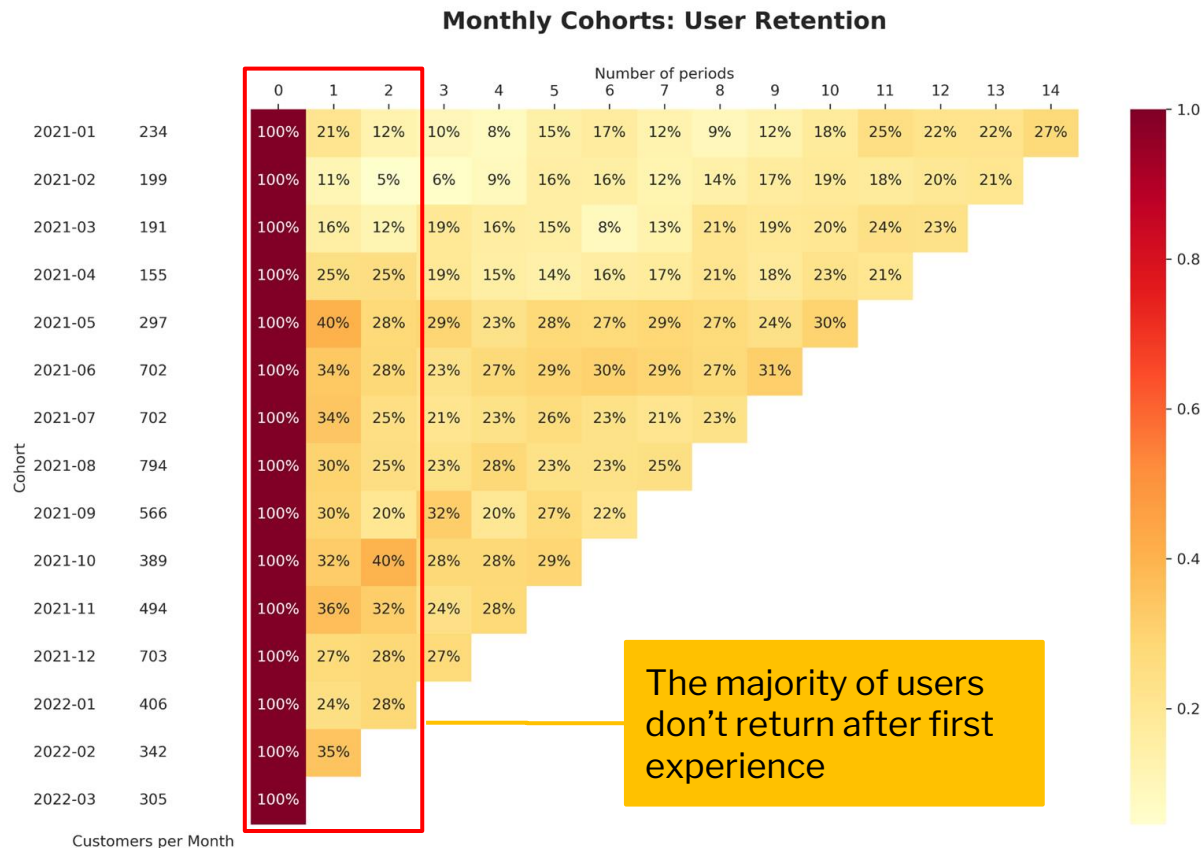
2) Investigate the reasons behind users drop-off after initial purchase

- Gather feedback from Standard users to understand the reasons behind their infrequent purchase
- Provide small discounts or potlucks in return

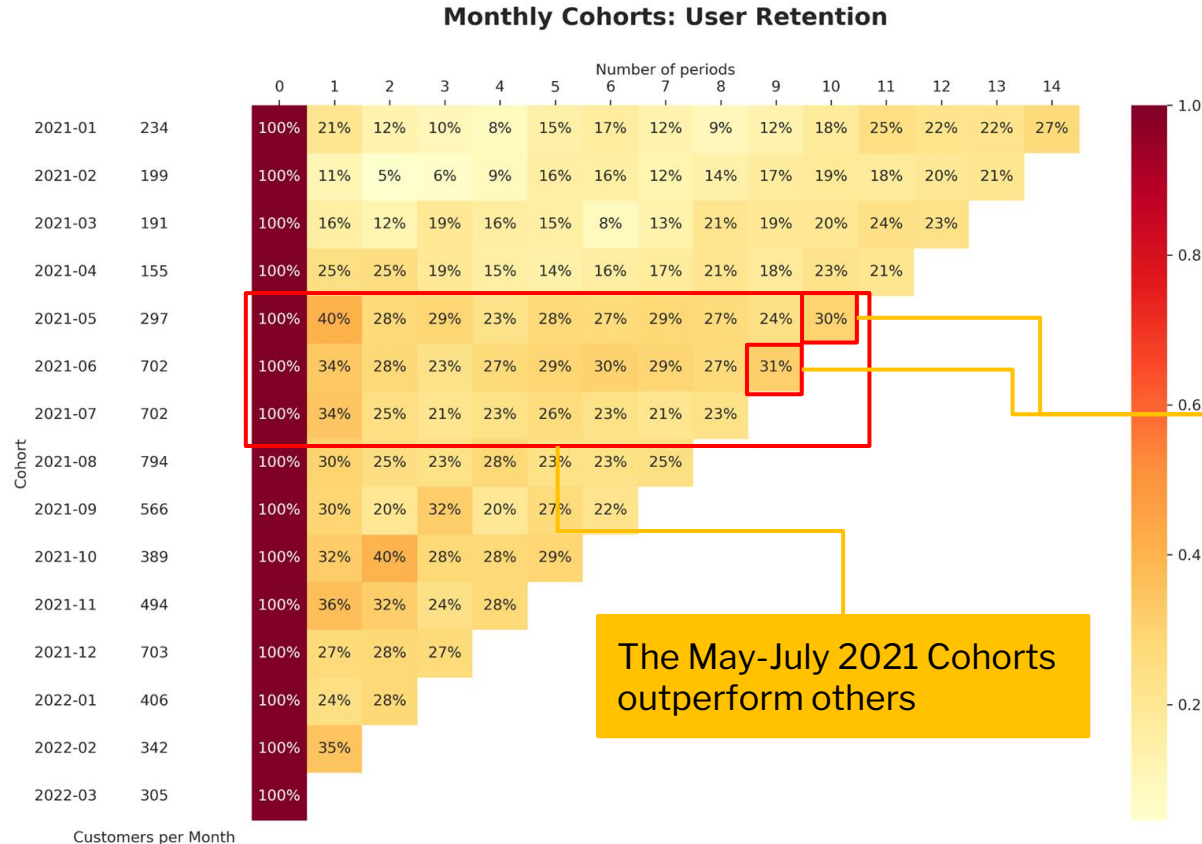
3) Leverage Diamond and Gold users

- Offer exclusive access to premium content and promotions to drive further loyalty

Retention tends to drop significantly after the first and second month



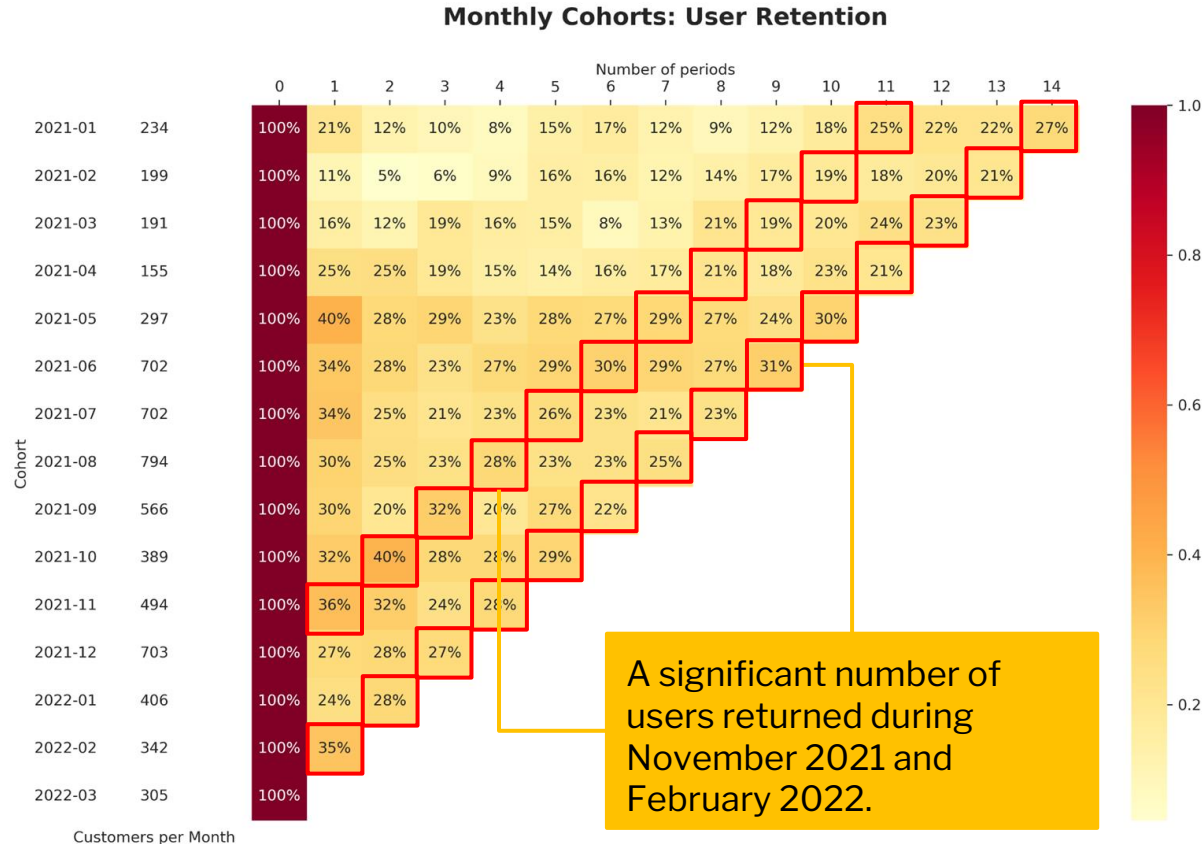
The campaign launched during May - July 2021 has proved to be effective



The May and July 2022 Cohorts show outstanding retention over a long period

The May-July 2021 Cohorts outperform others

Users typically return around major holidays such as Christmas and Lunar New Year



Recommendation based on monthly cohort analysis

C. For monthly cohorts

1) Focus on Engagement from low-retention groups

- Target users from Standard rank with loyalty programs and time-limited offers
- Promote easy rank upgrades for low-rank users to encourage usual purchase

2) Investigate the reasons behind users drop-off after initial purchase

- Gather feedback from Standard users to understand the reasons behind their infrequent purchase
- Provide small discounts or potlucks in return

3) Leverage Diamond and Gold users

- Offer exclusive access to premium content and promotions to drive further loyalty



Cashback Analysis

03

The Diamond tier leads in GMV and cashback, while the Standard tier, despite high GMV, offers no cashback

Ranking	GMV	Cashback Cost	Cashback/GMV Ratio
Diamond	12,456,261,187	238,672,015.18	0.02
Gold	4,285,386,637	72,871,642.72	0.02
Silver	3,745,284,881	21,354,521.70	0.01
Standard	4,725,742,814	0	0.00

- Diamond has highest cashback cost but still a small proportion (2%) of the GMV
- Standard has a GMV of \$4,725,742,814, which is higher than both Silver (\$3,745,284,881) and Gold (\$4,285,386,637), but it has no cashback cost
- Silver has lowest cashback/GMV ratio, making it the most cost-efficient



Introduce small cashback for Standard tier to encourage loyalty

Data has highest cashback/GMV ratio

For all tiers

customers receive around 5-10% cashback, being the most-cashback segment among all service groups

0.5 –
0.10

0.44

Retention rate

Data group has the lowest retention rate



Customers do not usually spend money on data services. We should lower the %cashback for data in all ranks

Marketplace has the highest GMV across all rankings...

Service Groups	Standard's GMV	Silver's GMV	Gold's GMV	Diamond's GMV
Coffee chains and Milk tea	159,398,212.00	63,273,915.00	68,995,470.00	41,765,973.00
Offline Beverage	2,110,000.00	1,966,000.00	0.00	0.00
CVS	1,322,285,169.00	670,336,914.00	920,023,459.00	624,989,394.00
Data	226,920,900.00	132,928,400.00	109,243,000.00	32,908,000.00
Marketplace	2,283,101,875.00	2,296,120,229.00	2,553,550,489.00	10,365,079,766.00
Supermarket	731,926,658.00	580,659,423.00	633,574,219.00	1,391,518,054.00

...yet relative high cashback costs

Service Groups	Standard's Cashback	Silver's Cashback	Gold's Cashback	Diamond's Cashback
Coffee chains and Milk tea	0.00	0.00	0.00	0.00
Offline Beverage	0.00	98,300.00	0.00	0.00
CVS	0.00	14,620,551.70	16,860,274.06	16,773,875.08
Data	0.00	6,635,670.00	7,457,910.00	3,306,200.00
Marketplace	0.00	0.00	39,514,215.24	185,010,532.95
Supermarket	0.00	0.00	9,039,243.42	33,581,407.15



Re-adjust %cashback rate in returns for more Loyalty Points

Diamond's cashback cost for CVS is not justified when compared to its GMV.

Service Groups	Standard's GMV	Silver's GMV	Gold's GMV	Diamond's GMV
CVS	1,322,285,169.00	670,336,914.00	920,023,459.00	624,989,394.00

Service Groups	Standard's Cashback	Silver's Cashback	Gold's Cashback	Diamond's Cashback
CVS	0.00	14,620,551.70	16,860,274.06	16,773,875.08

- Diamond's cashback cost for CVS was approximate with Gold's cashback (around 16.7 millions VND) while Diamond's GMV was much lower ($624,989,394 < 920,023,459$)
- CVS was the service with second highest retention rate (0.69), it can be implied that CVS is a necessity and inelastic to cashback changes



%cashback calculated for CVS should be lowered and cutoff points from Gold to Diamond should be higher

Recommendation based on cashback analysis

A. For Rankings

- There should be %cashback program and higher Loyalty Points for each transaction in other services to incentivize Standard customers to buy more frequently
- The %cashback calculated for CVS should be lowered and cutoff points from Gold to Diamond should be higher

B. For Service Groups

- Marketplace: MoMo should re-adjust %cashback rate in returns for more Loyalty Points.
- CVS: %cashback calculated for CVS should be lowered and cutoff points from Gold to Diamond should be higher. As Standard contributes most to GMV with no cashback, there should be low %cashback program for Standard tiers especially in CVS

End of Presentation

