Marketing Campaign from 30/10 to 2/11
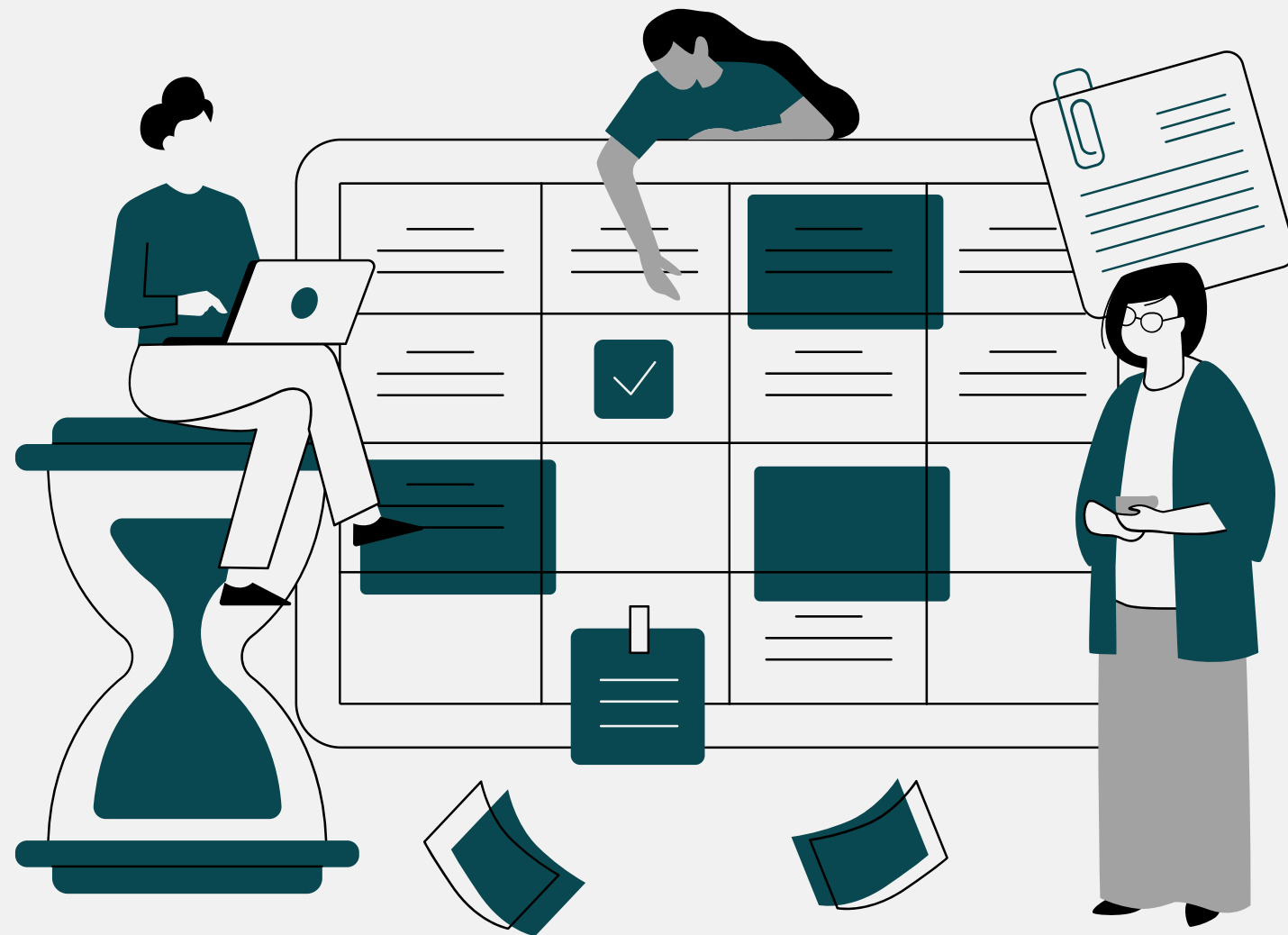
PROMOTION ABUSE DETECTION
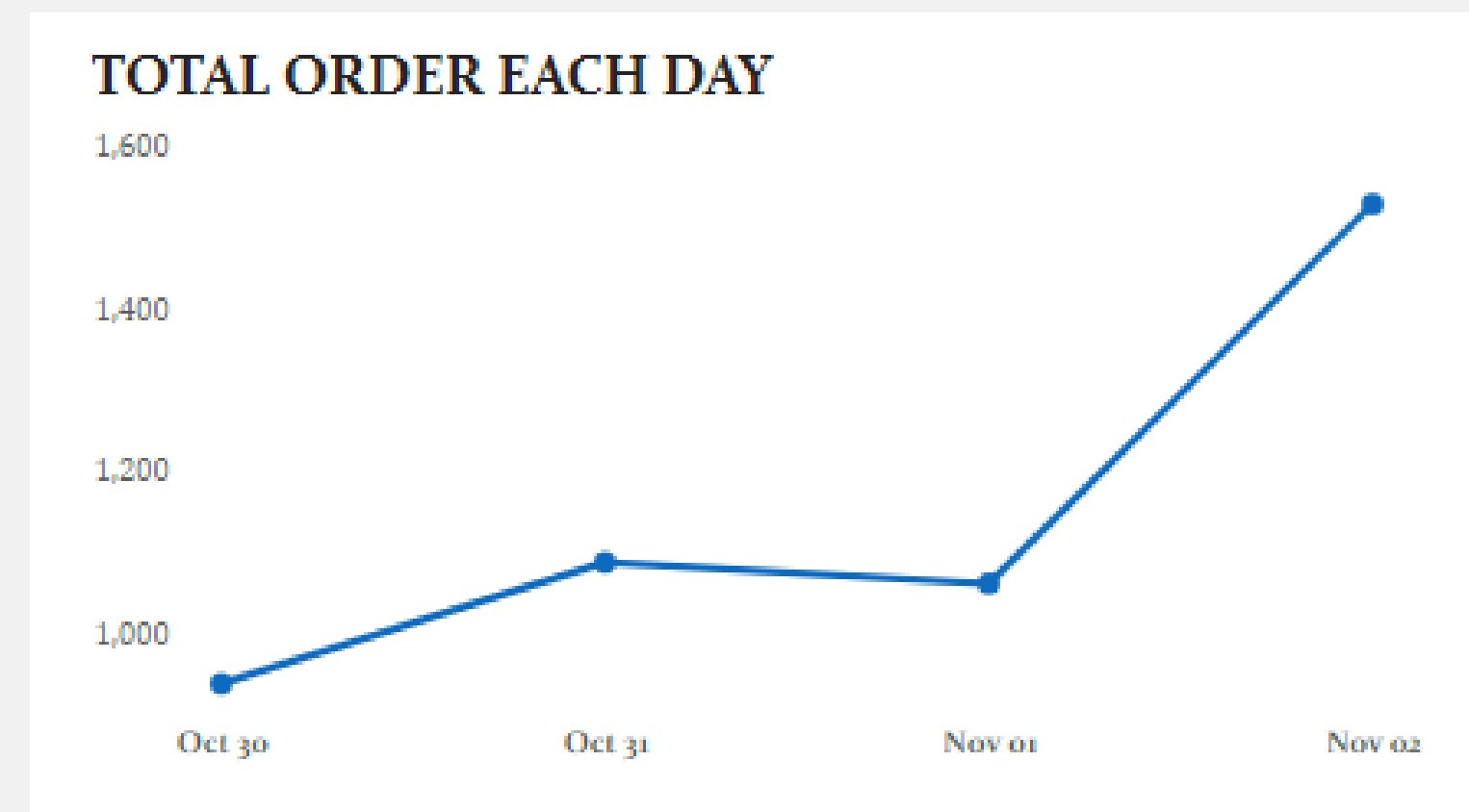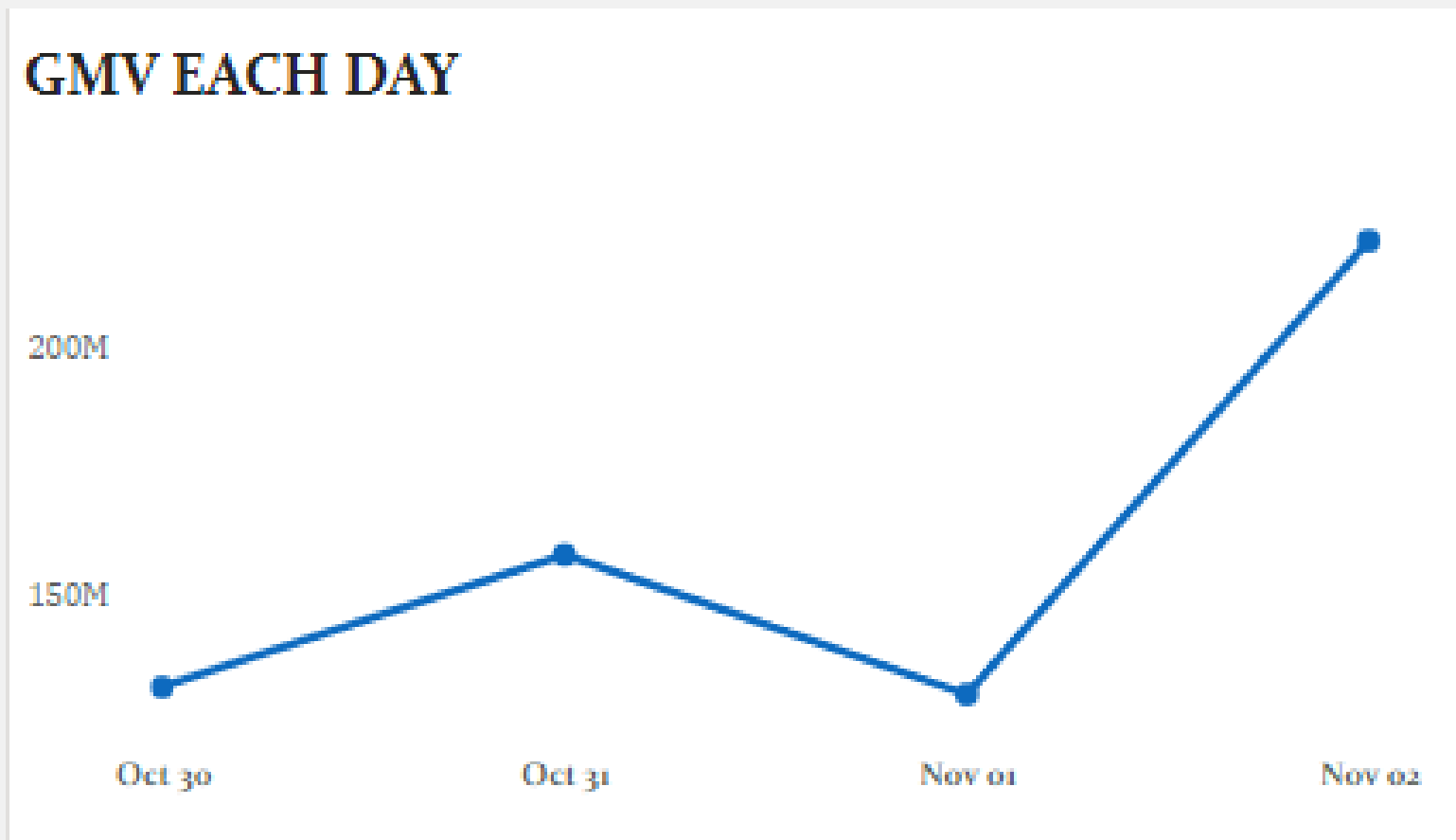
LIST OF CONTENT

A brief look at what we will discuss on this report

PROMOTIONS

GMV EACH DAY

200M	
150M	
Oct 30	Oct 31	Nov 01	Nov 02

TOTAL ORDER EACH DAY

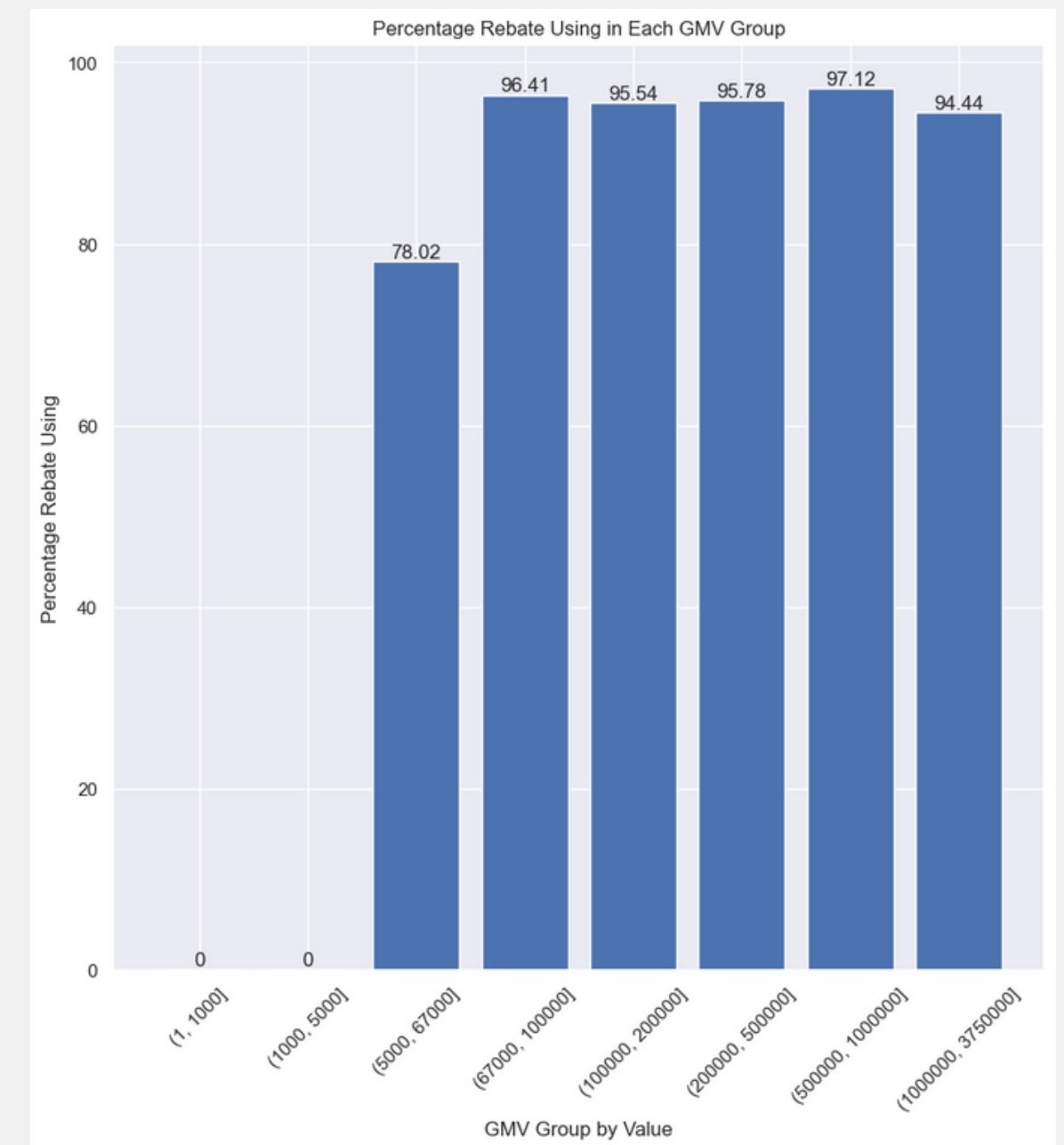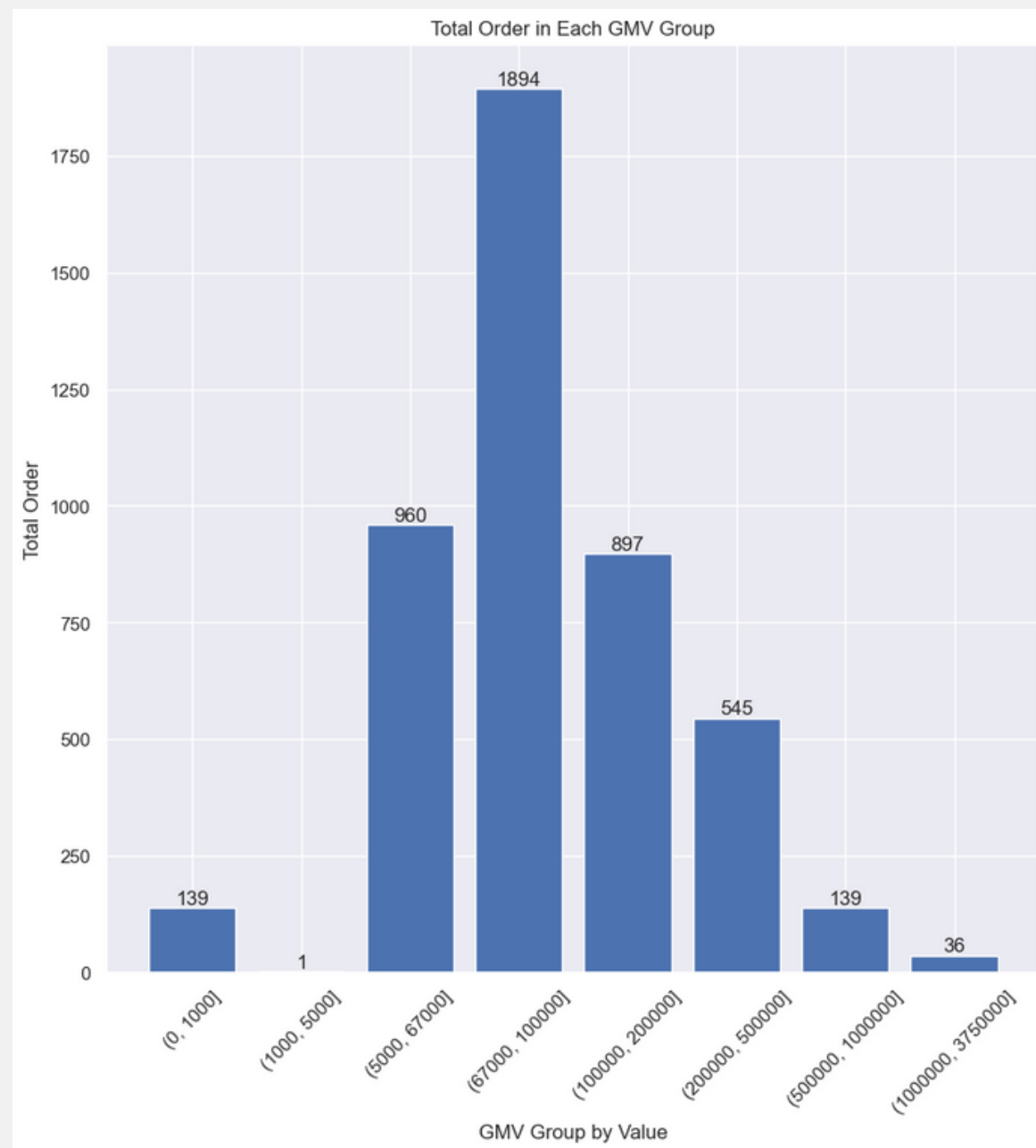|	
1,600	
1,400	
1,200	
1,000	
Oct 30	Oct 31	Nov 01	Nov 02

VNĐ222M

GMV

(+71% from 1/11)

1529

TOTAL ORDER

(+44% from 1/11)

Revenue and orders experienced a sharp increase on **November 2nd** due to it falling **on a weekend**.

Total Order in Each GMV Group

GMV Group by Value

Total Order values: (0, 1000]: 139; (1000, 5000]: 1; (5000, 67000]: 960; (67000, 100000]: 1894; (100000, 200000]: 897; (200000, 500000]: 545; (500000, 1000000]: 139; (1000000, 3750000]: 36

Percentage Rebate Using in Each GMV Group

Percentage Rebate Using

GMV Group by Value

Percentage Rebate Using values: (1, 1000]: 0; (1000, 5000]: 0; (5000, 67000]: 78.02; (67000, 100000]: 96.41; (100000, 200000]: 95.54; (200000, 500000]: 95.78; (500000, 1000000]: 97.12; (1000000, 3750000]: 94.44

The order value distribution is concentrated within the range of 5,000-200,000 VND, with the subgroup **[67,000, 100,000]** being the largest, accounting for **41%** of the total orders. Moreover, orders with values exceeding 67,000 VND have a coupon redemption rate of **over 90%**. Customers exhibit strong engagement with this discount program, as indicated by the high coupon usage rate.
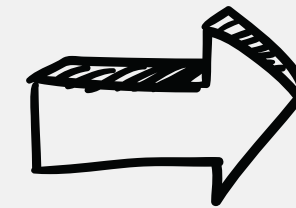
BUYER ABUSE - METHODOLOGY

TOTAL VOUCHER USING
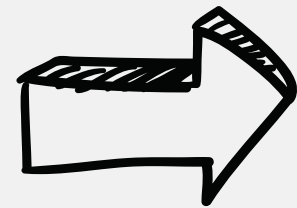
TIME BETWEEN COUPON USING

**TOTAL ORDER IN [67000;100000] VNĐ**

1

3

HIGH RISK

Perform customer segmentation to identify the group of customers who are likely to exploit the program for increased shopping. Assign values from 1 to 3 for each of the three defining criteria, where a value of 3 indicates a high likelihood

The distribution and relationship between the total order value and the frequency of coupon usage
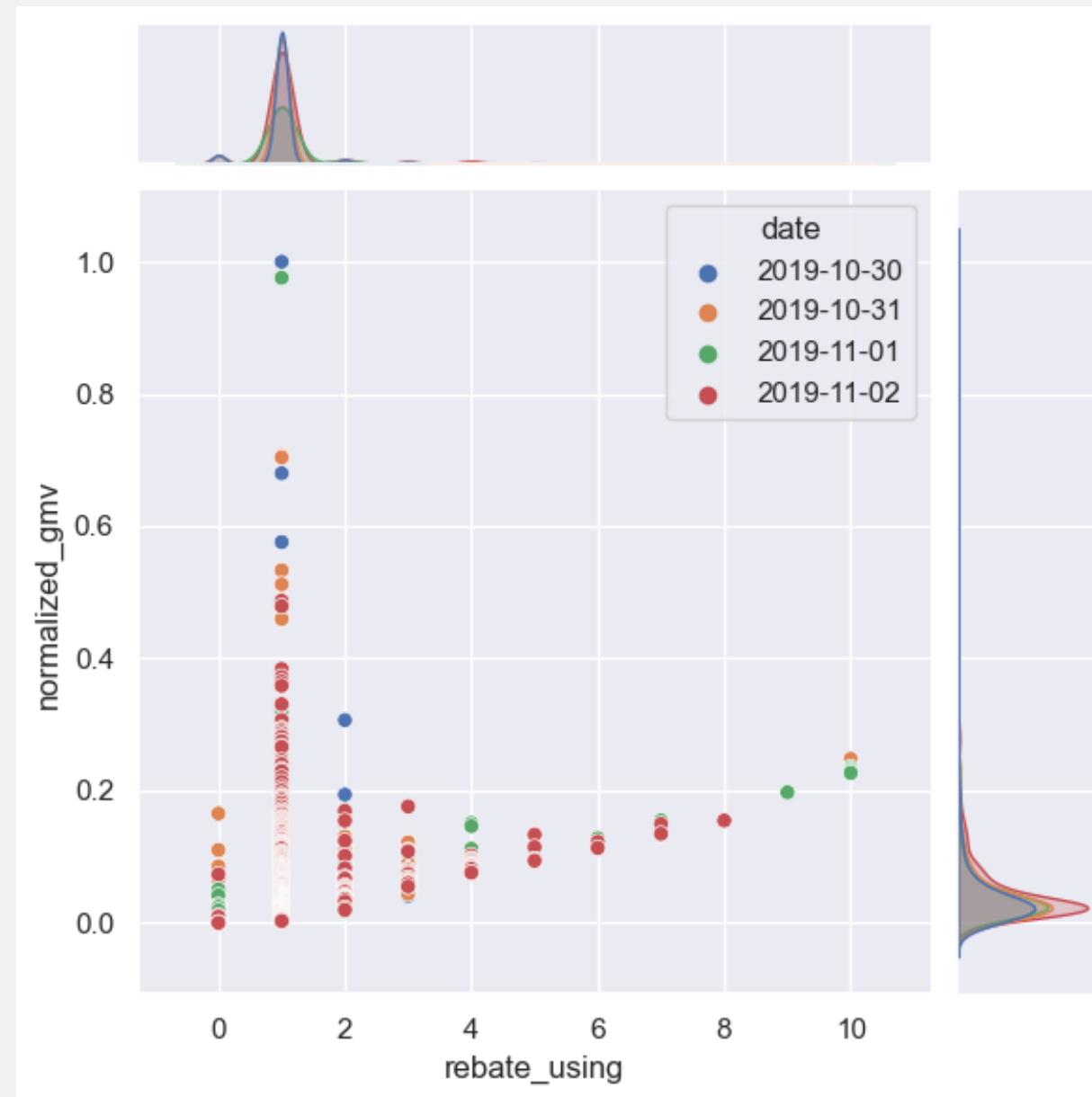
Promotion usage time tends to concentrate around **midday** or from **6 PM to 9 PM**
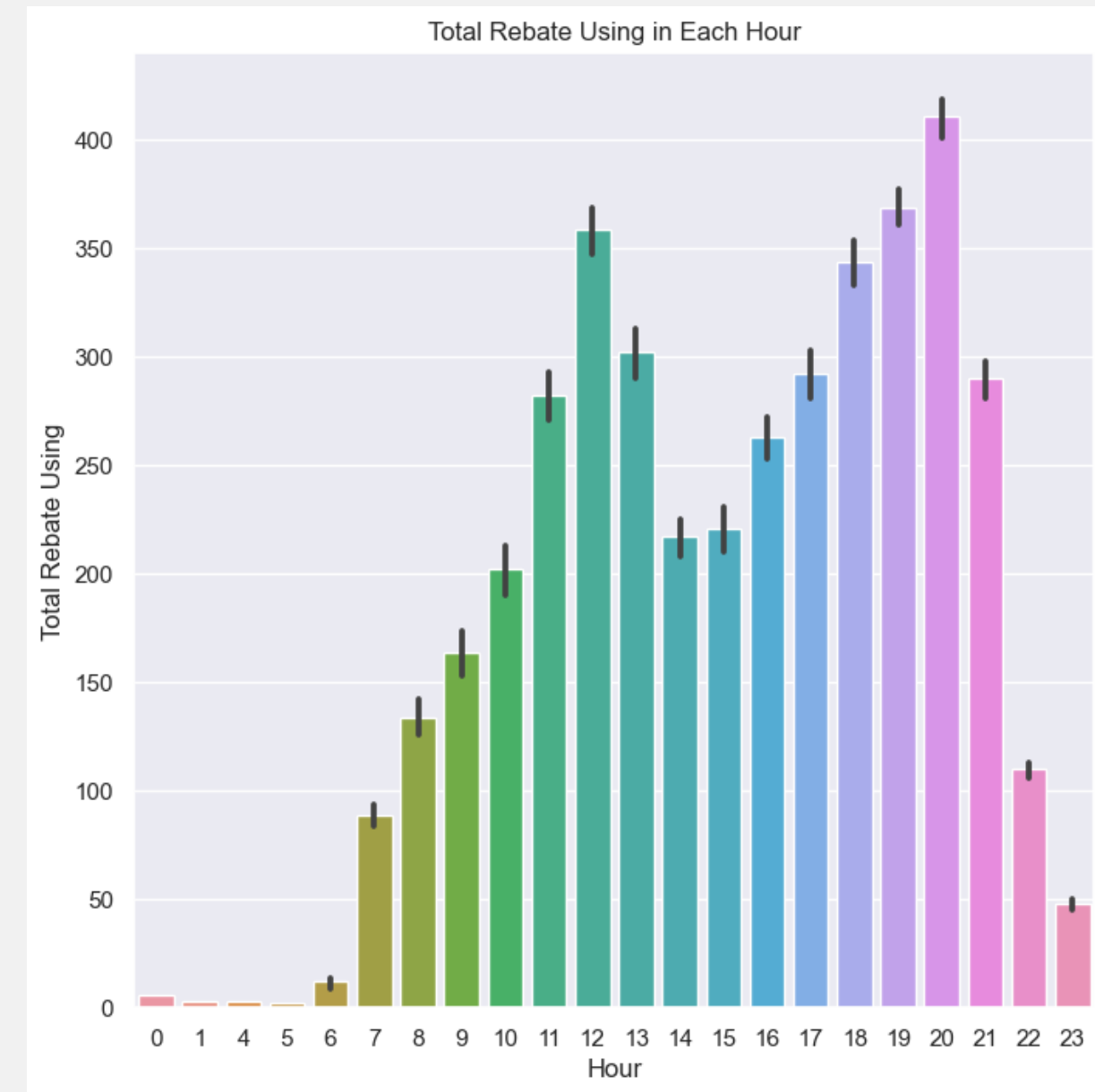
The customer groups with the highest usage of **10 coupon** are those that need careful consideration to determine whether they are exploiting the program or not
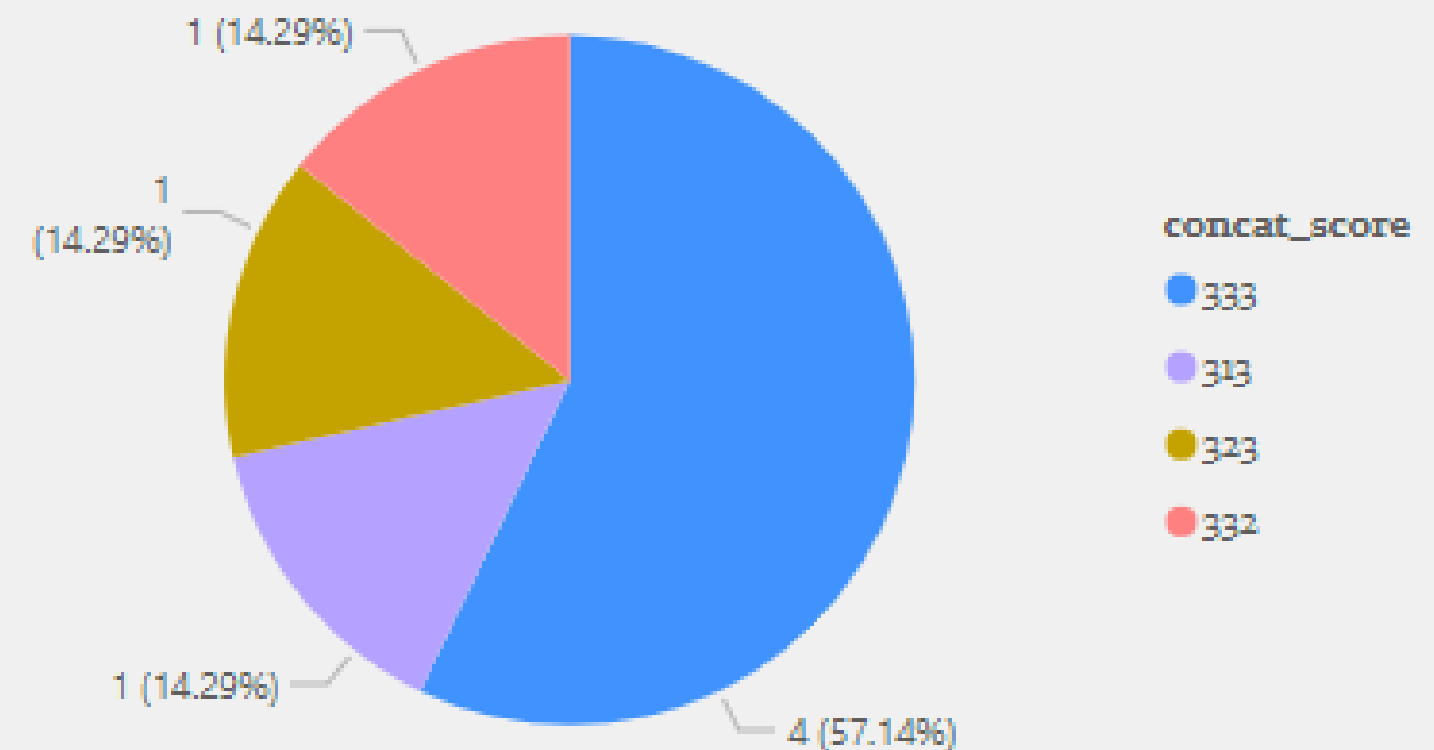
The majority of customer groups utilizing the promotional program do not exhibit signs of exploitation

There are **7 customers** that need to be considered for a higher risk of exploiting the promotional program

Total Customer by Segment

Segment	Count
131	1898
133	956
113	269
111	244
112	88
132	79
233	31
121	19
213	13
122	10
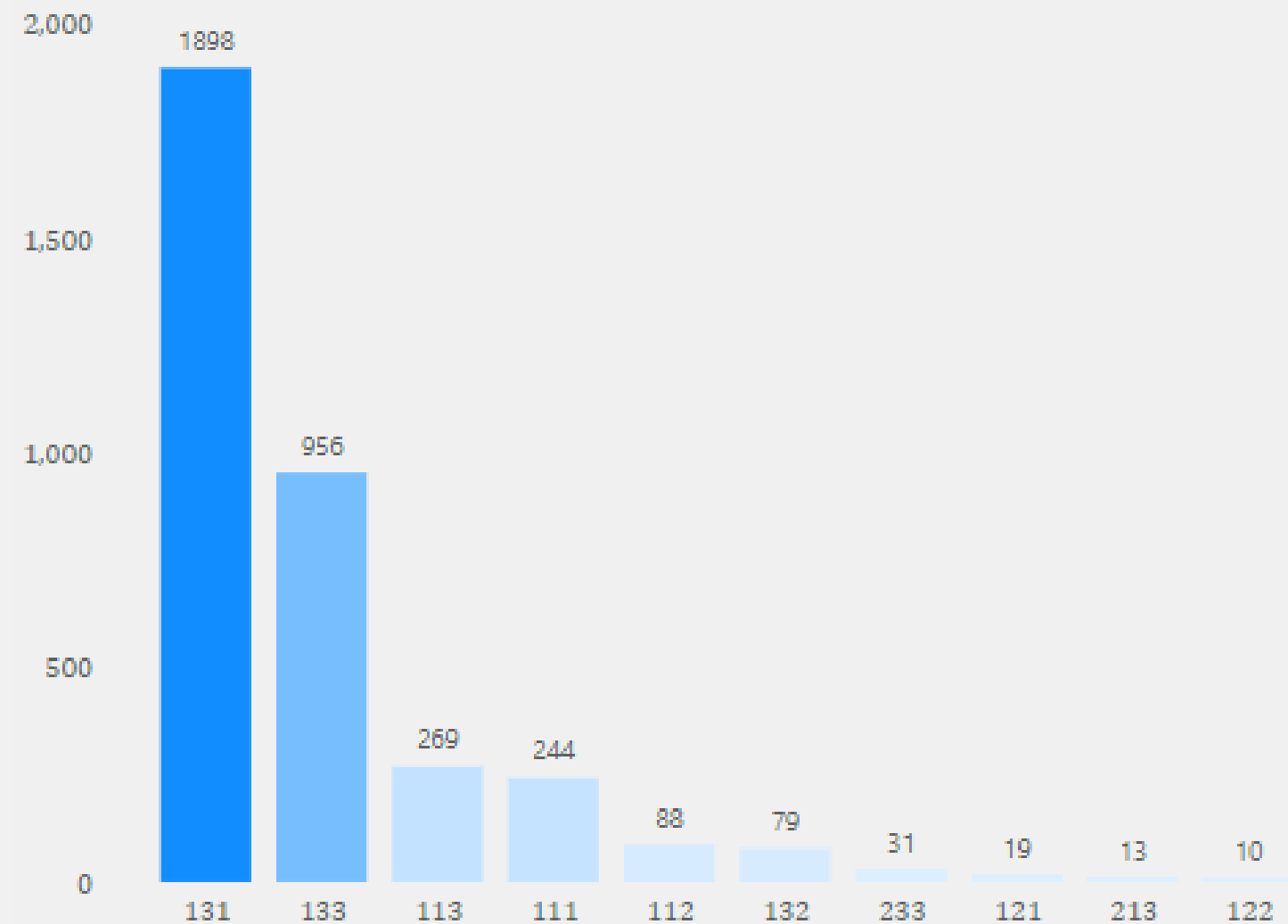
Total User in High Risk Abuse Segment

concat_score
- 333 — 4 (57.14%)
- 313 — 1 (14.29%)
- 323 — 1 (14.29%)
- 332 — 1 (14.29%)

It is essential to prioritize filtering out customers with a high frequency of coupon usage from the dataset. Afterward, proceed with analyzing the time interval between usage and the total order value within [67,000; 100,000 VND].

TOTAL REBATE USING	PCT RANGE VALUE	AVERAGE IN TWO REBATE USE
10	80.00	0 days 00:04:06.666666666
8	100.00	0 days 00:59:00
10	70.00	0 days 00:03:33.333333333
10	100.00	0 days 00:09:33.333333333
10	100.00	0 days 00:04:13.333333333
10	90.00	0 days 00:03:40
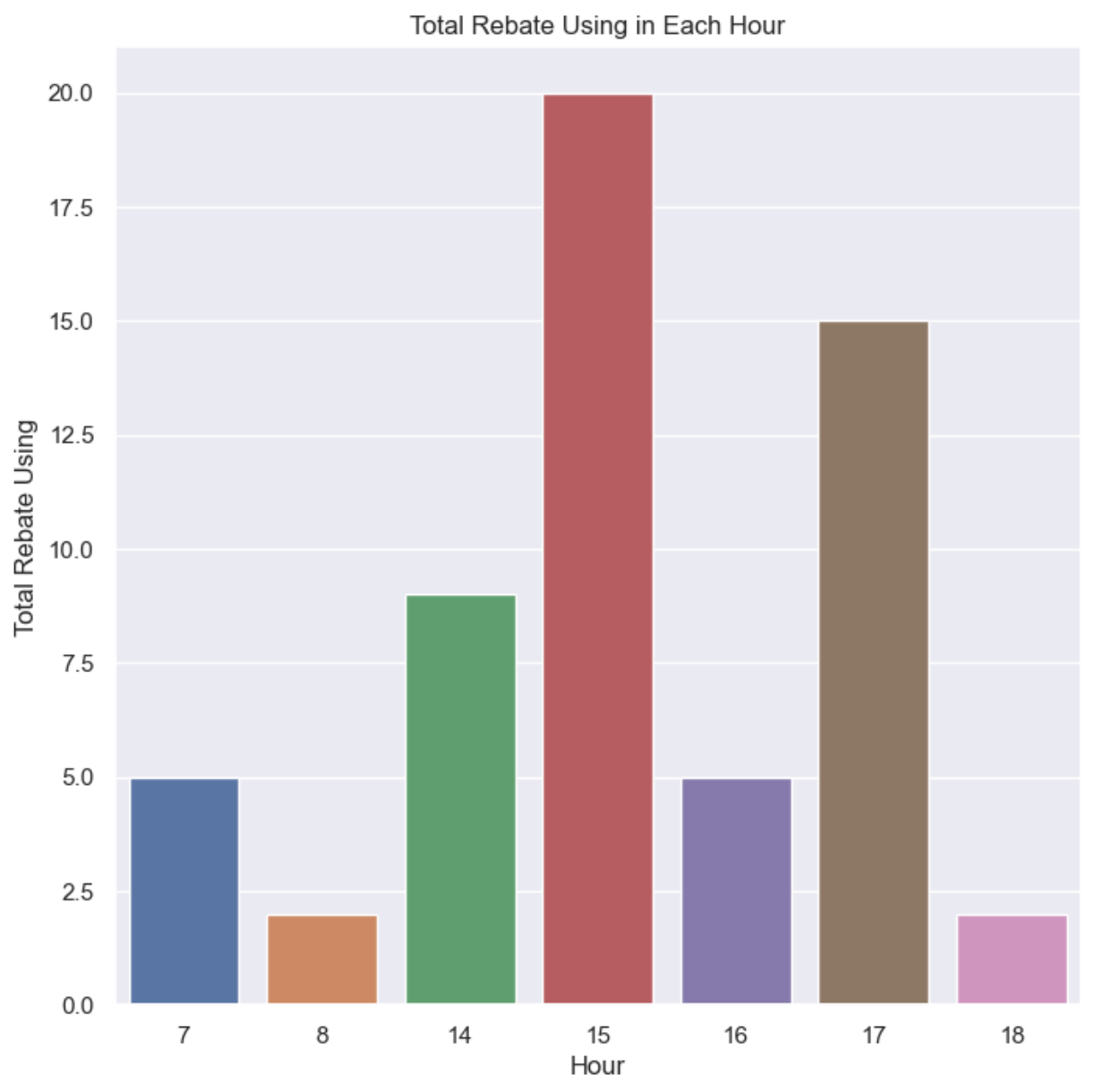
Total Rebate Using in Each Hour

103667901

gmv	rebate_using	order [67;100k]	total time using rebate
860000	10	10	0 days 00:38:00

103653392

gmv	rebate_using	order [67;100k]	total time using rebate
850000	10	10	0 days 01:26:00

103868446

gmv	rebate_using	order [67;100k]	total time using rebate
930000	10	9	0 days 00:33:00

These are the top 3 customers with the highest potential for abusing the current promotional program. They strategically split their orders within the optimal price range using the discount codes and execute multiple usages within a short timeframe.

SELLER ABUSE

REVENUE RATE INCREASE ABNORMALY

COUPON RATE INCREASE ABNORMALY
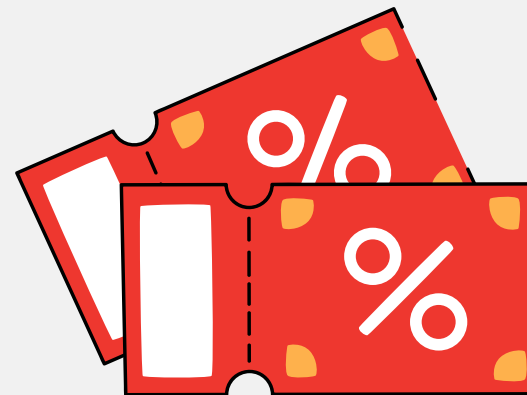
SPECIAL ORDER VALUE

— SPECIALS —

For the seller's perspective, attention should be directed towards **two specific groups**. The first group involves orders with unusual values, while the second group pertains to cases where revenue growth rates are boosted excessively through discount codes

ABNORMAL ORDER
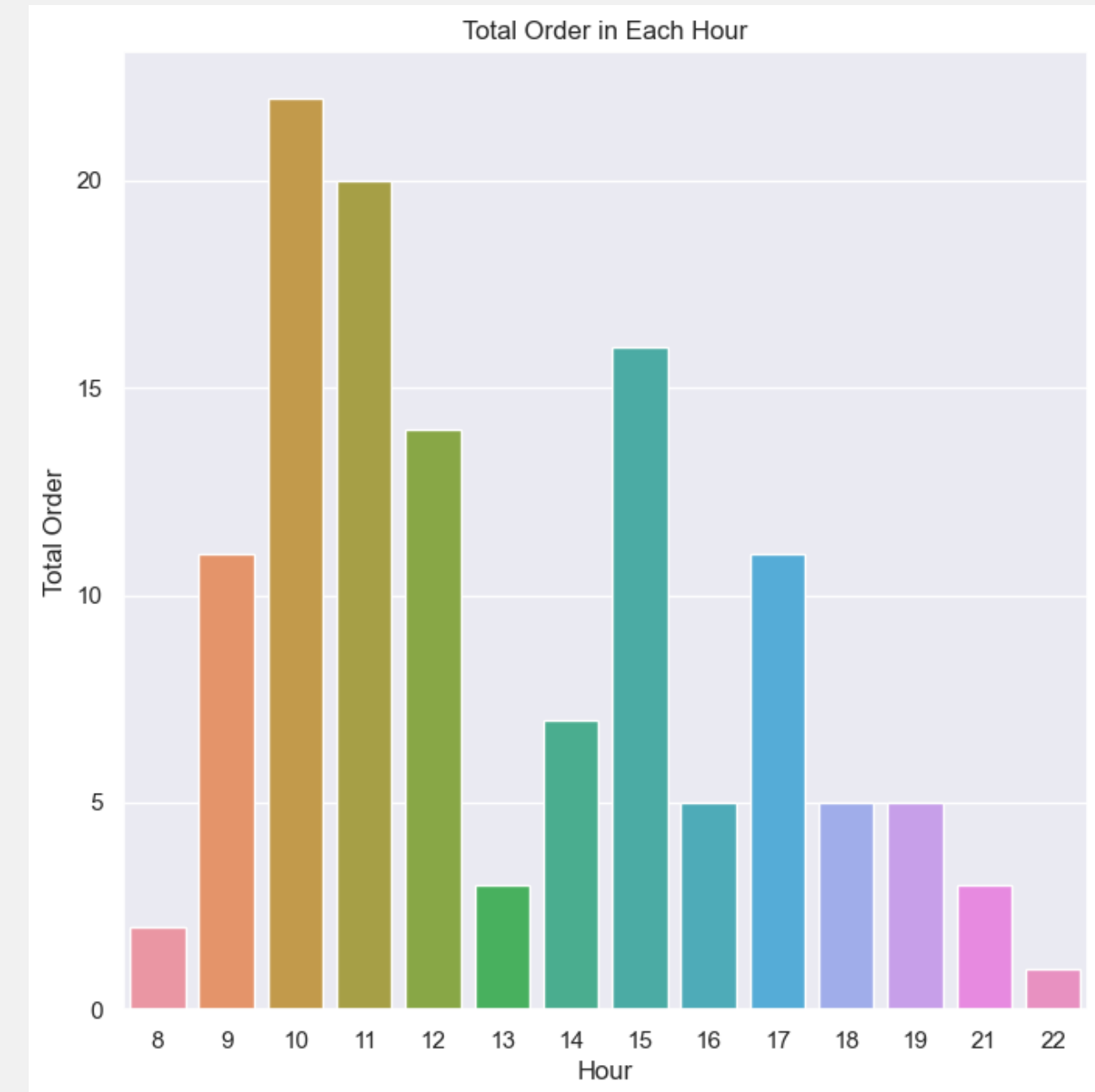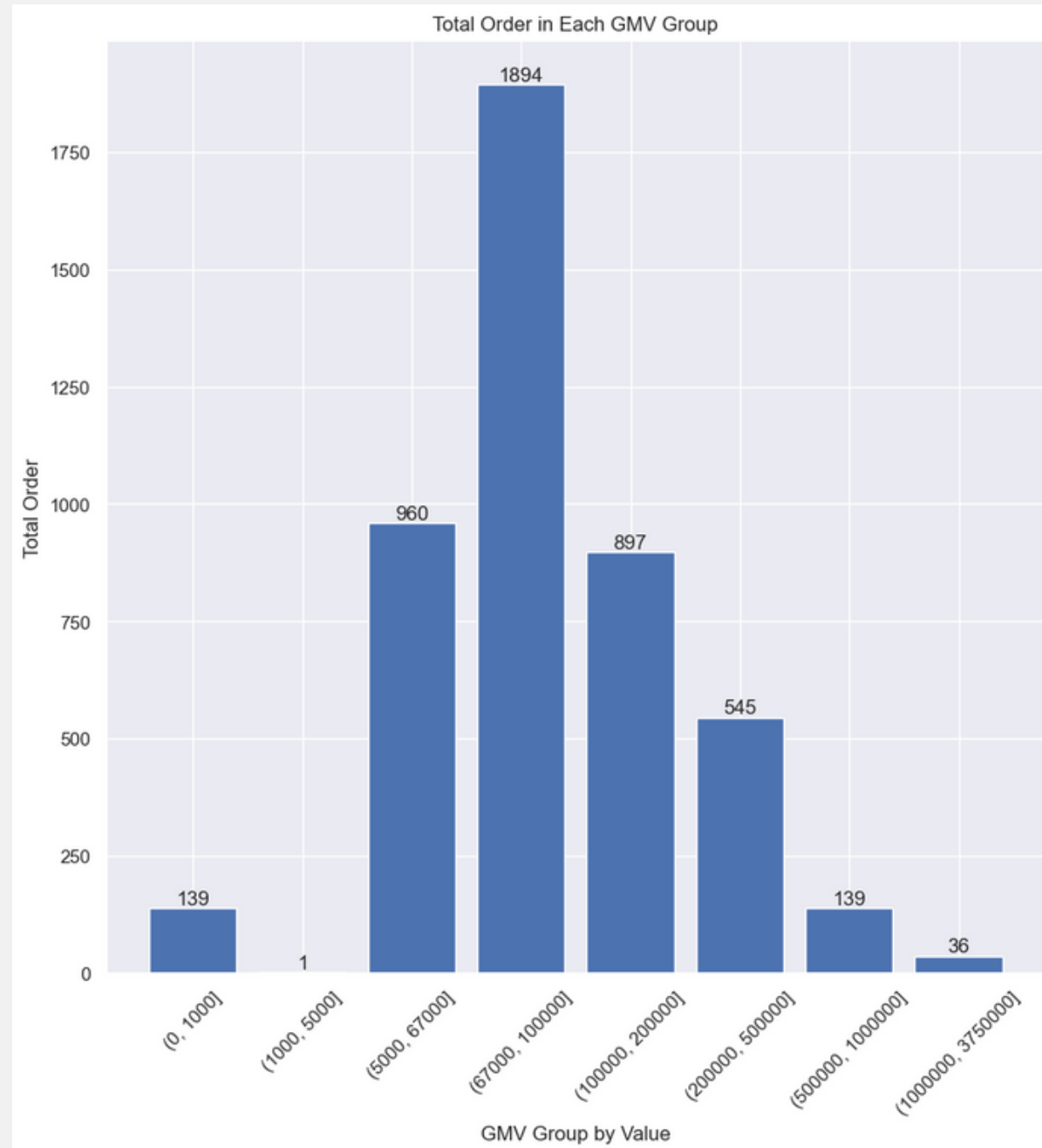
There are **139 orders** with values **lower or equal 1000VNĐ**, and they are often generated between **10-12 AM and 3-5 PM**. These are the orders that require attention as they might potentially be created with the intent of exploitation

There are **3 stores** with at least **3 orders** having values **under 1000 VND** and generated within a short time span (less than 15 minutes). This suggests that these stores are actively creating orders with the potential of exploiting the program. Furthermore, stores **30140 and 30148** have orders **only on 4 and 3** in the program, amounting to **4 and 3 VND** respectively. This indicates that these stores are likely using the program for different personal purposes

date	shop_id	total_order	total_time_differ
Friday, November 01, 2019	30140	4	0 days 00:15:00
Friday, November 01, 2019	30148	3	0 days 00:05:00
Friday, November 01, 2019	30185	3	0 days 00:04:00

30140

date	time	uid	order_id	gmv
Friday, November 01, 2019	10:16:00 AM	100605978	142446305	1
Friday, November 01, 2019	10:16:00 AM	100605978	142446346	1
Friday, November 01, 2019	10:31:00 AM	100605978	142449544	1
Friday, November 01, 2019	10:31:00 AM	100605978	142449619	1

Store 30140 has **4 orders** with a value of 1 VND, created **twice**, with 2 orders each time, spaced **15 minutes apart**, and originating from the same person. This store generated the **highest number** of orders under 1000 VND.

30185

date	time	uid	order_id	gmv
Friday, November 01, 2019	3:30:00 PM	100605978	142540604	1
Friday, November 01, 2019	3:30:00 PM	100605978	142540657	1
Friday, November 01, 2019	3:34:00 PM	100605978	142541942	1

Store 30185 is the second-highest in terms of generating orders under 1000 VND (**3 orders at 1 VND each**). These orders were created within a span of **4 minutes** and also originate from the same person

30148

date	time	uid	order_id	gmv
Friday, November 01, 2019	11:18:00 AM	100605978	142462570	1
Friday, November 01, 2019	11:18:00 AM	100605978	142462653	1
Friday, November 01, 2019	11:23:00 AM	100605978	142464309	1

Store **30148** also has **3 orders** under 1000 VND. These orders were created within a **5-minute timeframe** and also from same individual

CONCLUSION

All **three stores** pose the highest risk of exploiting the promotional program, and they all share the same individual creating these orders. It's evident that the user with **ID 100605978** could potentially be in collusion with these stores or might even be the individual creating these orders on behalf of the stores. This user seems to be generating **multiple orders at 1 VND** in other stores as well, and interestingly, they **only create a single order at 1 VND** in each store

REVENUE INCREASE ABNORMALY

	date	shop_id	gmv_sum	rebate_using_sum	rebate_using_count	pct_gmv
589	2019-10-31	3690	190000	1	1	189999.000000
1575	2019-11-01	29660	211500	2	2	2114.000000
1519	2019-11-01	28106	898200	1	1	898199.000000
1591	2019-11-01	29972	230000	1	2	1868.918699
2152	2019-11-02	27031	408100	2	2	408099.000000
2267	2019-11-02	29917	623000	1	1	622999.000000
2281	2019-11-02	30064	230000	1	1	229.000000
2259	2019-11-02	29767	105000	1	1	1049.000000
2274	2019-11-02	30006	70000	1	1	69999.000000

There are few stores with an extremely high day-over-day revenue increase (more than 1000%), but the increase in coupon usage rate is not substantial. Therefore, it's not possible to conclusively determine whether these stores are exploiting the program based solely on the data from one program. It might be worth considering whether these stores have generated orders below 1000 VND to cross-reference against possibility of exploitation

REVENUE INCREASE ABNORMALY

	date	shop_id	gmv_sum	rebate_using_sum	rebate_using_count	pct_gmv
589	2019-10-31	3690	190000	1	1	189999.000000
1575	2019-11-01	29660	211500	2	2	2114.000000
1519	2019-11-01	28106	898200	1	1	898199.000000
1591	2019-11-01	29972	230000	1	2	1868.918699
2152	2019-11-02	27031	408100	2	2	408099.000000
2267	2019-11-02	29917	623000	1	1	622999.000000
2281	2019-11-02	30064	230000	1	1	229.000000
2259	2019-11-02	29767	105000	1	1	1049.000000
2274	2019-11-02	30006	70000	1	1	69999.000000

All the aforementioned stores have at **least one order** with a value below 1000 VND. Therefore, it's important to consider placing all these stores under scrutiny for potential exploitation of the program to stimulate purchases and rapidly increase revenue.

ONLY BUYER ABUSE

CUSTOMER ABUSE

103667901
103653392
103868446

BOTH COOPERATE ABUSE

CỬA HÀNG

30140
30148
30185

BOTH CO-OPERATE ABUSE

NGƯỜI MUA 100605978