GREEDY GAMES ASSESSMENT

JULY 09TH 2025

Submitted by

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Task 1

Transaction data analysis

Q1

1.50 days

- Average time to second transaction

Q2

14.04%

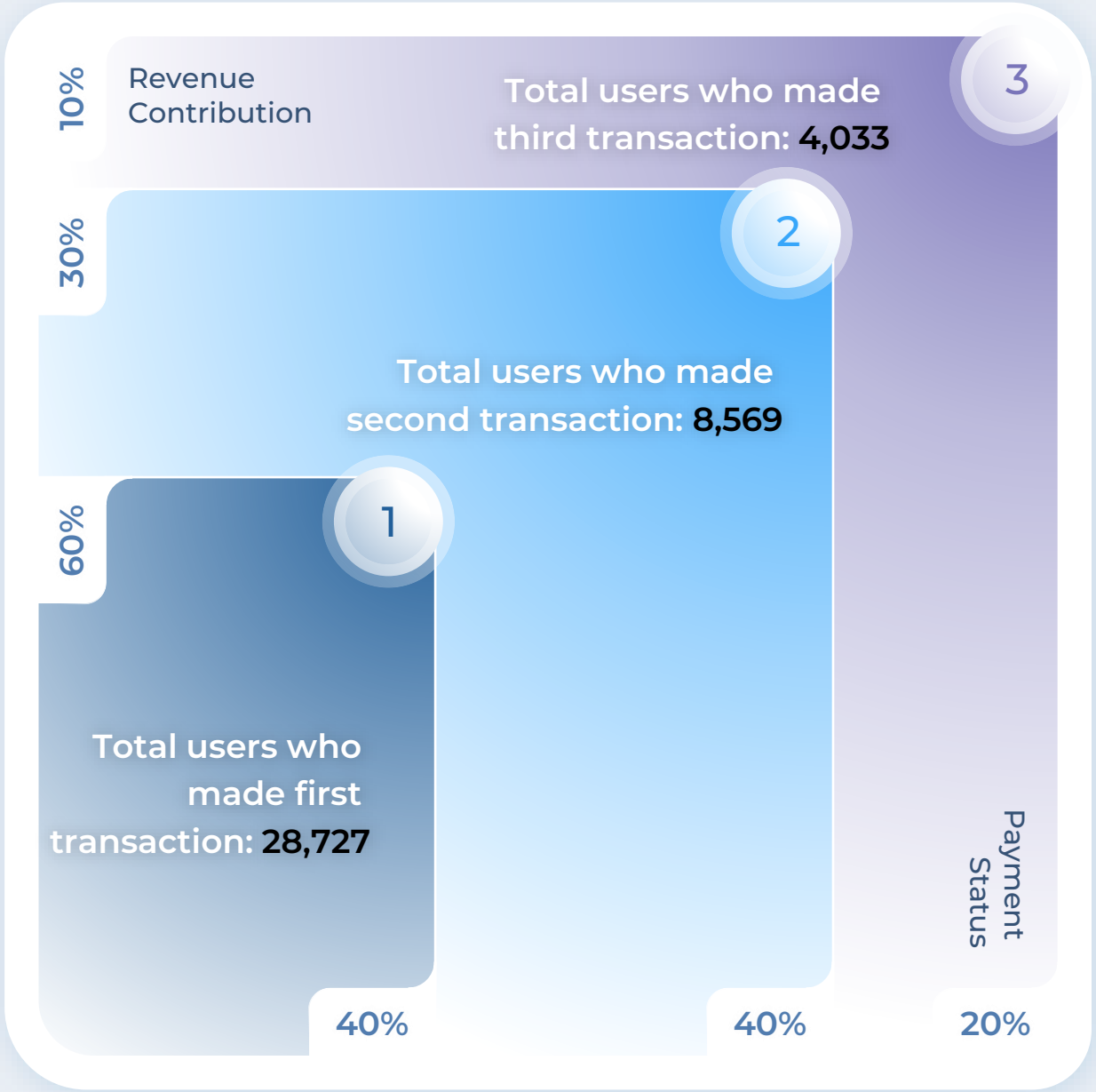
- Percentage who made second transaction

Q3

45.17 INR

- Average amount after first transaction

Note : Average first transaction amount: 24.51 INR



Task 2 : Identify High-Value Transactions

1

Base Data Selection

Retrieves all transaction records
No filtering, partition or calculations yet
Foundation for building our solution

2

Find the Average Value by adv_id

Adds window function for averages
Groups by advertiser (adv_id)
Orders chronologically (created_at)

3

Using Rows Between for Frame

Limits window to exact 3 previous rows
Excludes current row from calculation

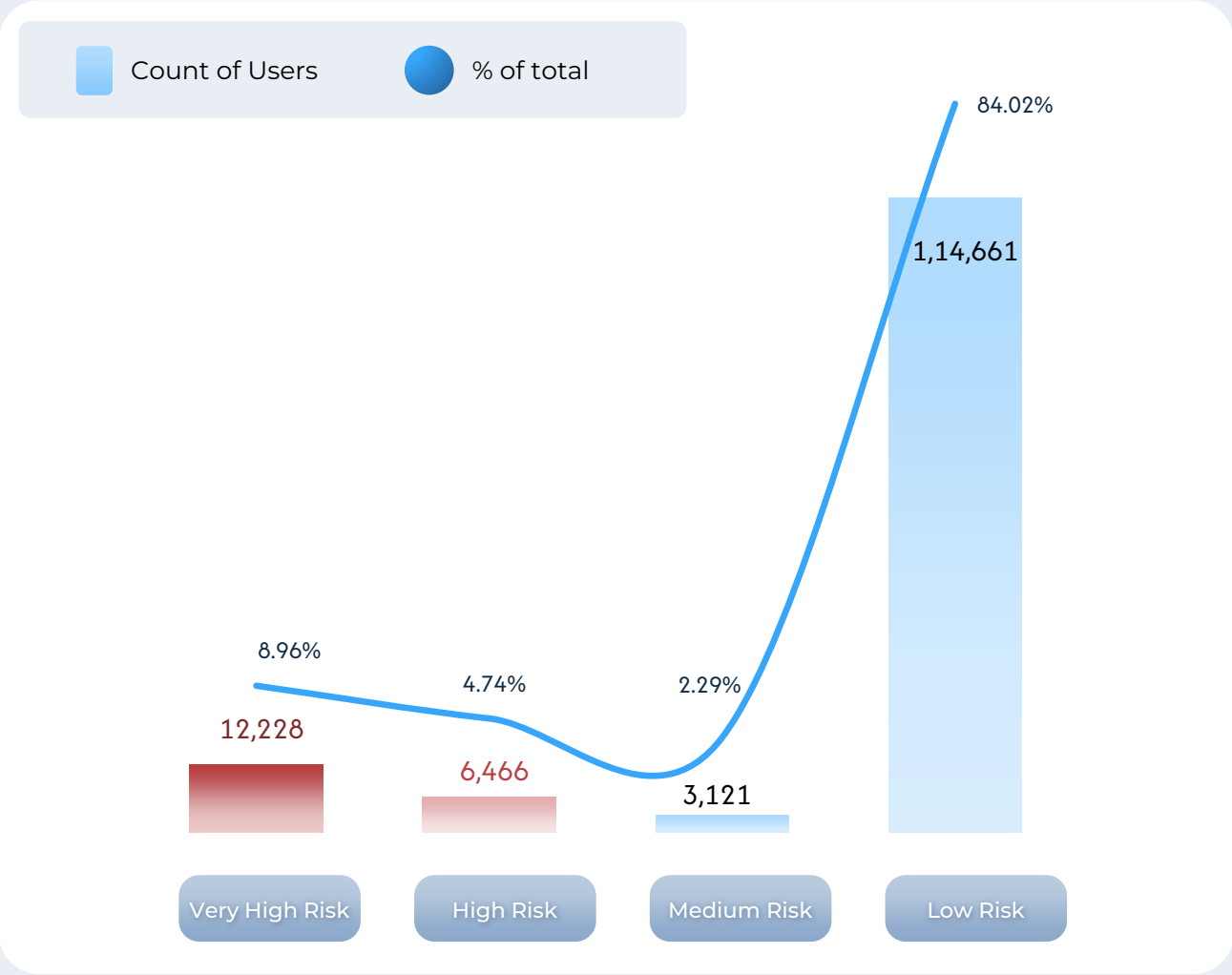
4

Final Filtered Solution

Wraps calculation in CTE
Filters for 2x threshold condition
Returns only relevant columns

```sql
WITH TransactionWithMovingAvg AS (
    -- Step 1: Calculate the moving average for each transaction
    SELECT
        *, -- Select all original columns from the table
        AVG(value_in_paise) OVER (
            PARTITION BY adv_id
            ORDER BY created_at
            ROWS BETWEEN 3 PRECEDING AND 1 PRECEDING
        ) AS avg_of_previous_3
    FROM
        high_val_transactions
)
-- Step 2: Filter for transactions that meet the specified condition
SELECT
    adv_id,
    value_in_paise,
    avg_of_previous_3,
    created_at,
    payment_gateway,
    payment_status
FROM
    TransactionWithMovingAvg
WHERE
    value_in_paise >= 2 * avg_of_previous_3;
```

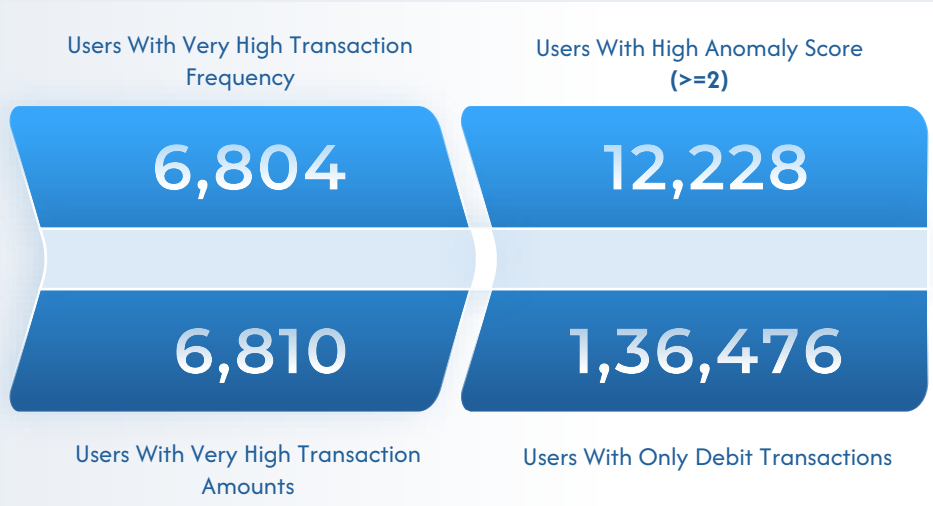
Task 3 : Identify Unusual Wallet Activity for Potential Fraud Detection



In total we have **18694** at risk users

Average transactions: **22.17**
Average total amount: **10461.92**
Average frequency: **5.05 txns/day**

Within these 18694, Users with extreme Z-scores (>3): **3886**



Task 4 : Analyze Upvote and Downvote Data

Total Votes	1,048,575	28%
Unique Users	172,079	22%
Unique Offers	1,050	18%
Countries	117	14%
Apps	155	12%
Avg Daily Votes	1,31,072	6%

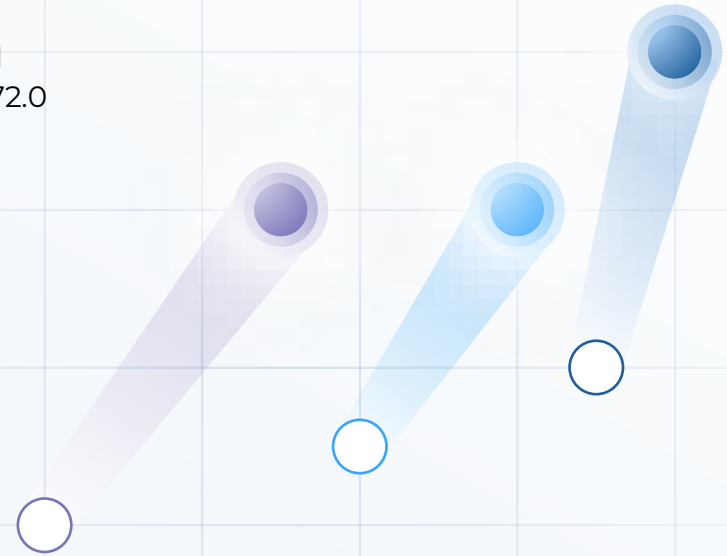
MAIN TAKEAWAY

95.6% positive

OVERALL SENTIMENT

Most Engaged Country: IN

Best Performing Offer: 5272.0



89.8% positive users

USER SATISFACTION

Peak Activity Day: Wed

5.9 offers / user

AVERAGE ENGAGEMENT

Quality Offers (A-grade): 3 offers

Task 5 : Comparing Revenue Per User Between Referral & Non-Referral Groups

TOTAL REVENUE

Referral users contribute ~24.4% of the revenue, close to their proportion of users.

$7,937.75	Referral Group	$24,630.98	Non - Referral Group

TOTAL USERS

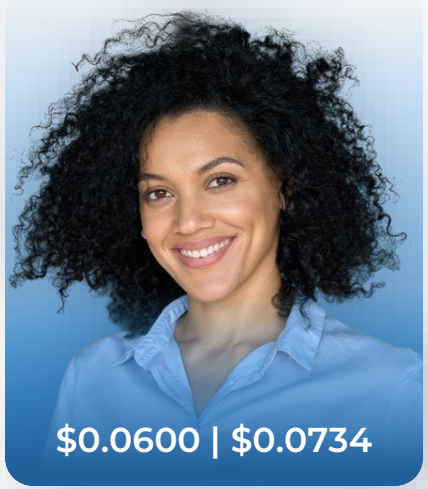
Referral users are ~23% of the total base. The non-referral base is significantly larger.

39,389	Referral Group	131,015	Non - Referral Group

RPU

Referral users generate **7.19% more revenue** per user than non-referrals

$0.2015	Referral Group	$0.1880	Non - Referral Group



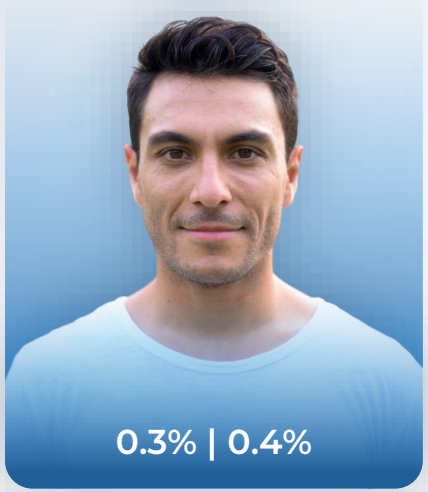
MEDIAN REVENUE

Despite a higher average RPU, the **median is lower for referrals**, suggesting a **skewed distribution** (a few high-value referral users pulling up the average).

ZERO REVENUE USERS

Negligible difference - both channels have near-complete monetization

Paradoxically, the proportion of transactions worth more than **$5 is higher for non-referrals (0.5%)** than for referrals **(0.2%)**. This confirms non-referrals generate high-value transactions more consistently



Task 6 : Detecting Discrepancies in User Signup and Click Locations

MAIN TAKEAWAY

India as Epicenter of Discrepancies, **~78% of mismatches** involved Indian users clicking from other countries (Indonesia, Philippines, UAE).

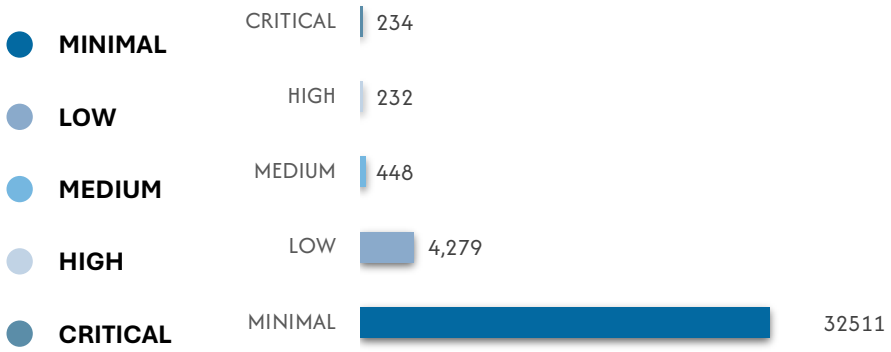
Top Discrepancy Patterns

India → Indonesia: 7,788
India → Philippines: 6,011
India → UAE: 3,000
India → USA: 2,994
India → Thailand: 1,197

NORTH STAR METRICS

206,855	24,573	11.88%	37
Total Clicks Analyzed	Clicks with Location Discrepancies	Discrepancy Rate	Hyperactive Suspicious Users

RISK DISTRIBUTION



MORE ABOUT USERS

37 **users** with >100 clicks and **>80% discrepancy rate**

489 **users (1.3% of total)** clicked from **>1 country**

30.3
Peru Has the highest Fraud Score

20
Netherlands , second highest

18.8
Singapore, third highest

THANK YOU

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Link to GitHub Repo