

# **GREEDY GAMES ASSESSMENT**

JULY 09<sup>TH</sup> 2025

Submitted by

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# Task 1

## Transaction data analysis

Q1

1.50 days

- Average time to second transaction

Q2

14.04%

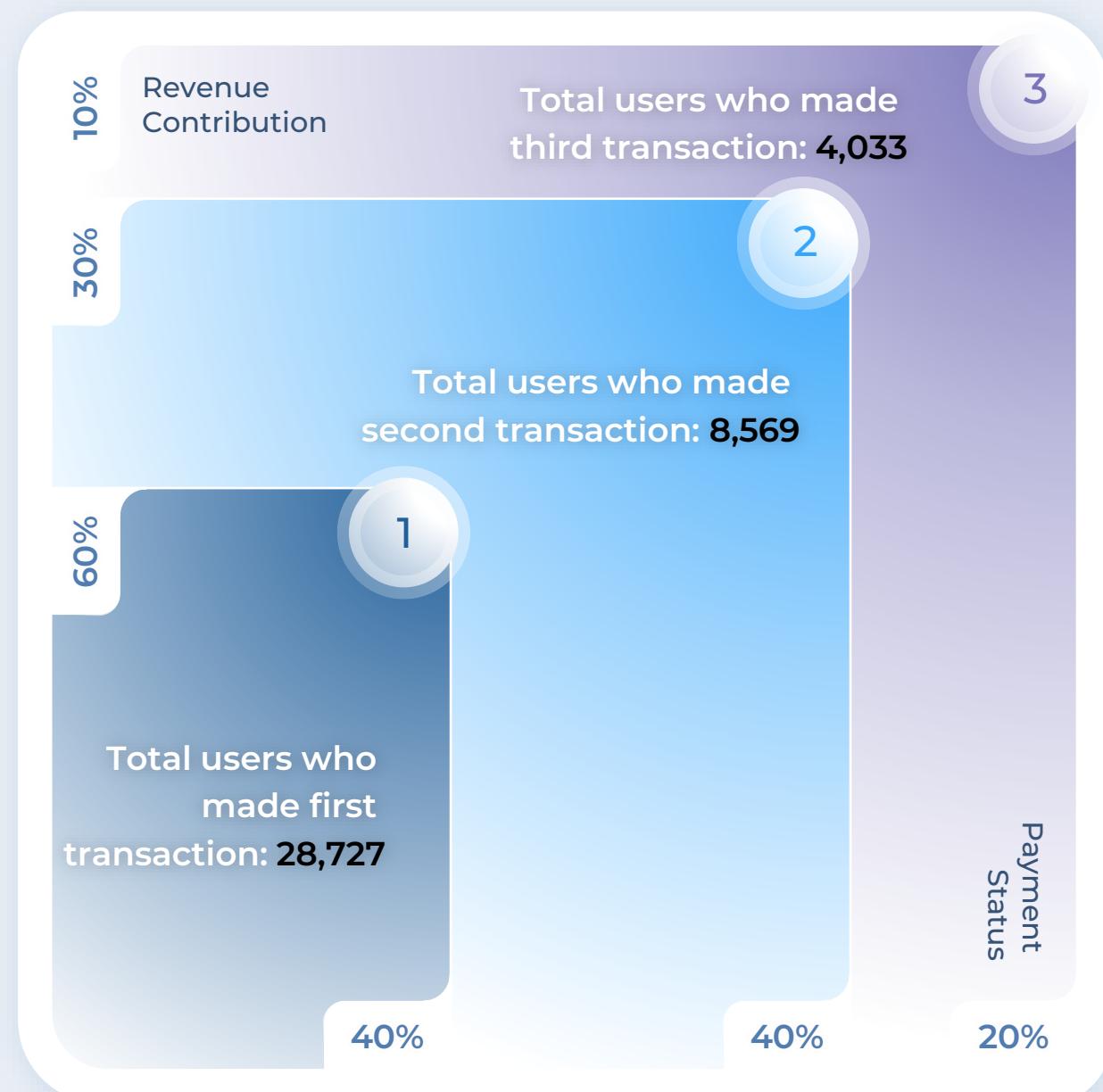
- Percentage who made second transaction

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

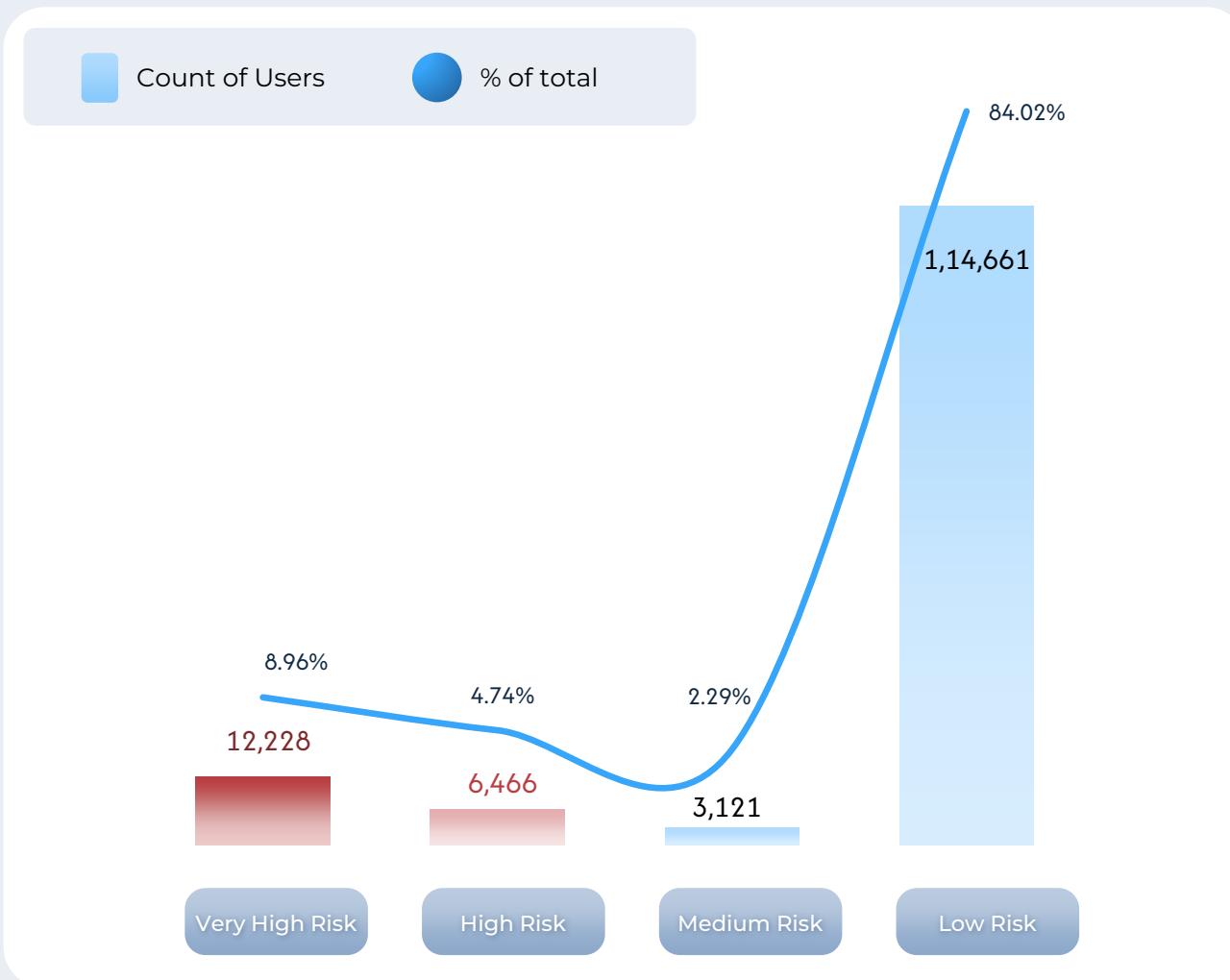
4

## Final Filtered Solution

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

```
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**

Users With Very High Transaction Frequency

**6,804**

Users With High Anomaly Score (>=2)

**12,228**

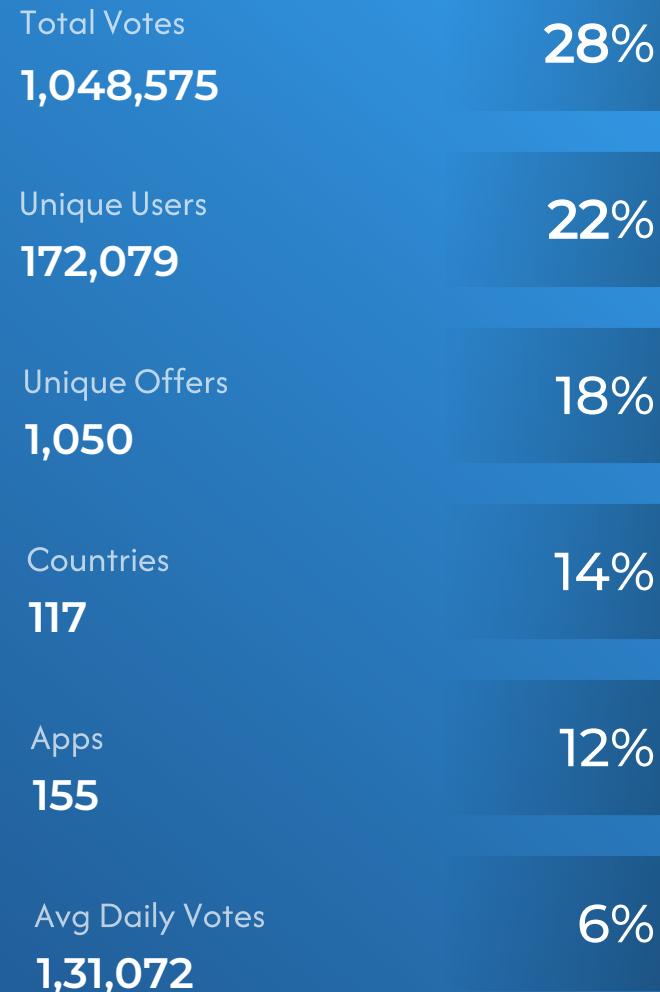
**6,810**

Users With Very High Transaction Amounts

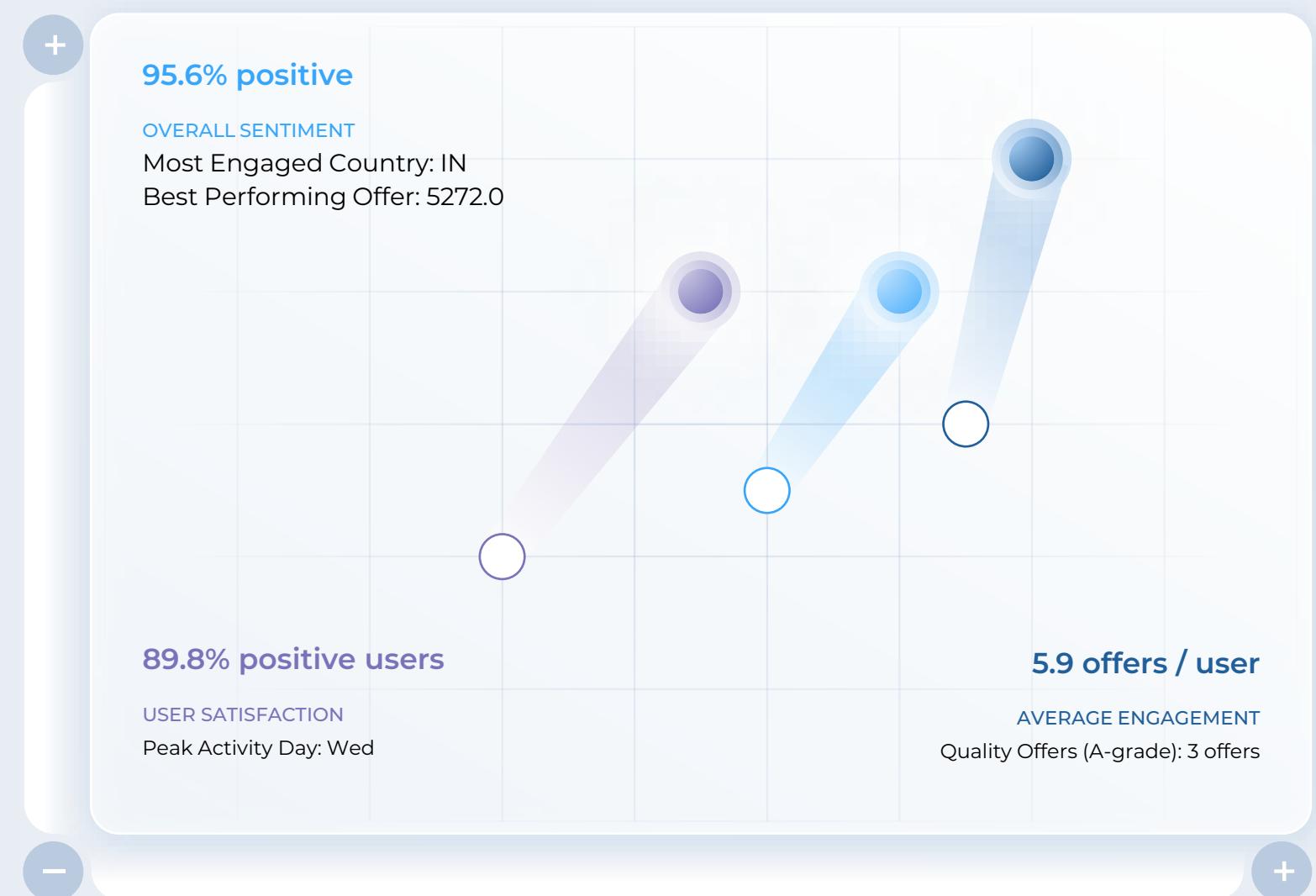
**1,36,476**

Users With Only Debit Transactions

## Task 4 : Analyze Upvote and Downvote Data



MAIN TAKEAWAY



# 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

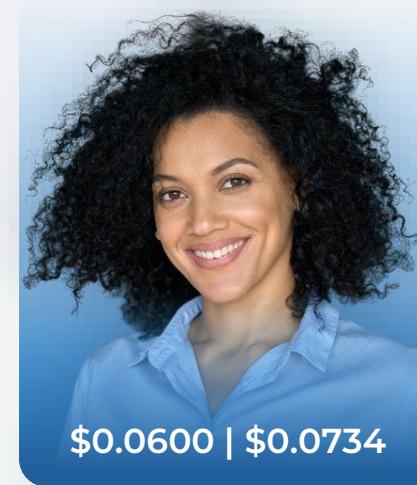
Referral users generate **7.19% more revenue** per user than non-referrals

\$0.2015

Referral Group

\$0.1880

Non - Referral Group



## MEDIAN REVENUE

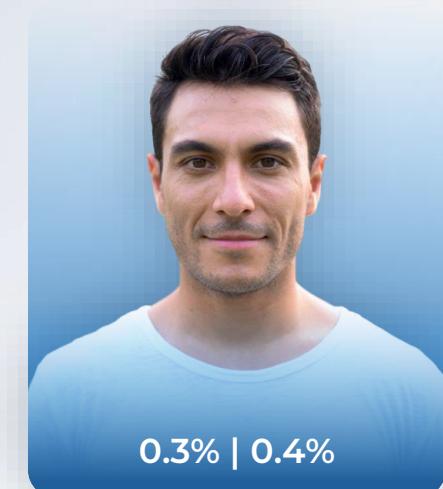
Despite a higher average RPU, the **median is lower for referrals**, suggesting a **skewed distribution** (a few high-value referral users pulling up the average).

## 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

MINIMAL

CRITICAL | 234

LOW

HIGH | 232

MEDIUM

MEDIUM | 448

HIGH

LOW | 4,279

CRITICAL

MINIMAL | 32511

32511

## 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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