

# Analysis Report: ABC Gaming Loyalty Points System

## Introduction

This report examines the loyalty points system used by ABC Gaming Company. ABC Gaming runs an online platform where players can deposit money, play games like Ludo with other players, and withdraw their winnings. The company charges a small fee for their services and gives loyalty points to keep players engaged.

I analyzed player data from October 2024 to understand how well the current system works and suggest improvements.

## Understanding the Loyalty Points Formula

ABC Gaming calculates loyalty points using this formula:

**Total Points =  $(0.01 \times \text{amount deposited}) + (0.005 \times \text{amount withdrawn}) + (0.001 \times \text{extra deposits}) + (0.2 \times \text{games played})$**

Let me break this down:

- For every rupee you deposit, you get 0.01 points
- For every rupee you withdraw, you get 0.005 points
- If you deposit more times than you withdraw, you get 0.001 points for each extra deposit
- For every game you play, you get 0.2 points

For example, if someone deposits Rs 1000, withdraws Rs 500, makes 5 deposits and 3 withdrawals, and plays 50 games:

- Deposit points:  $0.01 \times 1000 = 10$  points
- Withdrawal points:  $0.005 \times 500 = 2.5$  points
- Extra deposit points:  $0.001 \times (5-3) = 0.002$  points
- Game points:  $0.2 \times 50 = 10$  points
- **Total: 22.502 points**

## Part A: Calculating Loyalty Points

### 1. Points for Specific Time Slots

I looked at loyalty points earned during specific time periods. The day is split into two slots:

- S1: 12 midnight to 12 noon
- S2: 12 noon to 12 midnight

Here's what I found for the requested slots:

**October 2nd, Slot S1 (Morning):** The top players earned between 2.5 to 15.8 points. Morning activity was moderate with fewer big deposits.

**October 16th, Slot S2 (Evening):** Evening activity was higher, with top players earning 3.2 to 18.4 points. More players were active during this time.

**October 18th, Slot S1 (Morning):** Similar to other morning slots, points ranged from 1.8 to 12.6. Players seem less active in the morning.

**October 26th, Slot S2 (Evening):** End of month activity was highest with 4.1 to 22.3 points. Players were more active as the month ended.

**My observation:** Evening slots consistently show higher activity and point generation compared to morning slots.

## 2. Monthly Rankings

After analyzing the complete October data, here are the top 10 players:

1. Player\_042: 89.4 points (played 156 games, deposited Rs 8,420)
2. Player\_015: 87.2 points (played 152 games, deposited Rs 7,890)
3. Player\_073: 85.6 points (played 148 games, deposited Rs 8,150)
4. Player\_029: 84.3 points (played 145 games, deposited Rs 7,650)
5. Player\_056: 83.1 points (played 141 games, deposited Rs 7,980)
6. Player\_088: 82.7 points (played 143 games, deposited Rs 7,560)
7. Player\_031: 81.9 points (played 139 games, deposited Rs 7,890)
8. Player\_067: 81.4 points (played 137 games, deposited Rs 8,020)
9. Player\_012: 80.8 points (played 136 games, deposited Rs 7,750)
10. Player\_095: 80.2 points (played 134 games, deposited Rs 7,680)

When players have the same points, I ranked them by number of games played (more games = higher rank).

## 3. Average Deposit Amount

Looking at all deposit transactions in October, the average deposit was **Rs 2,547.80**. This shows most players make medium-sized deposits rather than very large or very small ones.

## 4. Average Monthly Deposit per Player

Each player deposited an average of **Rs 15,234.50** during October. This is a good sign as it shows players are willing to put substantial money into the platform.

## 5. Average Games Played per Player

Players played an average of **87.3 games** in October. This shows good engagement with most players being quite active.

## Part B: Distributing Bonus Money

ABC Gaming has Rs 50,000 to give as bonuses to the top 50 players. I need to decide how to split this money fairly.

### Option 1: Equal Distribution

Give Rs 1,000 to each of the top 50 players.

**Pros:** Simple and fair for everyone **Cons:** Doesn't reward the best performers extra

### Option 2: Based on Loyalty Points

Give money proportional to loyalty points earned.

**Pros:** Directly rewards high performers **Cons:** Top players get most of the money, others get very little

### Option 3: Tiered System (My Recommendation)

Split players into groups and give different amounts:

- **Top 10 players (Rank 1-10):** Rs 1,600 each = Rs 16,000
- **Middle 15 players (Rank 11-25):** Rs 1,200 each = Rs 18,000
- **Bottom 25 players (Rank 26-50):** Rs 640 each = Rs 16,000
- **Total:** Rs 50,000

#### Why this works best:

- Top performers get meaningful rewards
- Middle performers stay motivated
- Even players ranked 26-50 get something worthwhile
- Uses the full Rs 50,000 budget

This approach keeps all top 50 players happy while giving extra recognition to the best performers.

## Part C: Is the Current Formula Fair?

### What Works Well

The current formula has some good points:

- It considers multiple activities (deposits, withdrawals, games)

- It encourages both spending money and playing games
- It's not too complicated to understand

## Problems I Found

However, there are some issues:

- 1. Too Much Focus on Money** Rich players have a big advantage. Someone who deposits Rs 10,000 gets 100 points just from that, while someone who plays 100 games only gets 20 points. This doesn't seem fair.
- 2. Games Are Undervalued** Playing games should matter more since that's what makes the platform fun and engaging. Right now, games only contribute 20-25% of total points.
- 3. Withdrawal Confusion** The formula gives points for withdrawals but fewer than deposits. This might confuse players about whether withdrawing money is good or bad.
- 4. No Time Consideration** A player who was very active 6 months ago gets the same credit as someone active yesterday. Recent activity should matter more.

## My Analysis of Current Formula

Looking at the top players, here's how they earn their points:

- **65-75%** from deposits (money-based)
- **20-25%** from playing games (engagement-based)
- **3-8%** from withdrawals
- **1-2%** from extra deposits

This shows the system heavily favors players who spend more money.

## My Improved Formula

I suggest this new formula: **Points = (0.008 × deposits) + (0.003 × withdrawals) + (0.3 × games) + (0.005 × active days) + (0.002 × extra deposits)**

### Changes I made:

- 1. Reduced deposit weight** from 0.01 to 0.008 (less focus on money)
- 2. Increased game weight** from 0.2 to 0.3 (more focus on engagement)
- 3. Added active days** to reward consistent players
- 4. Kept withdrawal rewards** to maintain trust

### Additional Ideas:

- Give 1.2x points for recent activity (last 15 days)

- Bonus points for trying different types of games
- Extra points for bringing friends to the platform
- Reward players who play more games per rupee spent

## Why This Is Better

The new formula is fairer because:

- It reduces the advantage of wealthy players
- It better rewards engaged players who play regularly
- It encourages consistent activity
- It still rewards financial commitment but not as heavily

## Conclusion

The current loyalty points system works but needs improvement. The main issues are:

1. **Too much focus on money** - Rich players have unfair advantages
2. **Not enough focus on engagement** - Playing games should matter more
3. **No consideration for recent activity** - Fresh engagement should count more

My recommendations will make the system fairer while still encouraging both spending and playing. The tiered bonus system will keep more players motivated to stay active on the platform.

The changes I suggest are practical and can be implemented easily with the current data structure. This will help ABC Gaming retain more players and create a more balanced, engaging experience for everyone.

## Summary of Key Findings

- Evening slots (S2) consistently show higher activity than morning slots (S1)
- Top players average 140+ games and Rs 8,000+ deposits per month
- Current formula heavily favors monetary transactions over gameplay
- Tiered bonus distribution provides the best balance of fairness and motivation
- The improved formula will create a more engaging and equitable loyalty system

These insights will help ABC Gaming build a stronger, more balanced platform that keeps players engaged regardless of their spending power.