VP Compensation Performance Bonus Analysis

STRAWBRIDGE CFO CONSULTING GROUP

BRIDGING THE GAPS IN BUSINESS

Introduction

- Company is in process of reviewing it compensation levels and incentive structure.

- Company asked the Firm to review and make recommendations specific to the incentive plan for **VP year-end performance bonus** to identify total cost and run several scenario simulation under different tiered structures for potential outcomes.

- **To that end, we:**

- Interviewed key stakeholders to understand the business and incentive structure,
- Gathered the current bonus options from management for tiered performance achievement,
- Reviewed the existing incentive plan structure,
- Based on the information provided, we designated 4 different tiered simulations,
- We then ran 30 different simulations under each scenario to see potential outcomes of performance and total plan costs, and
- Made recommendations for which plan meets cultural needs and align with budgetary costs.

- **Today, we will present our findings and gather feedback from Company. The feedback will allow us to develop more specific recommendations for go-forward pay and incentive plans at the Company.**

Content

Overview

The below tiers represents the different % achieved of goals provide by management.

We developed 4 scenarios based upon the below payouts for an achieved Tier.

Tiered Structure Simulations

Tier	Scenario 1	Scenario 2	Scenario 3	Scenario 4
< .8	0.00	0.00	0.00	0.00
<.85	0.80	0.80	0.80	0.80
<.9	0.80	0.85	0.90	0.80
<.95	0.80	0.90	0.90	0.90
<1.00	0.90	0.95	1.00	0.95
<1.05	1.00	1.00	1.00	1.00
<1.10	1.10	1.05	1.00	1.05
<1.15	1.20	1.10	1.10	1.10
<1.20	1.20	1.15	1.10	1.20
>1.20	1.20	1.20	1.20	1.20

MODEL ASSUMPTIONS

- **Adjustment for ARR Exceeding Target**:
  - If ARR exceeds the target (\$11,000,000), EBITDAC is adjusted by subtracting the excess ARR divided by 1.18.

- **Tiered Payout Scenarios**:
  - Four different payout scenarios were defined, with varying payout percentages based on the achieved ratio to the goal.
  - Example (Scenario 1):
    - Ratio < 0.80: 0
    - Ratio < 0.85: 0.8
    - Ratio < 0.90: 0.8
    - Ratio < 0.95: 0.8
    - Ratio < 1.00: 0.9
    - Ratio < 1.05: 1.1
    - Ratio < 1.15: 1.2
    - Ratio < 1.20: 1.2
    - Ratio > 1.20: 1.2

- **Monte Carlo Simulations**:
  - 30 simulations for each scenario.
  - Standardized ratios between 0.75 and 1.25.
  - Ratios were used to calculate EBITDAC, ARR, and LOGOS.

- **Linear Regression Model**:
  - Features: Scenario, EBITDAC, ARR, and LOGOS.
  - Target: Bonus payout.
  - Data split into training (80%) and test sets (20%).

- **Goals and Weightings**:
  - EBITDAC Goal: \$100,000,000
  - ARR Goal: \$11,000,000
  - LOGOS Goal: 9,000
  - Weighting for EBITDAC: 50%
  - Weighting for ARR: 25%
  - Weighting for LOGOS: 25%
  - Total Bonus: \$1,343,200

- **Visualization Assumptions**:
  - Histograms, boxplots, and scatter plots were generated to visualize the distribution and relationships in the data.
  - X-axis labels were formatted to display values in millions.
  - Quartiles (Q1, Median, Q3) were plotted in the probability distribution chart with distinct colors for each scenario.

```
# Define the 4 scenarios
scenarios = [
    [0, 0.8, 0.8, 0.8, 0.9, 1, 1.1, 1.2, 1.2, 1.2],
    [0, 0.8, 0.85, 0.9, 0.95, 1, 1.05, 1.1, 1.15, 1.2],
    [0, 0.8, 0.9, 0.9, 1, 1, 1, 1.1, 1.1, 1.2],
    [0, 0.8, 0.8, 0.9, 0.95, 1, 1.05, 1.1, 1.2, 1.2]
]

# Generate standardized ratios
ratios = np.linspace(0.75, 1.25, 30)

# Run Monte Carlo simulations
np.random.seed(42)
results = []
```

Results

Scenario Results (in percentage) **% Payout**

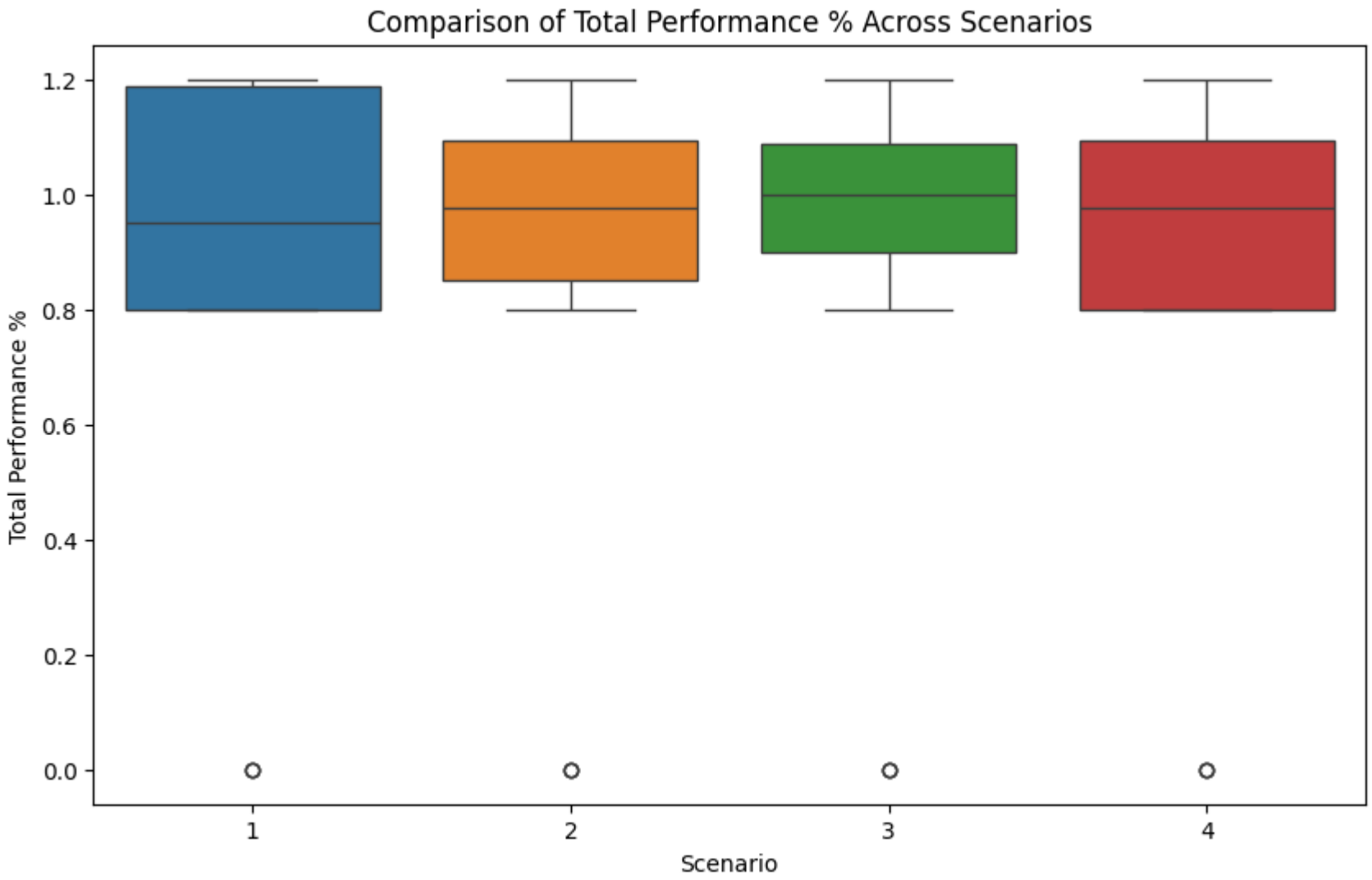
	Mean	std	min	25%	50%	75%	max
1	0.898333	0.345035	0.0	0.80	0.950	1.18750	1.2
2	0.897500	0.327698	0.0	0.85	0.975	1.09375	1.2
3	0.896667	0.322419	0.0	0.90	1.000	1.08750	1.2
4	0.897500	0.333112	0.0	0.80	0.975	1.09375	1.2

Insights

After running 30 simulations under each scenario, these are the results for both % achieved and total $ cost.

Scenario Results (in Millions) **Total $ Cost**

Scenario	mean	std	min	25%	50%	75%	max
1	1.206641	0.463450	0.0	1.07456	1.27604	1.595050	1.61184
2	1.205522	0.440164	0.0	1.14172	1.30962	1.469125	1.61184
3	1.204403	0.433073	0.0	1.20888	1.34320	1.460730	1.61184
4	1.205522	0.447436	0.0	1.07456	1.30962	1.469125	1.61184

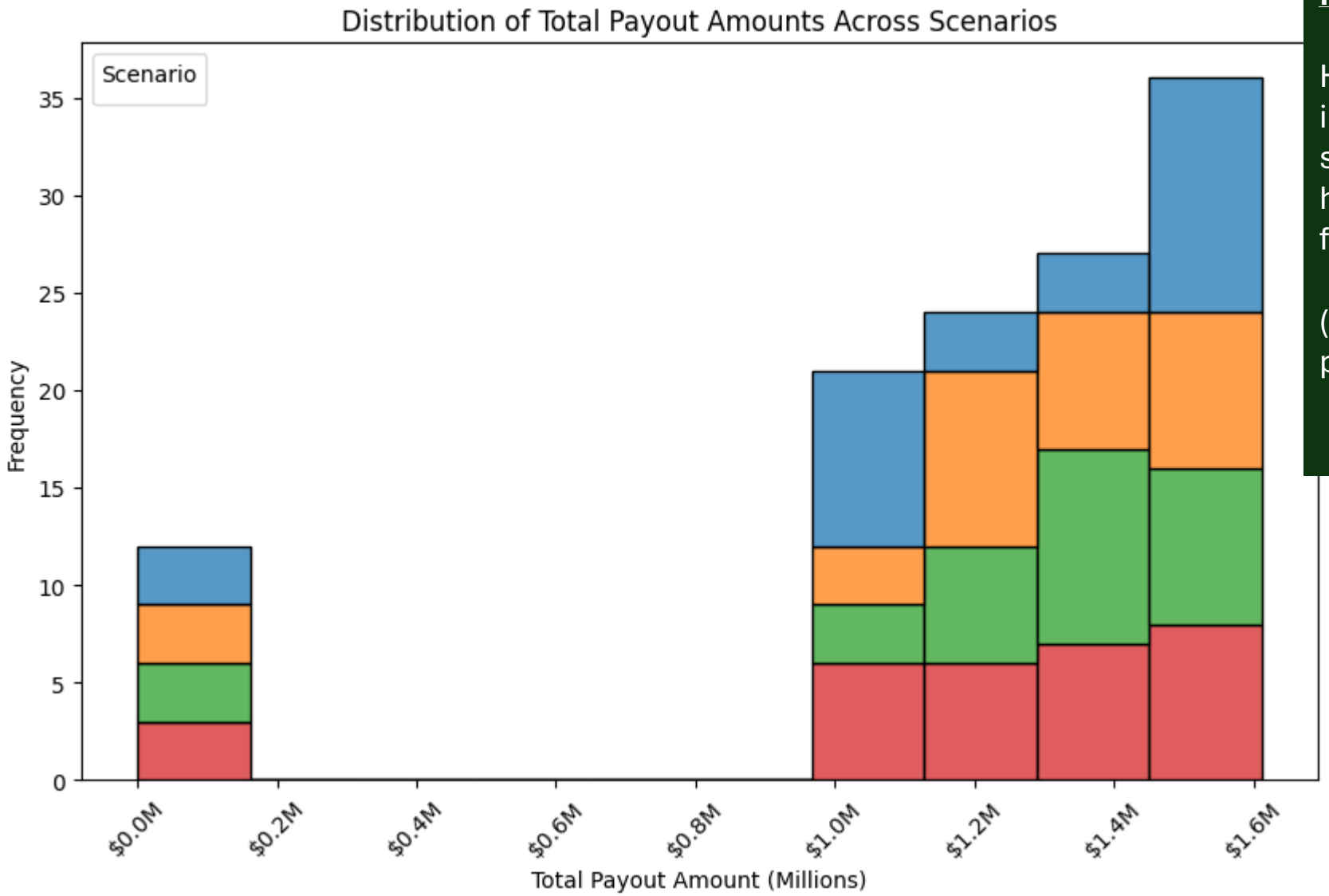


Insights

This represents where 67% of the population would fall.

Conclusion:

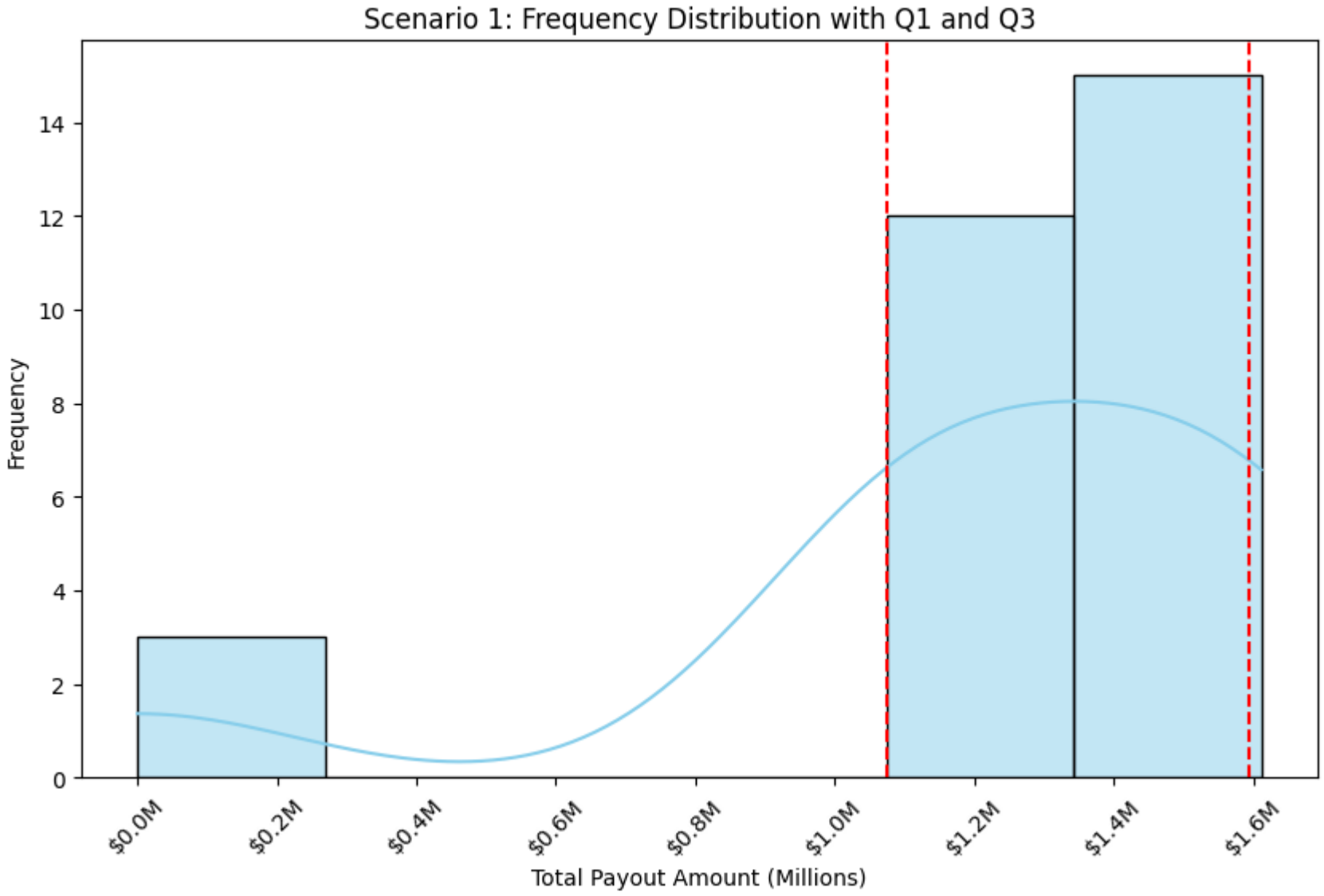
- Scenario 1 – best to encourage performance and discourage underperformance.
- Scenario 2 - represents the linear tier structure so even population as .85% would be paid 85% bonus $, etc.
- Scenario 3 – is heavy on 100% as represents meeting more frequently at 95% and 105% to get more overall performance ~ 100% .
- Scenario 4 - has a greater emphasis on discouragement and less range in encouraging employees.



Insights

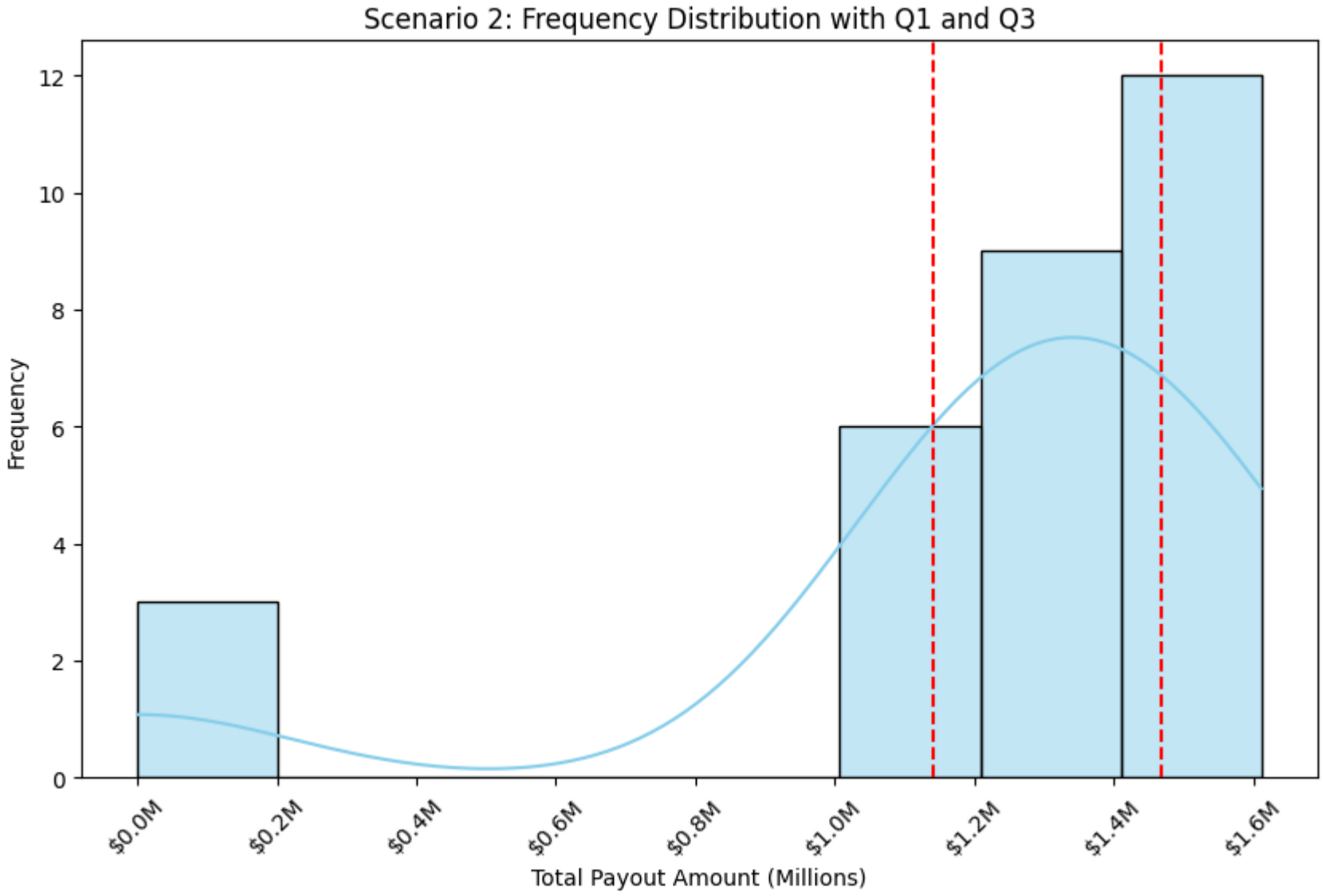
Here, we have a stacked bar chart illustrating the occurrence of various scenarios along with different payouts, highlighting where the 30 simulations fell within the Total Payout Amount.

(i.e. it complements the boxplot presented on the previous page)



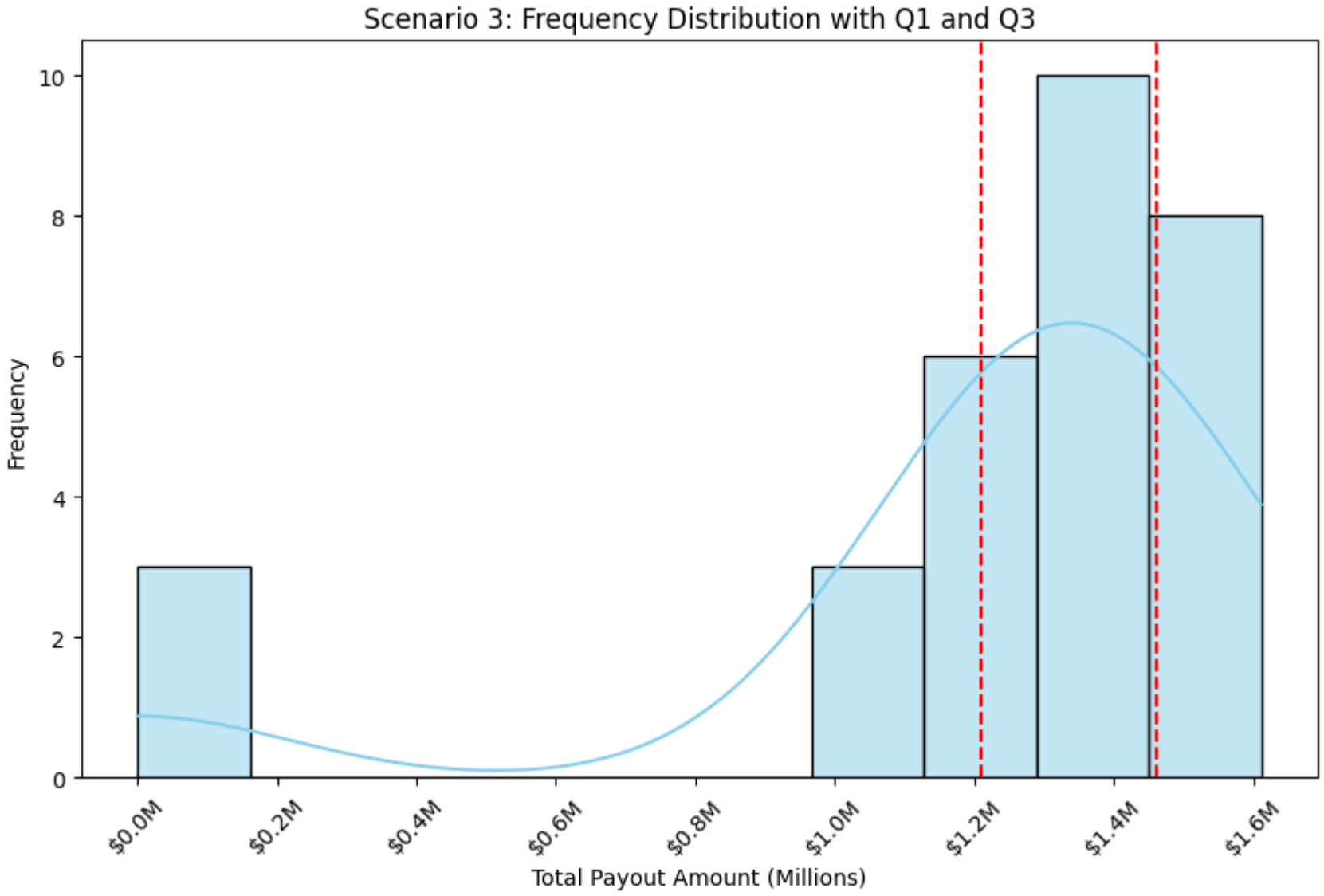
Insights

Scenario 1 range of payout is largest from Q1 to Q3.



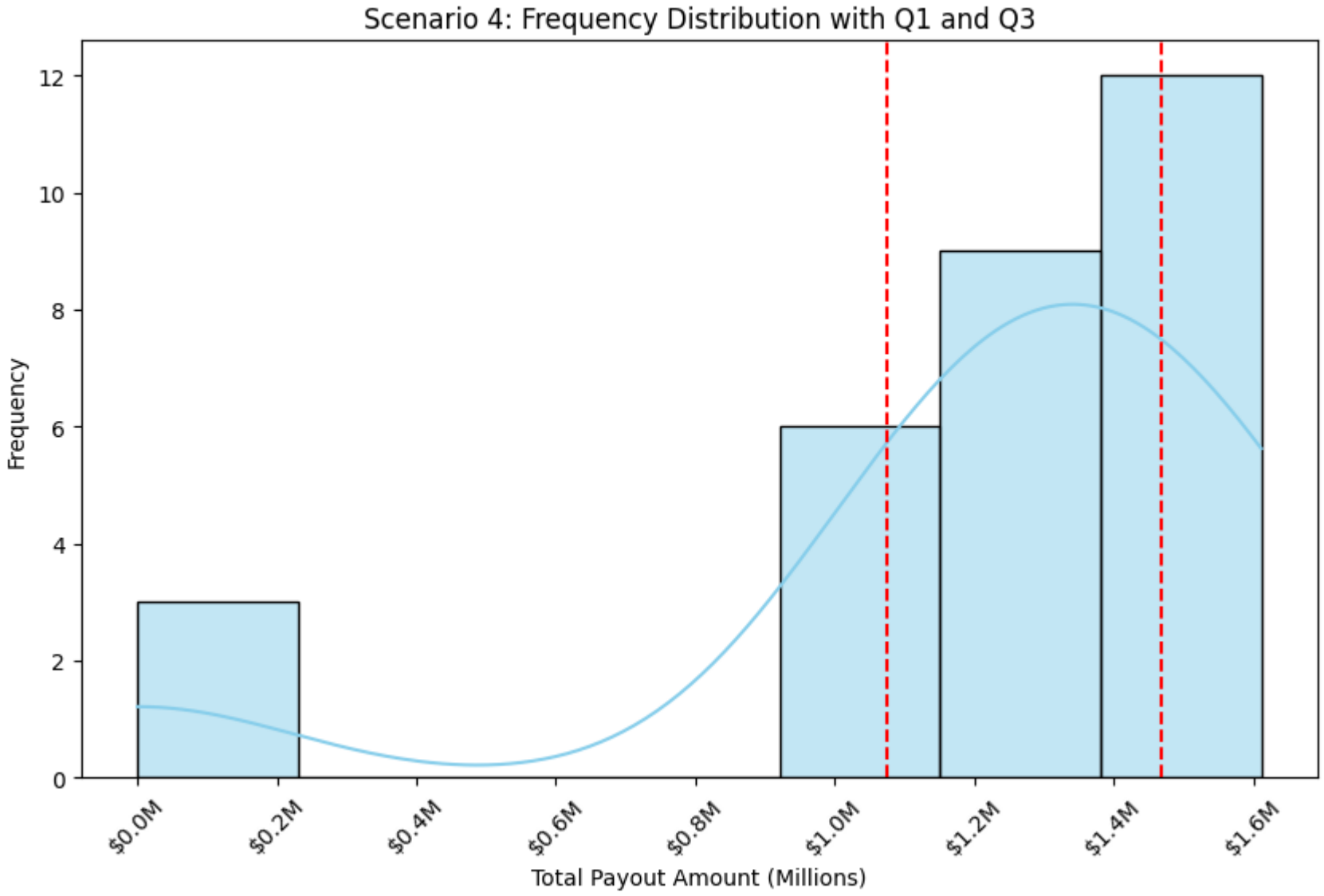
Insights

Scenario 2 range is tiered evenly from Q1 and Q3 as a linear tiered structure with even distribution



Insights

Scenario 3 limits Q1 and Q3 to be more of the probability to run in 100% range

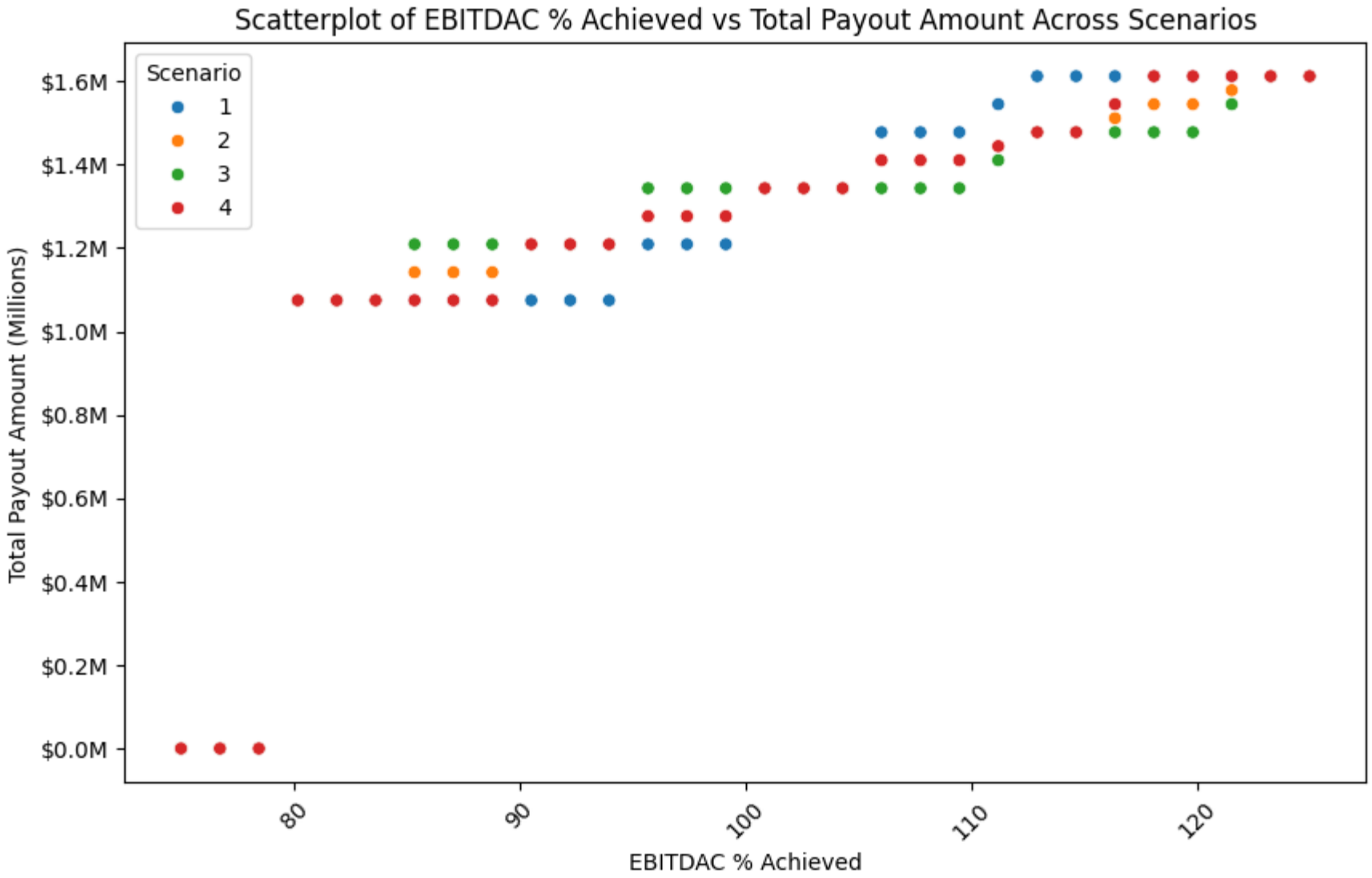


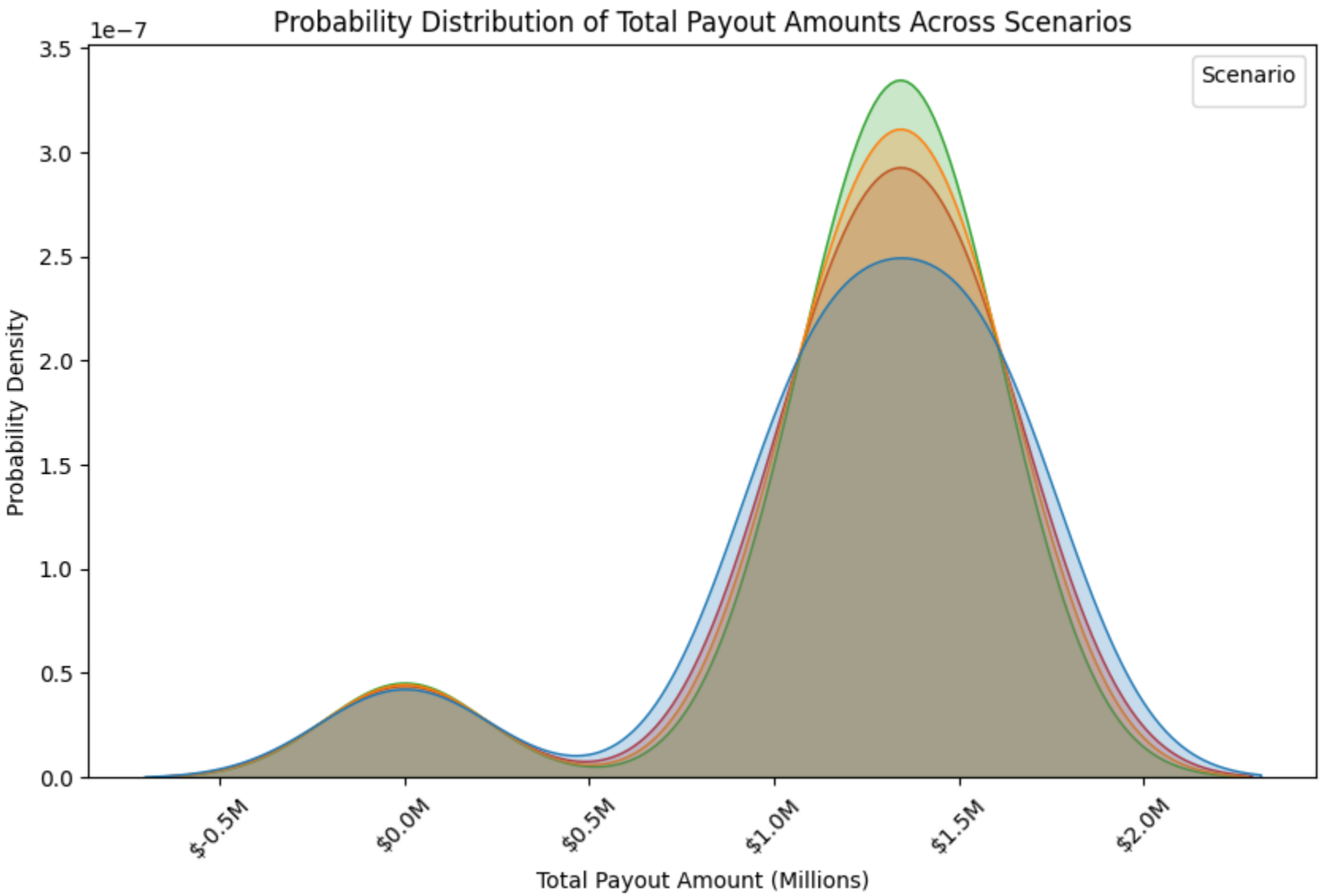
Insights

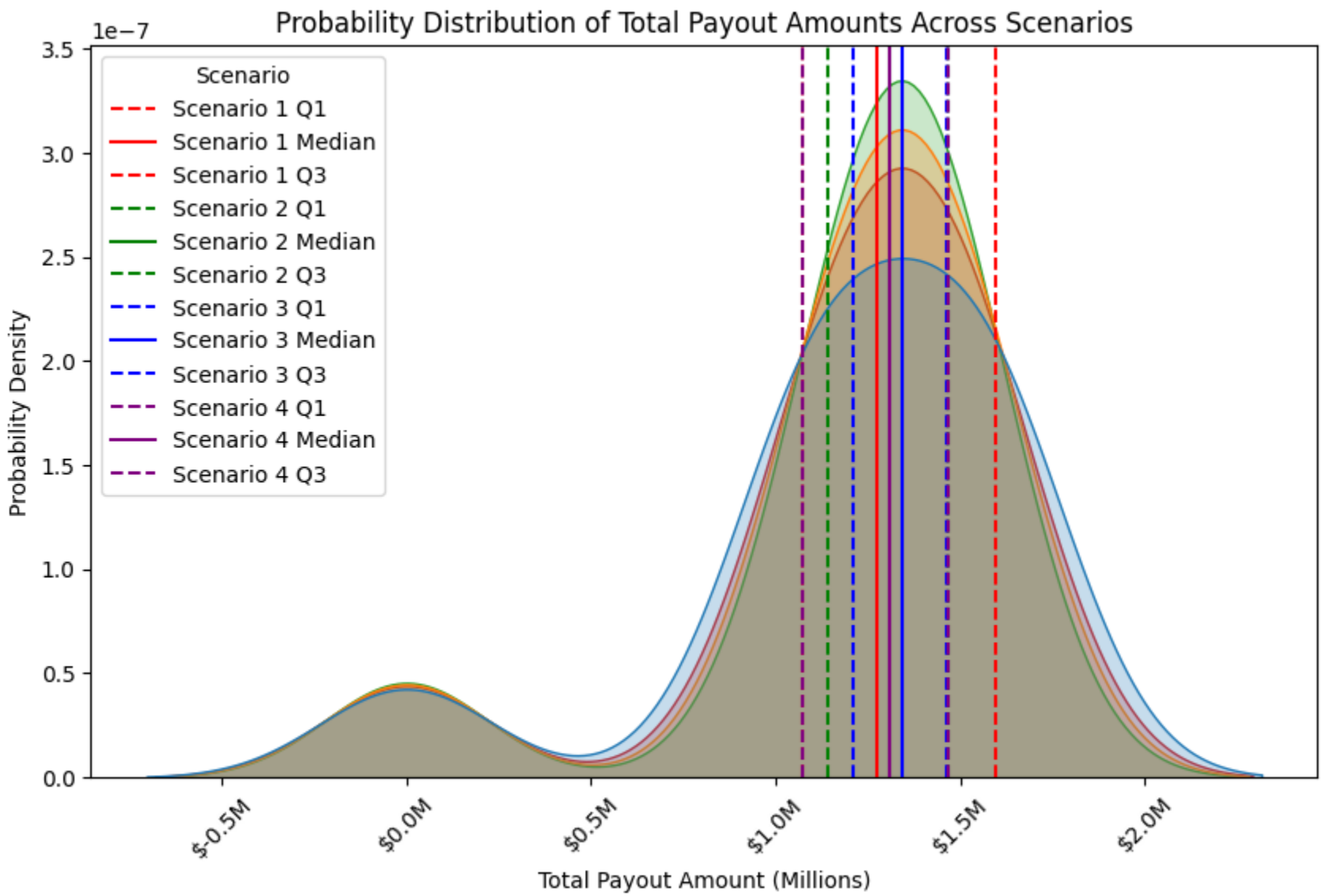
Scenario 4 increases the range of Q1 and Q3

Insights

This represents the payout amounts and EBITDAC % Achieved for each Scenario Run.

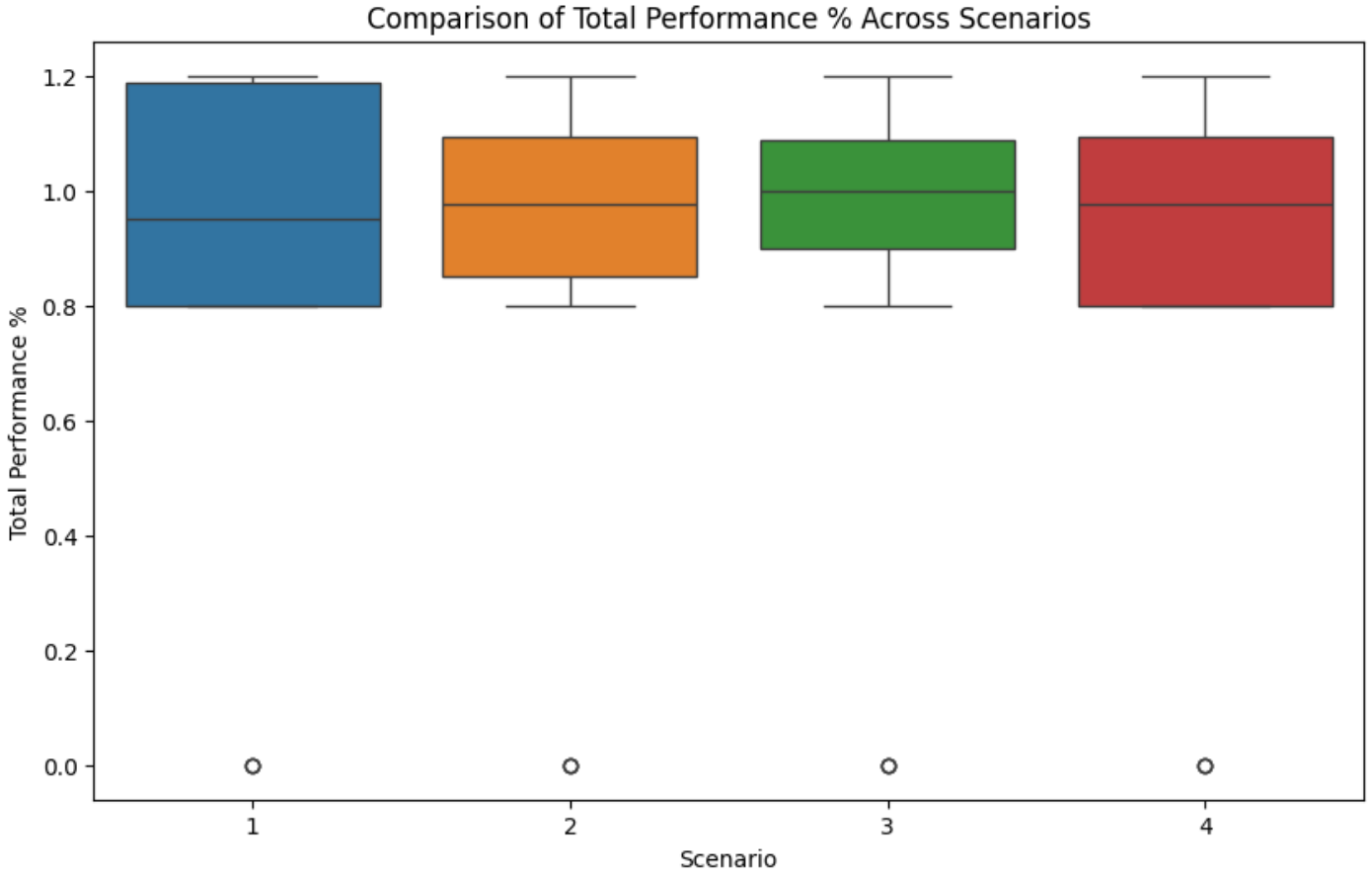



Probability Distribution of Total Payout Amounts Across Scenarios
1e−7
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Probability Density
Scenario
$-0.5M
$0.0M
$0.5M
$1.0M
$1.5M
$2.0M
Total Payout Amount (Millions)


Probability Distribution of Total Payout Amounts Across Scenarios
1e−7
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
Probability Density
Scenario
Scenario 1 Q1
Scenario 1 Median
Scenario 1 Q3
Scenario 2 Q1
Scenario 2 Median
Scenario 2 Q3
Scenario 3 Q1
Scenario 3 Median
Scenario 3 Q3
Scenario 4 Q1
Scenario 4 Median
Scenario 4 Q3
$-0.5M
$0.0M
$0.5M
$1.0M
$1.5M
$2.0M
Total Payout Amount (Millions)

Key Takeaways

Based on the current culture at the Company, we would recommend Scenario 1 based on the results. Scenario 1 does the best to encourage performance and discourage underperformance as the Q1 and Q3 has the largest range of payments. This is best represented by the range of performance in each scenario below.



Original Tiered Structure and Random Simulation Outcomes

Based up using Scenario 1, the Firm ran simulated model to run 30 different simulations between 70% and 140% achieved for each of the bonus assumptions EBITDAC, ARR, and New Logos; includes an adjusted EBIDTAC for any increase in ARR.

Model Assumptions

Goals and Weightings:

- **EBITDAC Goal**: $166,800,000
- **ARR Goal**: $11,800,000
- **LOGOS Goal**: 8,592
- **Weighting for EBITDAC**: 50%
- **Weighting for ARR**: 25%
- **Weighting for LOGOS**: 25%
- **Total Bonus Pool**: $1,343,200

Adjustment for ARR Exceeding Target:

- If the achieved ARR (`arr_achieved`) exceeds the target goal (`goal_arr`), then the achieved EBITDAC (`ebitdac_achieved`) is adjusted downwards:

$$\text{adjusted\_ebitdac\_achieved} = \text{ebitdac\_achieved} - \left(\frac{\text{arr\_achieved} - \text{goal\_arr}}{1.18} \right)$$

Weighted Performance Calculation:

- The weighted performance is calculated using the weighted payout percentages for each metric:

$$\text{weighted\_performance} = (\text{payout\_percentage\_ebitdac} \times \text{weighting\_ebitdac}) + (\text{payout\_percenta}$$

Final Bonus Payout Calculation:

- The final bonus payout is calculated based on the weighted performance:

$$\text{bonus\_payout} = \text{total\_bonus} \times \text{weighted\_performance}$$

- The total bonus payout percentage is:

$$\text{total\_bonus\_pct} = \frac{\text{weighted\_performance}}{1.00}$$

Monte Carlo Simulations:

- 30 simulations are run for each metric (EBITDAC, ARR, LOGOS).
- The achieved values for each simulation are generated using a uniform distribution between 0.70 and 1.40 times the respective goals.
  - EBITDAC achieved values: $\text{uniform}(0.70, 1.40) \times 166,800,000$
  - ARR achieved values: $\text{uniform}(0.70, 1.40) \times 11,800,000$
  - LOGOS achieved values: $\text{uniform}(0.70, 1.40) \times 8,592$

Data Collection:

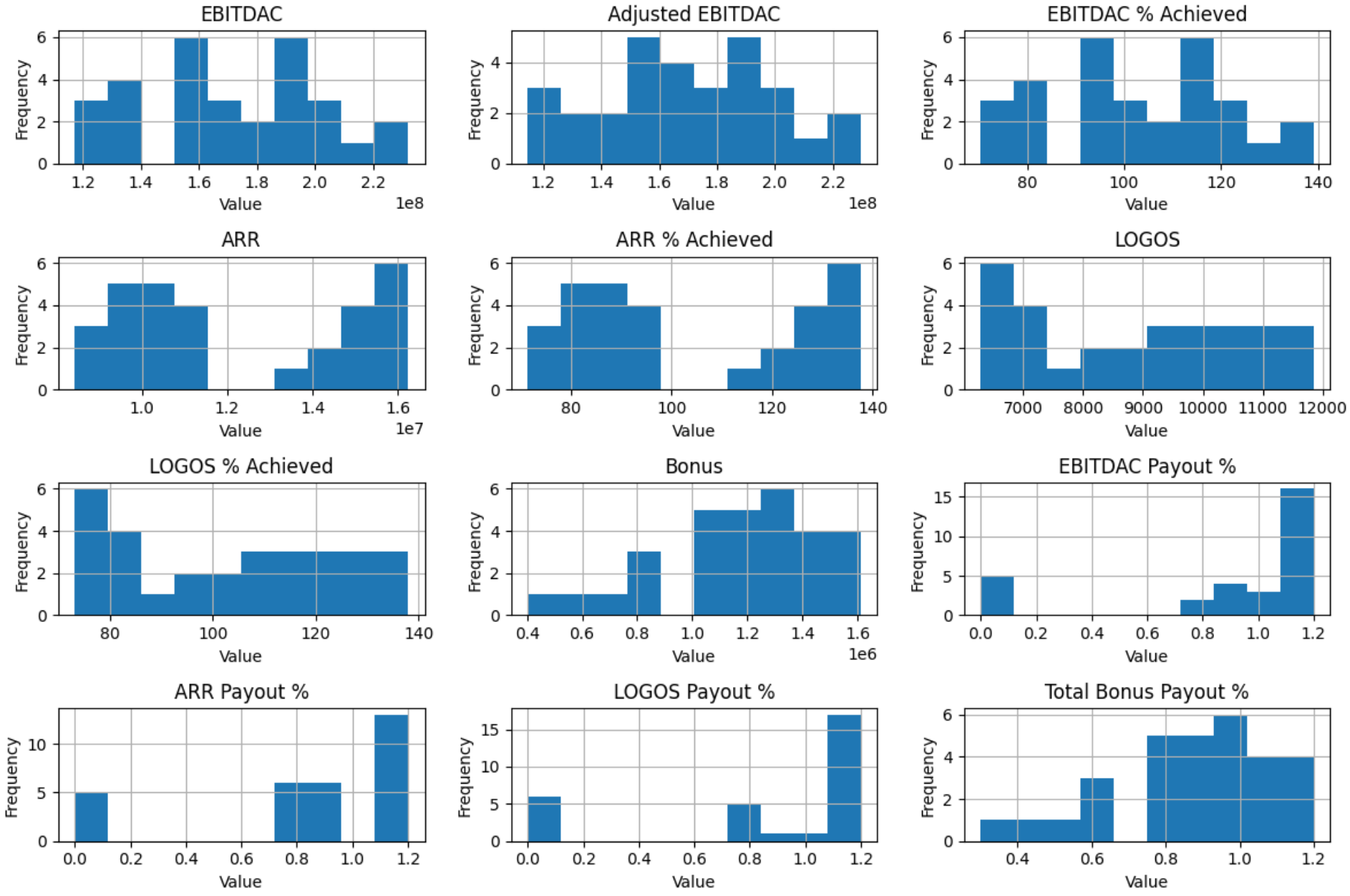
- The results of the simulations, including the adjusted EBITDAC, achieved percentages, payout percentages, and bonus payouts, are stored in a DataFrame for analysis.

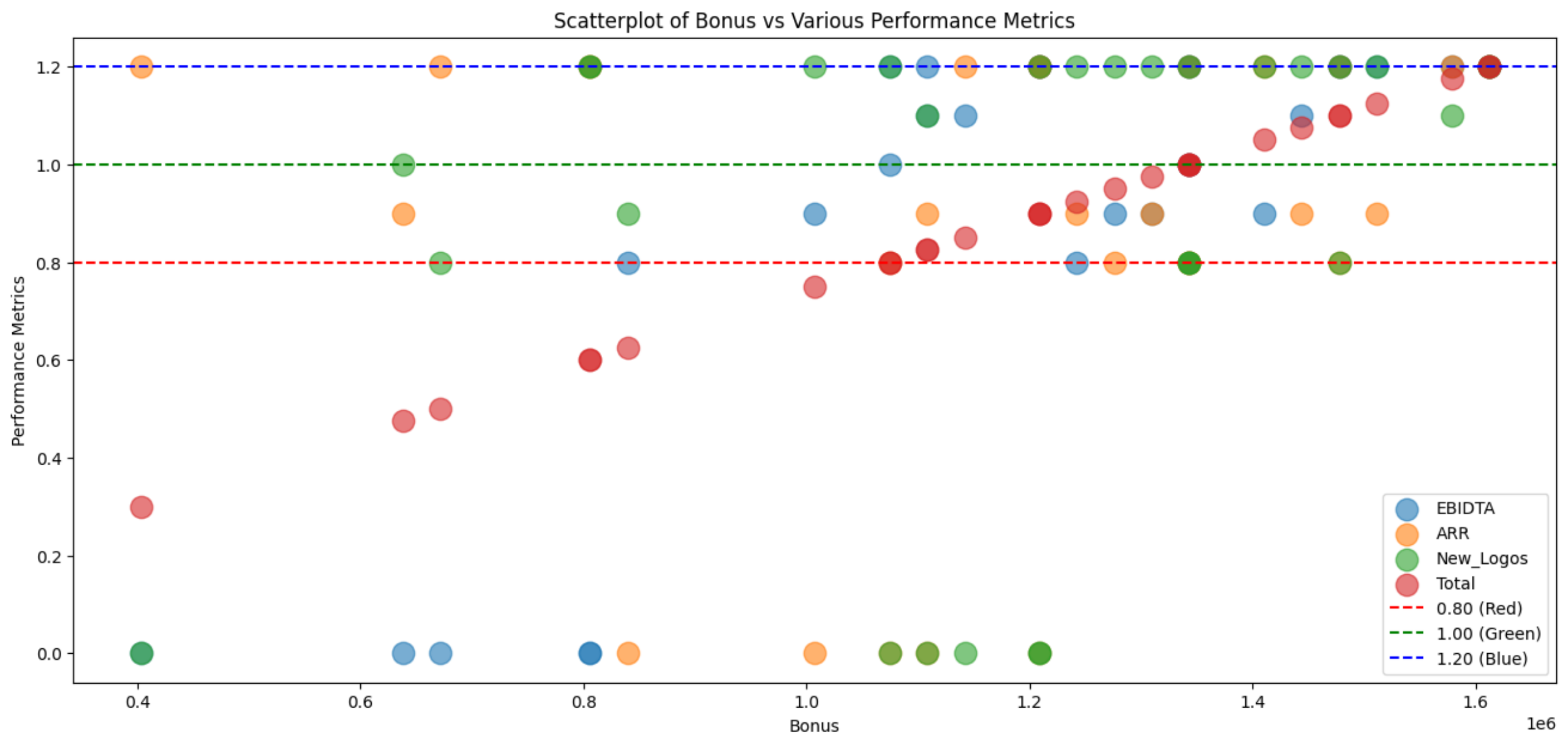
Performance-Based Payout Percentages:

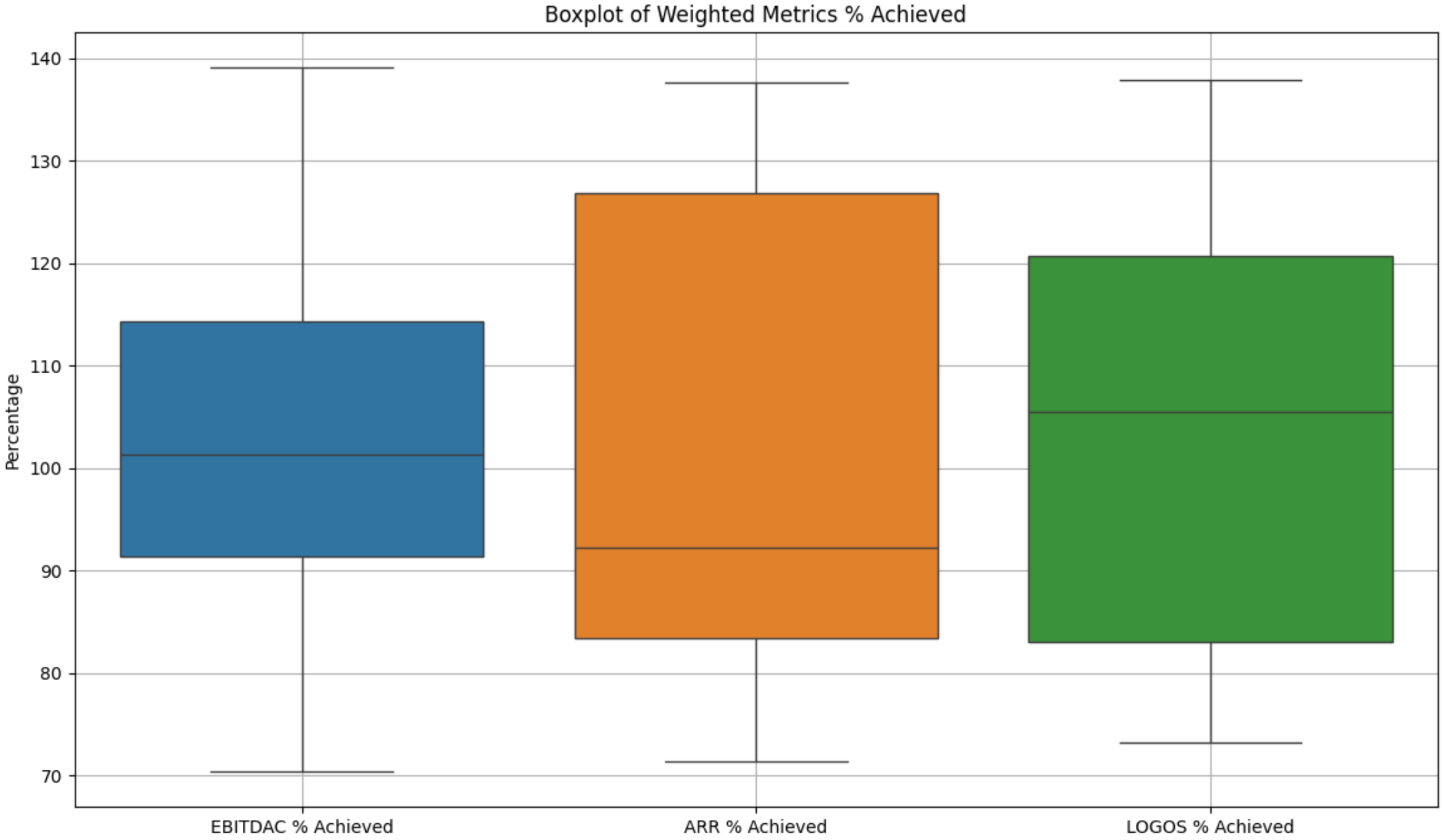
- The payout percentage is determined based on the performance ratio (achieved value / goal value). The tiers are as follows:
  - Ratio < 0.80: 0.00
  - Ratio < 0.90: 0.80
  - Ratio < 0.95: 0.90
  - Ratio < 1.00: 1.00
  - Ratio < 1.05: 1.10
  - Ratio < 1.10: 1.20
  - Ratio <= 1.20: 1.20
  - Ratio > 1.20: 1.20

Model Statistics

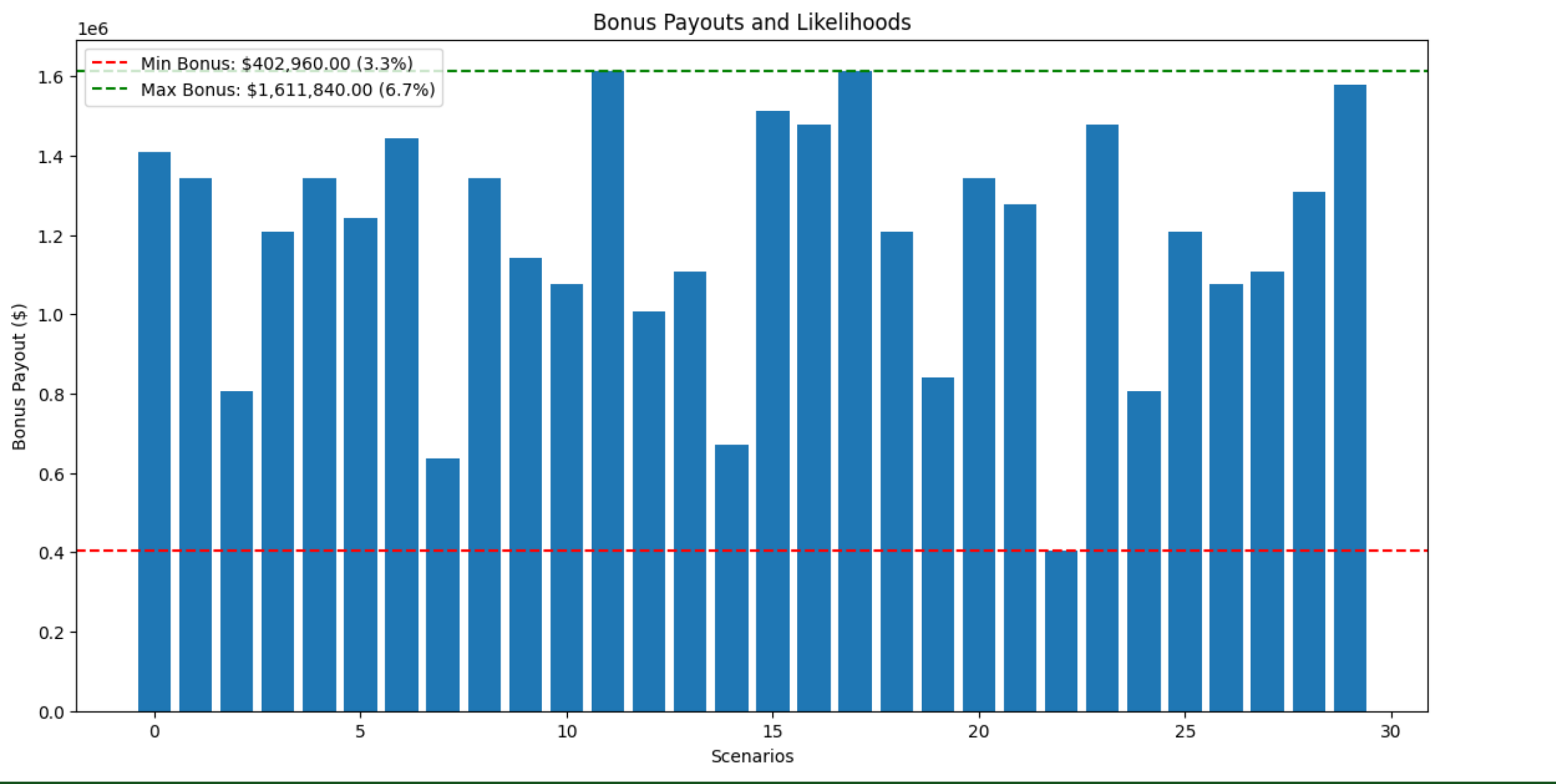
	count	mean	std	min	25%	50%	75%	max
EBITDAC	30.00	171048937.27	30955415.96	117404762.40	152512601.74	169081468.26	190784980.09	231988918.72
Adjusted EBITDAC	30.00	169787125.60	30896410.61	114696532.40	152512601.74	167833352.40	189149897.26	229583205.33
EBITDAC % Achieved	30.00	102.55	18.56	70.39	91.43	101.37	114.38	139.08
ARR	30.00	12255640.74	2778331.11	8430027.92	9843653.62	10890373.86	14968320.31	16236120.59
ARR % Achieved	30.00	103.86	23.55	71.44	83.42	92.29	126.85	137.59
LOGOS	30.00	8831.94	1847.46	6293.77	7133.36	9067.44	10368.34	11847.83
LOGOS % Achieved	30.00	102.79	21.50	73.25	83.02	105.53	120.67	137.89
Bonus	30.00	1187612.67	304780.19	402960.00	1074560.00	1225670.00	1393570.00	1611840.00
EBITDAC Payout %	30.00	0.90	0.43	0.00	0.90	1.10	1.20	1.20
ARR Payout %	30.00	0.86	0.42	0.00	0.80	0.90	1.20	1.20
LOGOS Payout %	30.00	0.87	0.47	0.00	0.80	1.15	1.20	1.20
Total Bonus Payout %	30.00	0.88	0.23	0.30	0.80	0.91	1.04	1.20

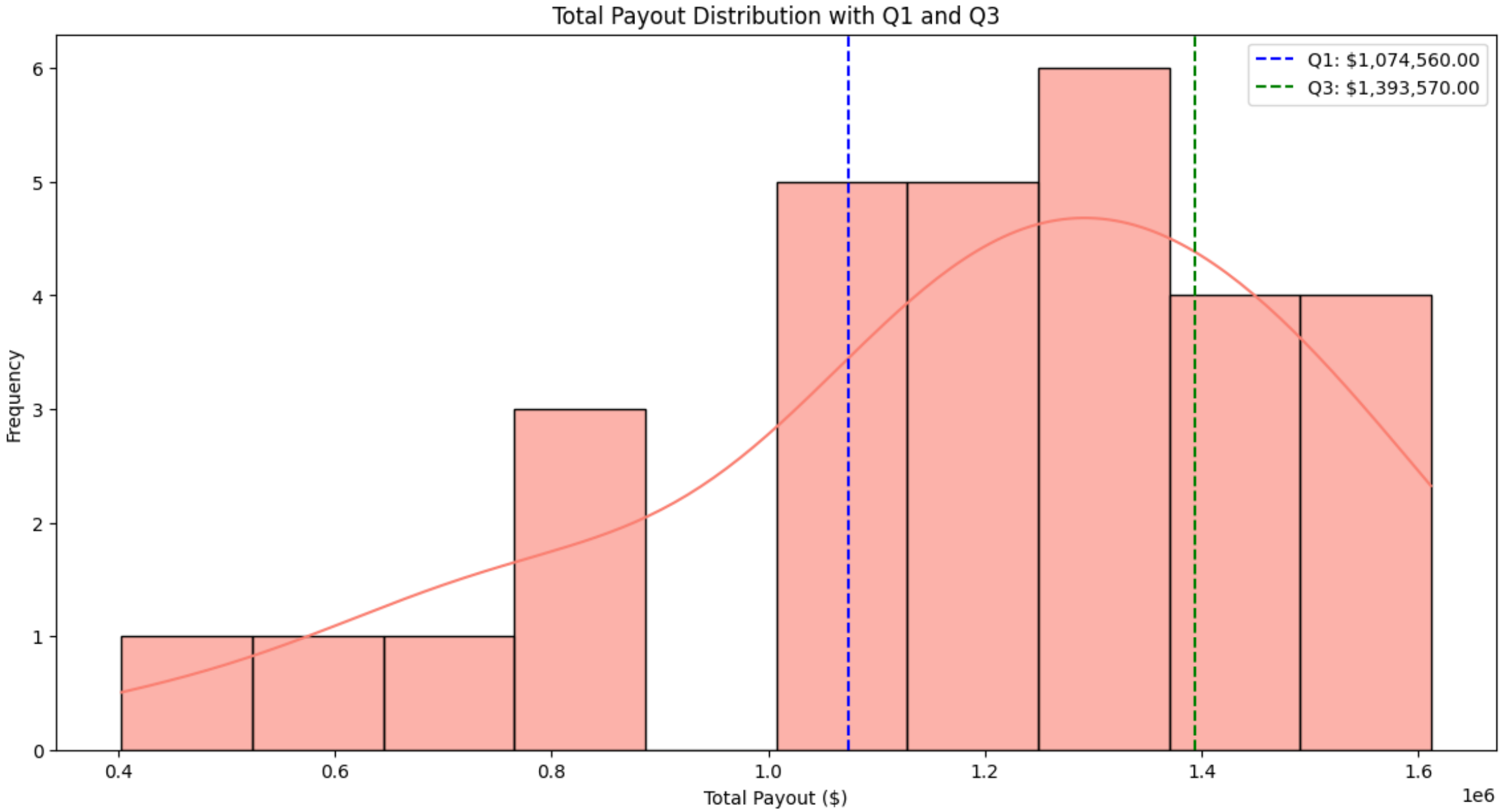

EBITDAC
Adjusted EBITDAC
EBITDAC % Achieved
ARR
ARR % Achieved
LOGOS
LOGOS % Achieved
Bonus
EBITDAC Payout %
ARR Payout %
LOGOS Payout %
Total Bonus Payout %
Frequency
Value
1e8
1e7
1e6


Scatterplot of Bonus vs Various Performance Metrics
Performance Metrics
Bonus
1e6
0.0
0.2
0.4
0.6
0.8
1.0
1.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
EBIDTA
ARR
New_Logos
Total
0.80 (Red)
1.00 (Green)
1.20 (Blue)



Note: EBITDAC is smaller than ARR; therefore, the model is considering the ARR increase affect on EBITDAC.


Bonus Payouts and Likelihoods
1e6
Min Bonus: $402,960.00 (3.3%)
Max Bonus: $1,611,840.00 (6.7%)
Bonus Payout ($)
0.0
0.2
0.4
0.6
0.8
1.0
1.2
1.4
1.6
0
5
10
15
20
25
30
Scenarios


Total Payout Distribution with Q1 and Q3
Q1: $1,074,560.00
Q3: $1,393,570.00
Frequency
0
1
2
3
4
5
6
0.4
0.6
0.8
1.0
1.2
1.4
1.6
1e6
Total Payout ($)