THE QUEST FOR IDEAL WALLETS: EXPLORING WALLET BEHAVIOR IN AIRDROPS

Abstract. *This study analyzes the behavior of wallet owners during cryptocurrency airdrops and identifies the factors that influence their decision to sell or hold onto their tokens. We compared two groups of wallet owners: the top 1000 addresses ranked by DeepDAO's DAO Participation Score and a control group of 1000 wallets. Our goal was to provide insights for future airdrop distributions and help cryptocurrency projects achieve better results. The study reveals that not all wallets are suitable for receiving airdrops, and highlights the importance of considering wallet ownership patterns in airdrop distribution strategies.*

Methodology:

To analyze the wallets' behavior during past airdrops, we used the Optimism Airdrop 2 as the base airdrop for analysis. We collected data on or with respect to April 17th and 18th, using the Optimism-scan API to query data from wallets for the airdrop wallets and the Etherscan-scan API to query data from wallets for the DeepDAO's wallets. The collected data included various wallet characteristics such as balance, TDR, wallet age (days), from count, and to count, among others.

The collected data was pre-processed by removing data points that were only related to the airdrop or had low feature importance. Different classification algorithms, including LightGBM, XGBoost, SVM, and Random Forest were used to analyze the data. Hyperparameters were tested for all classifiers, with LightGBM achieving 78% accuracy, XGBoost achieving 75% accuracy, and SVM achieving 68% accuracy. The Random Forest classifier was ultimately selected for its high accuracy rate of 80% on the test data, indicating that it is effective in predicting wallet owner behavior based on the collected data.

Using the classification model, we categorized the wallets into two groups based on their behavior during past airdrops. Our analysis revealed that factors such as wallet age, TDR, and balance can influence a wallet owner's decision to sell or hold onto their tokens. The model achieved an accuracy of 80% in predicting whether a wallet owner is likely to sell or hold tokens during an airdrop. We classified wallets into two groups: likely to sell and likely to hold, based on their selling intervals. Wallets with selling intervals less than a week and one to two weeks were categorized as likely to sell, while wallets holding onto their tokens for 3-4 weeks and over a month were classified as likely to hold.

Insights:

ON CHAIN PATTERNS

I. Wallet age, balance, and transaction count are important factors in determining whether a wallet owner is likely to sell or hold onto their tokens during an airdrop.

II. Addresses that held onto their tokens for over a month tend to have higher average balances than other timestamps, which could indicate that these wallet owners are more experienced crypto users or have a longer-term investment strategy.

III. Addresses that sold after a month had a lower average transaction count compared to other timestamps, which could suggest that they are fewer active traders or more selective about their transaction

IV. Wallet addresses that hold onto their tokens for more than 4 weeks tend to have a lower average daily transaction rate (TDR), which suggests that they are more selective about their transactions and more likely to hold onto their tokens for longer periods of time

Comparison of List One and List Two:

The performance evaluation of List One and List Two reveals the following findings:

1. List One's address scored 825, while List Two's address achieved a slightly higher score of 883, indicating a marginal difference in performance.

2. Notably, List Two includes two addresses that have been held for 3-4 weeks, which may contribute to its favorable standing.

These results suggest that List Two has a slight advantage over List One based on the provided data. The marginal difference in scores and the presence of addresses held for a specific duration indicate the potential preference of List Two.

Conclusion:

The insights gathered from the analysis of on-chain patterns have provided valuable information for understanding market trends and identifying potential long-term token holders. While factors such as wallet age, balance, and transaction count have been shown to be useful indicators in predicting market trends, it is important to note that they cannot be relied upon as a full decision-making tool for determining whether a wallet owner is likely to sell or hold onto their tokens during an airdrop. Ultimately, the decision to sell or hold onto tokens comes down to the individual's interest in the project and their investment strategy. Factors such as news and announcements, market sentiment, and overall market conditions can also have a significant impact on an individual's decision. However, the analysis of the on-chain patterns has allowed for the creation of an optimal list of wallets that meet the chosen time interval criteria. This list can be useful for targeted marketing campaigns and understanding market trends. By identifying wallets with specific characteristics, such as those that hold onto their tokens for a longer period of time or those with a higher average balance, businesses and organizations can better target their marketing efforts to potential long-term token holders. It is important to note that while the optimal list of wallets can be a useful tool, it should not be used as the sole basis for decision making. Other factors, such as the overall market conditions and the individual's investment strategy, should also be taken into consideration. By using a holistic approach to decision making, businesses and organizations can make more informed decisions and maximize their chances of success.