Do ICO bounty campaigns help hit the fundraising jackpot?

By Nikoloz Jaghiashvili, Element Group

Introduction

As the ICO landscape continues shifting away from the massive main sale model we saw in 2017, it is becoming more and more essential to analyze which token sale models work within this new reality. In late 2017, the ICO bounty campaign emerged as a preferred tool to both create additional exposure for a nascent blockchain project, and widen the token's reach after the token generation event.

There has been some anecdotal evidence which suggests that a well-run bounty campaign helps increase token sale contributions. Allegedly, the bounty campaign helps increase word-of-mouth marketing and the project's organic reach, thereby increasing the number of contributors and overall volume of contributions. However, there has been no data-based research into the aggregate effect of bounty campaigns on overall token sale contributions.

The Element Group team analyzed data from 164 projects that ran bounty campaigns to see if there is indeed a correlation between running a bounty campaign and a larger overall amount raised in a token sale.

Data and sampling

We used the following data in our analysis:

- List of ICOs that ended not later than a year ago, including the following information about each one:
    - Hard cap
    - Amount raised
    - Price per token
    - ICO aggregator rating

- Data about each bounty campaign, including:
    - Bounty campaign volume in tokens
    - Bounty campaign volume in fiat

Our final sample of projects was as follows:

- Final sample size: 164
- Sampling procedure: Stratified Sampling*
- Sample excludes ICOs with amount raised < $1m or bounty < $10,000.
- Sample excludes projects with bounty campaigns > $1,000,000

* Stratified sampling is a probability sampling technique wherein the researcher divides the entire population into different subgroups or strata, then randomly selects the final subjects proportionally from the different strata. Using this technique, we were able have higher statistical precision for our analysis, compared to simple random sampling. Since this technique has a much higher statistical precision, we were comfortable working with a relatively small data set for this analysis.

Model and analysis

Model: Multiples Regression (regression in levels)
Data analysis software: STATA
Type: Predictive inference
Model to be checked:

$\text{Raised}_i = \beta_1 \cdot \text{Bounty}_i + \beta_2 \cdot \text{Hardcap}_i + \beta_3 \cdot \text{Rating}_i + \varepsilon_i$

The equation above aims to explain the amount raised with bounty spending, hard cap, and rating. β_1 represents the magnitude of the bounty campaign's effect (controlling for two other factors). Increasing the bounty by 1 unit increases amount raised by β_1 units.. β_2 and β_3 have a symmetrical interpretation.

β_1, β_2, and β_3 are listed in the Coef. column. P>|t| column represents the significance of these coefficients; it should be lower than 0.1 (the lower the better). Prob > F is the significance of the whole model.

R-squared (ei. coefficient of determination) represent the degree to which variance in explanatory variables explains variance in dependent variables. In other words, the degree to which bounty, hard cap, and rating explain the amount raised (higher R-squared is better). 100% (1) R-squared means that we perfectly modeled the amount raised (not possible).

Variables	Amount Raised
Bounty	15.2378*** (5.024)
Hard cap	0.0628*** (0.016)
Rating	4,583,593** (2,481,590)
R^2 (Overall)	16%
F-statistic	0.00
Sample size	164

Table 1: The table explains Amount Raised with Bounty Spending, Hard cap, and Rating. Standard errors are shown below the estimates, and 1%, 5%, and 10% statistical significance are indicated with ***, **, and *, respectively.

- Model is significant at 1% level. **A $1 increase in bounty campaign volume predicts a $15 increase in the final amount raised**, controlling for hard cap and rating given by ICOBench.

Controlling for internal errors

- Larger ICOs may have more internal resource available to conduct their bounty campaign and show a higher amount raised overall. We added the hard cap figure into the regression to exclude this effect.
- Top ICOs with significant traction have less incentive to invest resources in conducting a bounty program. We therefore excluded ICOs with a bounty amount of 0 from the sample and added the rating into the regression.
- The model is checked for multicollinearity, which is important for causal inference. Mean "vif" is 1.00, meaning that there are no multicollinearity issues.

Removing High Leverage Points

Variables	Amount Raised
Bounty	7.7045*** (2.91)
Hard cap	0.1840*** (0.04)
Rating	4,300,080*** (1,377,595)
R^2 (Overall)	24%
F-statistic	0.00
Sample size	157

Table 2: The table explains Amount Raised with Bounty Spending, Hardcap, and Rating. Standard errors are shown below the estimates, and 1%, 5%, and 10% statistical significance are indicated with ***, **, and *, respectively.

- Model is significant at 1% level. **A $1 increase in bounty campaign volume predicts a $7.7 increase in the final amount raised**, controlling for hard cap and rating given by ICOBench.

Conclusion: interpreting the results

Naturally, the size of the project dictates the commitment to the bounty, as well as the marketing effort and the amount raised in the token sale, thus, this effect is controlled for in the regression. However, even when controlling for the factors which could skew the results, the aggregate effect of a bounty campaign on the overall amount raised in a token sale is still significant.

The analysis above is a predictive inference, conducted to establish a link between the commitment to a bounty program, and an amount raised in the token sale. It appears that 1 USD invested into the bounty program predicts 8 to 15 USD increase in the amount raised, depending on the presence of leverage points in the dataset.

When interpreting these results, it is important to remember that correlation does not signify causation. While the results demonstrate that increasing the amount of tokens available for bounty is a good predictor for larger overall raises in a token sale, other factors may also be at play. For example, a larger bounty campaign may be symptomatic of a more rigorous marketing strategy and a bigger marketing team, since bounty campaigns are notoriously demanding when it comes to resources. However, it is impossible to extract this information from the data and any additional conclusions would be pure speculation.

Our research conducted based on a sample of 164 token generation events conclusively demonstrates that a larger bounty campaign correlates with a larger amount raised in a token sale overall.