

Studying the participants' response to reverse-auction mechanisms that allocate monetary incentive in citizen science

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The recruitment of participants in a citizen science project should address various possible costs and obstacles to participants that might emerge during the execution of the project. In this context, monetary incentives have the potential to alleviate this problem by compensating for part of these efforts and thus sustain the citizen scientists' participation. Nevertheless, they have not been studied thoroughly in citizen science literature and have rarely been deployed. Reverse-auction mechanisms are promising methods to distribute a project's fixed budget among the participants as winners are selected based on participants' bid prices. However, the outcome entirely depends on these bid prices, which are not available to the project organizers in advance and can vary largely. Therefore, it is desirable to assert certain control over the participants' bid prices. We propose the approach of "desired bid price", in which a pre-calculated bid price suitable to a project is shown to the bidders before determining their bid prices. While participants are eventually free to select their bid price, they are informed that a bid price lower than the shown value might increase their chance of winning the bid. As a result, it is expected that overall bid prices might better fit to a predefined project budget. This approach can be implemented in various contributory citizen science projects together with the control approach, in which participants determine their bid price without additional information. The differences in bidding behaviors and outcomes of the two approaches will be analyzed. Finally, the results can be used to further refine the existing reverse-auction mechanisms and eventually pave the way for the broader use of monetary incentives in citizen science.