

# MISQ Archivist

## Know When to Run: Recommendations in Crowdsourcing Contests

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### Abstract

Crowdsourcing contests have emerged as an innovative way for firms to solve business problems by acquiring ideas from participants external to the firm. As the number of participants on crowdsourcing contest platforms has increased, so has the number of tasks that are open at any time. This has made it difficult for solvers to identify tasks in which to participate. We present a framework to recommend tasks to solvers who wish to participate in crowdsourcing contests. The existence of competition among solvers is an important and unique aspect of this environment, and our framework considers the competition a solver would face in each open task. As winning a task depends on performance, we identify a theory of performance and reinforce it with theories from learning, motivation, and tournaments. This augmented theory of performance guides us to variables specific to crowdsourcing contests that could impact a solver's winning probability. We use these variables as input into various probability prediction models adapted to our context, and make recommendations based on the probability or the expected payoff of the solver winning an open task. We validate our framework using data from a real crowdsourcing platform. The recommender system is shown to have the potential of improving the success rates of solvers across all abilities. Recommendations have to be made for open tasks and we find that the relative rankings of tasks at similar stages of their time lines remain remarkably consistent when the tasks close. Further, we show that deploying such a system should benefit not only the solvers, but also the seekers and the platform itself.

**Keywords:** Competition, performance, winner prediction, probability models, rankings