

# The Impact of Algorithmic Components on Contributions in Charitable Crowdfunding

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## **Abstract**

Crowdfunding platforms host thousands of projects and typically use ranking algorithms which, based on a set of project-specific variables, determine the rank order of projects in order to facilitate contributors' choices and allow the platform to achieve specific goals. Here, we examine the role of individual components entering a ranking algorithm. We ask how such components affect project completion. We then explore whether ranking algorithms can help direct funding towards underprivileged groups. Last, we examine the trade-offs a crowdfunding charity faces between directing funding towards underprivileged groups and having a large number of projects complete. Our study is based on data and the ranking algorithm of the educational crowdfunding platform DonorsChoose. We develop a structural model of donors' contributions using a multiple discrete continuous choice framework and report estimation results and counterfactual outcomes if the charity reweighted algorithmic components. We find that in the algorithm the amount remaining for a project, as well as other variables related to a project's progress, strongly affect whether a project will be fully funded. At the same time, our results indicate that prioritizing in the algorithm projects from high poverty schools increases contributions to such schools significantly. Encouragingly, our findings further suggest that, at least in our empirical context, using the algorithm to direct funding towards high poverty schools does not compromise the platform's overall goal to collect a large amount of funding overall.

**Subject Areas:** *Consumer Behaviour, Decision-Making*

**Track:** Digital Marketing & Social Media