The Paradox of Novice Contributions in Collective Production:

Evidence from Wikipedia

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Abstract

This study examines the link between expert producers of collective goods, demand for such goods, and good quality. I hypothesize that, absent a price-like market regulating mechanism, collective goods may fall short of consumer needs, and propose a social mechanism through which producers respond to information about consumer needs. Using a longitudinal dataset of 187 million contributions to Wikipedia articles and article demand data from October 2008 to February 2009, I model the contributions of novice and expert producers to article quality, and evaluate the relationship between consumer need and novice and expert contributions. Findings show that novice producers decrease article quality while expert producers increase it, and novice contributions to an article lead experts to increase its quality in response, fully mediating the relationship between need for articles and expert contributions. These results provide evidence that collective goods may fail to satisfy consumer needs in the absence of direct information from consumers, and highlight the paradoxical role of novice contributors in providing information about those needs. My findings identify a social mechanism that alleviates a previously ignored but consequential problem related to collective good production: the failure to produce goods needed by consumers.