
The Price of the Priceless: Exploring Perceived Monetary Value and Cost in Friendsourcing

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Abstract

This study aims to explore how people perceive the cost and value of friendsourcing, an emerging paradigm of online crowd work where the workers are socially connected friends rather than general online users. One important issue in crowdsourcing is on the design of incentives for motivating the crowd to work on requested tasks. However, limited understanding is available on how to effectively incentivize friend workers in friendsourcing. We conducted a survey-based study to explore these questions, asking participants to report how much they would expect to give as a requester and how much to receive as a worker in friendsourcing. Strikingly, our results show that friendsourcing requesters may pay at the same level around regular crowdsourcing, while friendsourcing workers may expect low monetary reward.

Author Keywords

Friendsourcing; perceived monetary value; incentive design

ACM Classification Keywords

H.5.m [Information interfaces and presentation (e.g., HCI)]: Miscellaneous.

Introduction

Along with the growth of online social networking, it is unprecedentedly convenient for people to access their

Condition F

Imagine that you are going to post a proofreading request of the SOP onto a social network site, asking your friends to help you. Please write down the content you may post to ask some friends to complete the task for you.

What is the reward you would like to offer?

- \$0
- \$1 - \$150
- \$151 - \$300
- \$301 - \$450
- \$451 - \$600
- \$601 - \$750
- \$751 - \$900
- over \$901
- others:

Are there any concerns other than financial issue?
e.g., privacy, urgency.

Figure 1: The questionnaire from requesters' perspective in *F* condition. Payment options range between \$1 and \$900, each corresponds to a fixed range of \$150, resulting in six options (e.g., \$1 - 150, \$151 - 300, and so on). Three extra options are also added: "\$0", "over \$901", and "others (than money)". If a participant chooses "over \$901" or "others" in the questionnaires, the participant would be asked to help us convert their choices to equivalent monetary value if feasible, so that we may calculate the average perceived value.

friends online at almost any time. It is a common practice that people ask questions and post requests on social network sites. Friendsourcing, or outsourcing informational and computational tasks to socially connected friends rather than unknown online workers, has emerged to become a useful element of problem solving and system building.

One common assumption of friendsourcing is that monetary incentive is not necessary. However, this assumption has not been carefully verified. From the point of view of incentive design, it is useful to consider whether friendsourcing is really "free". Would it be better that requesters still pay their friends in friendsourcing? Would friend workers expect to receive payment from the requesters? If so, what is the expectation of the workers?

Recent work has estimated the social costs of friend-sourcing by looking at people's choices to friendsource versus crowdsource question asking when the costs of regular crowdsourcing vary [3]. Consequently, people rely more on friendsourcing (e.g., posting questions on personal social networks) when the cost of crowdsourcing increases, suggesting that people seem to consider friendsourcing generally cheaper. However, being free of monetary cost to post on social networking sites does not mean that friendsourcing should be free or is best to stay free of monetary cost, especially when quality of work and social reciprocity ("social debts") are also considered.

Through a survey study, we address two underexplored research questions. First, as requesters, if people can choose to pay in friendsourcing, how much would they like to pay for a common task such as proofreading and editing a written article? Would it be higher or lower than other forms of outsourcing, such as crowdsourcing or expertsourcing (outsourcing a task to external experts)?

Second, as workers, if people may receive payment in friendsourcing, how much would they expect to receive for the proofreading and editing task? Would it be higher or cheaper than other forms of outsourced work?

Survey-based Study

To understand how people evaluate and perceive the monetary value and cost of friendsourcing work, we conducted a survey study that investigates individuals' perceptions when they play different roles, and when the nature of crowd work varies.

Design of the Study

The study required the participants to complete two perspective-laden questionnaires, one from requesters' perspective and the other from workers' perspective in each condition. There are a total of three conditions: friendsourcing (*F*), crowdsourcing (*C*), and expert-sourcing (*E*).

In the questionnaires, we asked participants to estimate the cost or value associated with article proofreading (e.g., typo and error corrections) from both the requesters' and workers' perspectives. We provided a 500-word statement of purpose (SOP) for graduate school application as a sample article shown in the questionnaires. We carefully added typos and grammatical errors into it to make it realistic. SOP proofreading is a task that mixes personal and professional contents, and familiar to our participants. Proofreading has a generally known level of market price, providing a good anchor and basis for comparison. It is possible to divide proofreading into smaller micro tasks, such as separating error identification and fixing [1]. Here we focus on the holistic aspect of proofreading, and leave issues related to micro task division to the future.

To help participants estimate the cost and value of work

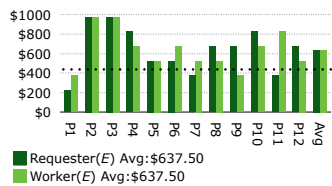
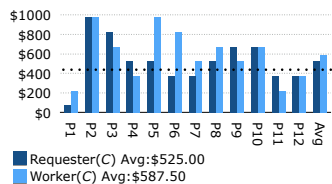
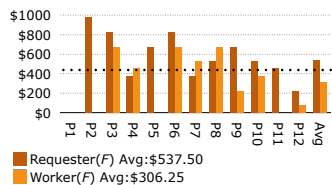


Figure 2: The results of the two questionnaires in the three conditions. The dotted line presents the anchor price \$450.

under specific conditions, we need to provide a price as an anchor. According to Scribendi company's survey¹, the price of 1000-word proofreading ranges from US\$10 to \$60, depending on factors like urgency and skill level of the proofreader. We chose US\$15, or NT\$450², as the anchor for our 500-word document, which should be a reasonable one according to the real market price.

In the questionnaire taking a requester's perspective, a participant is asked to imagine that she is going to post a proofreading request online. She needs to decide the amount of payment she would like to offer to recruit workers from a specific worker pool, which could be friends, general crowds, or experts. Figure 1 presents an example of the questionnaire. Similarly, for questionnaires taking a worker's perspective, a participant is asked to estimate the amount of reward she expects to receive by working on the task in the same format.

The orders of perspective (requester, worker) and condition (*F*, *C*, *E*) are counterbalanced. In follow-up interviews, we further asked participants about the reasons and concerns behind their decisions. A total of 12 participants (5 females) with average age 26.6 years old participated in the study. While none of them is native English speaker, they all have at least a bachelor's degree with basic proficiency in English, and thus the proofreading task is not irrelevant.

Hypotheses

Because friends may be willing to offer free help, and expertise may imply higher value and better work outcome, we posit the following two hypotheses: In terms of the monetary cost of work,

¹scribendi.com/advice/how_much_does_proofreading_cost.html
² The currency used in this study is "NT". We omit the NT sign in the rest of this paper for reading convenience.

H1: *F* requesters expect the least cost, while *E* requesters expect the highest.

H2: *F* workers expect the least amount of reward, while *E* workers expect the highest.

Result

Figure 2 shows the distribution of the perceived payment and reward of all the participants when they play the roles of requester and worker respectively in each of the conditions. We used repeated-measure one-way ANOVAs to examine how the conditions affect perceived value.

From the requesters' view, requesters would pay the least in *C* (\$525.0), while pay the most in *E* (\$637.5). However, there is no statistical difference between the three conditions ($F(2, 22) < 1$), so *H1* is not supported.

In terms of the workers' view, there is a significant main effect of condition on perceived value ($F(2, 22) = 7.56$, $p < .005$). The expected reward in *F* (\$306.25) is significantly less than *C* (\$587.5, $p < .01$) and *E* (\$637.5, $p < .005$). There is no significant difference on expected reward between *C* and *E*. Consequently, *H2* is partially supported: *F* workers expected less than *C* workers, and *E* workers also expected less reward than in *E* workers, but *E* workers did not really expect more than *C* workers.

Discussion and Conclusion

Requesters' Perceived Utility of Monetary Incentives
 Perceived cost of work in all the three conditions are more than the anchor price \$450. According to the interviews, participants believed that high payment is necessary for quality services, so they chose to pay slightly higher than the anchor price in *F* and *C*, and even higher in *E*. However, previous work shows that higher compensation does not guarantee on higher quality [2]. There may exist a

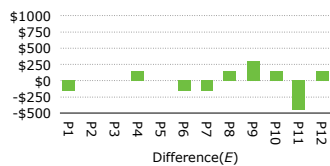
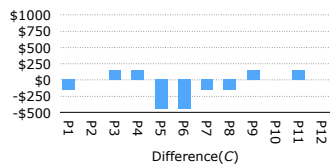
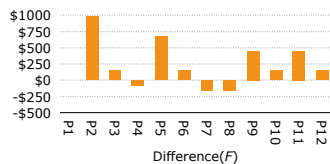


Figure 3: The difference of the perceived value (i.e., pay – reward) for each condition. The overall positive difference of F shows that people would pay more to and expect less from friends.

gap between what requesters expect and what the reality really is. How to resolve this inconsistency can be a crucial issue in the design of task requesting interface.

It is notable that F requesters are willing to pay around the same level as C requesters, which appears to be counterintuitive since it is generally considered that friendsourcing costs less than crowdsourcing [3]. In our interviews, some of the participants mentioned that owing friends makes them feel awkward. In other words, people might consider that friendsourcing creates “social debts”, and thus they are willing to pay it back in the form of monetary reward at a level similar to crowdsourcing.

Workers' Various Motivation

When people took the perspective of workers in C and E , they expected reward no less than when playing the role of requesters. This may extend the prior research [4] that indefinite crowds, now including experts, can be effectively motivated by financial incentives.

On the other hand, F workers expected significantly less than C and E workers. Moreover, three participants even preferred other forms of payback as a F worker, such as a free meal or other services. They wanted to avoid monetary exchanges with friends, but still expected valuable payback from friend requesters.

Gap between Friendsourcing Requesters and Workers

Interestingly, we found a gap in perceived value existing between the F requesters and workers. Figure 3 shows the difference between what requesters offered and what workers expected (i.e., pay–reward) across conditions. Overall there is a positive difference in F , which is a very unique phenomenon to friendsourcing. Why does the asymmetry exist? What is the impact to work outcomes and friendships if a friendsourcing platform is designed to

conform or disconform the asymmetry? More investigation is necessary for a deeper understanding.

Limitation and Future Work

The paper presents an initial exploration of the perceived monetary cost and value of friendsourcing in comparison to other forms of crowd-based work. Because the results are based on self-reports, it may or may not fully reflect what people would actually behave. Also, the sole focus is on perceived monetary cost, and other forms of social transactions are to be considered.

Furthermore, the sample proofreading task is a holistic one, which may increase friendsourcing requesters' perceived social debts, thus exacerbating the asymmetry. It is necessary to further investigate the role of task granularity, and see if a divide-and-conquer strategy (i.e., dividing a complex task to smaller ones) can influence perceived value. Our ultimate goal is to leverage the understanding derived to enable more beneficial and productive utilization of friendsourcing.

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