Crystal Clear or Very Vague? Effects of Task Clarity in the Microtask Crowdsourcing Ecosystem

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ABSTRACT

Microtask crowdsourcing marketplaces encompass a novel learning environment where crowd workers can be thought of as *learners*, who attempt to learn through their experiences in order to become effective and reap bigger monetary rewards. Prior work has not considered the impact of task clarity, which is a function of the task description and instructions, on worker performance and learning. We hypothesize that unclear tasks tend to have a negative impact on the microtask crowdsourcing ecosystem, by sowing seeds of distrust in the minds of crowd workers. Prior work has shown that workers often complete tasks that they are not comfortable with due to a lack of alternatives. Unclear tasks in such contexts can further demotivate crowd workers, and deteriorate the quality of work produced. However, penalizing the reputation of crowd workers despite a lack of clarity in some tasks is unfair. In this paper, we present results from a study of 100 workers on CrowdFlower, regarding their experience of contributing to piecework in the paid microtask crowdsourcing paradigm. Our findings indicate a definitive presence of unclear tasks in crowdsourcing marketplaces, raising the urgent need for mechanisms to improve task clarity, build trust and foster healthy relationships between requesters and workers.

Keywords

Crowdsourcing; Microtasks; Task Clarity; Reputation; Trust; Crowd Workers; Performance

1. INTRODUCTION

Crowdsourcing has been used widely over the last decade to acquire human input at a large scale with an aim to solve problems that machines cannot overcome. The paid crowdsourcing paradigm is a function of two main groups of actors; *task requesters* and *crowd workers*. Thousands of people around the world participate in microtask crowdsourcing as workers in order to earn money and in many cases even make a livelihood out of it [4]. There has also been an organic growth in the number of requesters over the years [1]. Worker performance and the quality of crowd work are two important aspects that have attracted a considerable amount of research interest due to the flourishing crowdsourcing marketplaces. Recent work has shown that training workers by treating them as learners can help in improving their performance in crowdsourcing microtasks [2].

Prior works have not considered the impact of task clarity on workers in crowdsourced microtasks. Reputation systems in crowdsourcing platforms typically rely on the performance of workers in previous tasks. However, it is unfair to penalize workers on their performance in tasks that lack clarity. In this paper, we aim to study the prevalence of unclear tasks and build a first understanding of how crowd workers deal with unclear tasks. We undertook a study of 100 crowd workers on CrowdFlower in order to address these aspects.

2. STUDY: ARE TASKS ALWAYS CLEAR?

We first aim to investigate whether or not workers believe to perceive an impact of task clarity on their performance within a given task. We thereby deployed a survey[1] consisting of various questions ranging from general demographics of the crowd to questions regarding their experiences while completing microtasks on crowdsourcing platforms.

2.1 Methodology

We deployed the survey on CrowdFlower[2] and gathered responses from 100 distinct crowd workers. To detect untrustworthy workers and ensure reliability of the responses received, we follow recommended guidelines for ensuring high quality results in surveys [3]. To this end, we intersperse two attention check questions within the survey. In addition, we use the filter provided by CrowdFlower to ensure the participation of only high quality workers (i.e., *level 3* crowd workers as prescribed on the CrowdFlower platform). We flagged workers who failed to pass at least one of the two attention check questions and do not consider them in our further analysis.

2.2 Worker Demographics

Due to space constraints we direct interested readers to the analyses and distributions of demographic aspects such as age, country of origin, crowdsourcing channels used for participation, educational qualification of workers, ethnicity,

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[1] https://tasks.crowdflower.com/channels/cf_internal/jobs/846542/editor_preview
[2] http://crowdflower.com

and gender to our corresponding webpage[3].

2.3 Analysis and Findings

Worker's Experience. We found that around 36% of the workers contribute to crowd work to earn their primary source of income. 32.6% of workers claim to have been contributing microwork through crowdsourcing platforms over the last 3 to 6 months. 63.2% of the workers have been doing so for the last 1 to 3 years. A small fraction of workers (3.2%) claim to have been working on microtasks for the last 3 to 5 years, while 1% of the worker population has been contributing to crowdsourced microtasks for over 5 years. During the course of this time, almost 74% of workers claim to have completed over 500 different tasks.

What factors make tasks unclear?

We asked the workers to provide details regarding the factors that they believe make tasks unclear, in an open text field. The word-cloud in Figure 1 represents the responses collected from the crowd workers. Workers complained about the task instructions and descriptions being '*vague*', '*blank*', '*unclear*', '*inconsistent*', '*imprecise*', '*ambiguous*', or '*poor*'. Some workers also complained about the language used; '*too many words*', '*high standard of English*', '*broken English*', '*spelling*', and so forth. Workers also pointed out that adequate examples are seldom provided by requesters. Excerpts of these responses are presented on the webpage (see footnote 3).

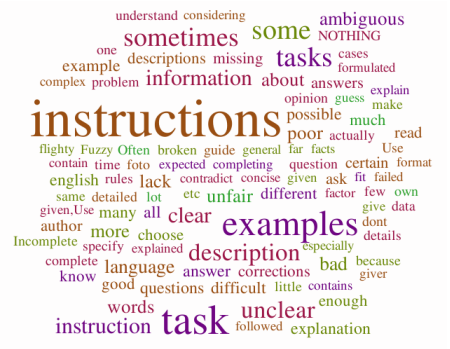

Figure 1: Word-cloud representing factors cited by workers that make tasks unclear. Size of words imply their frequency.

Task Clarity and Influence on Performance. Around 49% of workers claimed that up to a maximum of 30% of the tasks that they worked on were unclear. 37% of workers claimed that between 31-60% of the tasks they completed lacked clarity, while 14% of the workers claimed that more than 60% of their completed tasks were unclear. We also asked the workers about the perceived influence of task clarity on their performance. Our findings are presented in the Figure 2. We can see that a large majority of workers believe that task clarity has a huge influence on their performance.

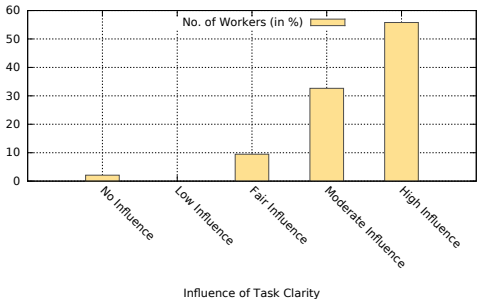

Figure 2: Degree of influence of task clarity on the performance of crowd workers.

How do workers deal with unclear tasks? We investigated the frequency with which workers complete tasks despite the lack of clarity. As shown in Figure 3, we found that nearly 27% of workers complete less than 10% of the unclear tasks that they encounter. On the other hand, another 27% of workers complete more than 50% of all the unclear tasks they come across. In addition, around 18% of workers used dictionaries or other helpful means/tools to better understand over 50% of tasks they completed. 20% of workers used translators in more than 50% of the tasks that they completed.

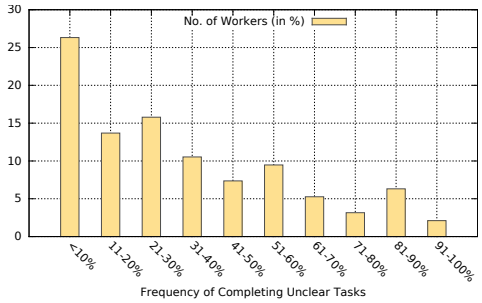

Figure 3: Workers frequency of completing unclear tasks.

3. CONCLUSIONS

Based on our findings from the study, it is clear that workers confront unclear tasks on a regular basis. Some workers attempt to overcome the difficulties they face with inadequate instructions, and unclear language by using external help, dictionaries or translators. Several workers tend to complete unclear tasks despite not understanding the objectives entirely. Thus, we conclude that there is a need for mechanisms that can ensure task clarity so that workers are not penalized for suboptimal performance on such tasks.

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