MOTIVATIONS AND KNOWLEDGE SHARING IN CROWDSOURCING

Research on crowdsourcing participation has identified payment, job-market signaling, competence development, and fostering social affiliation to be the key motivating factors. Thus far, participation remains as a black box and participating in simple crowdsourcing tasks are generally treated as interchangeable with participating in complex, knowledge-intensive tasks. Do participants motivated by different factors choose tasks of different complexity and knowledge requirements? This study proposes that the motivating factors are conceptually distinct based on achievement motivation and social motivation theories, and the distinction sheds light into their differential effects on the complexity of task chosen (with different knowledge and cognitive requirements). The findings can offer suggestions for motivating participants to take up more complex, knowledge-intensive tasks.

1. INTRODUCTION

The prevalence of Internet technology has catalyzed crowdsourcing, which is “a type of participative online activity in which an individual, an institution, a non-profit organization or a company proposes to a group of individuals of varying knowledge, heterogeneity and number, via a flexible open call, the voluntary undertaking of a task” (Estellés-Arolas & González-Ladrón-de-Guevara, 2012, p. 9). Crowdsourcing allows organizations to access and utilize external knowledge and skills (Burger-Helmchen & Pénin, 2010), which range from simply verifying addresses to proposing new ideas for product design. The driver of crowdsourcing is, clearly, the crowd, whose participation is a critical success factor. Much research on crowdsourcing has focused on understanding participants’ motivation. The most salient motivating factors identified include payment, job-market signaling, competence development, and fostering social affiliation (e.g., Brabham, 2008; Hossain, 2012; Kaufmann et al., 2011; Kosonen et al., 2014; Rogstadius et al., 2011; Zhao & Zhu, 2014; Zheng et al., 2011).

Prior research has enhanced our understanding of “what” motivates participation. This study seeks to deepen the understanding by opening up the black box of participation to investigate the differential effects of motivating factors. Specifically, we examine whether participants motivated by different factors choose different tasks varying in complexity and knowledge requirements. This is necessary to address important yet unanswered questions, such as “does payment motivate participation in simple, structured tasks as well as unstructured tasks requiring creative knowledge application?” “Which participants are more likely to choose high-commitment tasks (requiring more time and effort) – those motivated by payment or those seeking to develop competence?” This study is one of the first attempts to answer the calls of researchers who have highlighted the need to examine the differential effects of motivation. For example, Pedersen et al. (2013) suggest future research to examine how motivation varies with task type; Finnerty et al. (2013) identifies the need to study how different rewards influence performance for different types of tasks.

2. PROPOSED MODEL AND HYPOTHESES

This study’s objective is to investigate the differential effects of motivating factors found significant in prior research (i.e., payment, job-market signaling, competence development, and fostering social affiliation) on crowdsourcing participants’ choice of task varying in complexity (i.e., structuredness, commitment, and interdependence). We hypothesize the differential effects by considering the conceptual differences among the motivating factors, based on theories on achievement goal and social goal. Their effects on task choice are proposed based on the intentional view of behavior (Dennett, 1978).
2.1. Achievement Goals and Task Choice

Theories of achievement goal explain the effect of goals on “people’s choice of achievement tasks, persistence on those tasks, vigor in carrying them out, and performance on them” (Wigfield & Eccles, 2000, p. 68). Achievement goal is a future-focused cognitive representation that guides behavior to a desirable, competence-related end state (Hulleman et al., 2010). Achievement goal theories focus on mastery and performance as two different goal-directed achievement strivings. Those who strive for mastery judge competence with reference to their own past performance or knowledge (Nicholls, 1984). They have a task orientation, emphasize learning and challenge, and seek to develop their competence (Hulleman et al., 2010). In contrast, those who strive for performance competence as a capacity relative to that of others (Nicholls, 1984). They have an ego orientation, focus on relative ability, and seek to demonstrate their competence (Hulleman et al., 2010).

We hypothesize that crowdsourcing participants motivated by payment and job-market signaling will pursue the performance goal (i.e., demonstrate competence) more strongly than the mastery goal (i.e., develop competence). Both payment and job-market signaling are extrinsic motivation (Brabham, 2010; Hossain, 2012; Kaufmann et al., 2011), which drives individuals with rewards and evaluations that are external to the task itself. Motivation theories (e.g., Deci & Ryan, 1985) state that when extrinsically motivated, individuals are not focused on mastery and skill development, but rather, feel compelled to behave or achieve by external forces (Utman, 1997).

To receive payment for a crowdsourcing task, a participant needs to complete the task as required successfully (Geiger et al., 2011). Therefore, a participant motivated by payment is likely to focus on completing the task rather than learning on the task. Those motivated by payment also tend to want to maximize payment by completing as many tasks as possible given the amount of time and level of cognitive resource available (Horton & Chilton, 2010; Mao et al., 2013). Therefore, they are less likely to expend significant effort on developing competence and learning, which are typically not compensated in crowdsourcing (see Figure 1).

H1: Individuals motivated by payment seek to demonstrate competence more strongly than to develop competence in crowdsourcing.

H2: Individuals motivated by job-market signaling seek to demonstrate competence more strongly than to develop competence in crowdsourcing.

We expect achievement goals to influence task choice. This is supported by the Intentional View of Behavior (Dennett, 1978), in which an action is construed as a rational attempt to attain goals. This suggests that crowdsourcing participants would choose tasks according to the intended goal to be achieved and they are likely to choose tasks that are most in line with their goal.

Those pursuing the goal of demonstrating competence are inclined to show their individual capabilities relative to others (Hulleman et al., 2010; Nicholls, 1984). Therefore, they are likely to choose tasks that have clearly defined outputs for comparing different participants, i.e., structured (and therefore less complex) tasks. There is a lack of theoretical rationale for expecting the goal of demonstrating competence to influence task
commitment and interdependence. However, we control for these relationships in data analysis to better discern the differential effect. Since our focus is on task complexity, we state the hypothesis to capture the notion that unstructured tasks are more complex:

H3: Individuals pursuing the goal of demonstrating competence are less likely to choose tasks of high unstructuredness.

Participants motivated to achieve the goal of developing competence would seek challenges and opportunities to learn (Hulleman et al., 2010; Nicholls, 1984). They are driven to acquire new knowledge for enhancing their existing skills or developing new skills through participating in crowdsourcing. Learning is an intrinsic motivation of crowdsourcing (Hossain, 2012; Zhao & Zhu, 2014) in that it stems from one’s inborn desire and from feelings of competence and it does not involve obvious external benefits (Leimeister et al., 2009). When individuals are intrinsically motivated to develop competence, they tend to be more interested in the task at hand and attempt to stretch their abilities (Utman, 1997). They consider ability to be a malleable attribute that can be developed by increasing effort (Dweck, 1986). Accordingly, they are likely to choose high-commitment tasks requiring more effort. In data analysis, we also control for the effect of the goal on task unstructuredness and interdependence to better discern its effect.

H4: Individuals motivated by the goal of developing competence are more likely to choose tasks requiring high commitment.

2.2. Social Goal and Task Choice

A growing number of researchers have highlighted the value of studying social goal along with achievement goals (i.e., demonstrate or develop competence discussed earlier) (Urdan & Maehr, 1995), because both the need for achievement and need for affiliation are basic human needs (McClelland, 1961). Individuals seeking to foster social affiliation want to engender feelings of belonging within groups and feel isolated or rejected if affiliative desires are not met (Dowson & McInerney, 2001). They tend to want to help others so that the group can stay together and may even participate in group activities that they personally do not like much. Therefore, they are likely to choose tasks that allow them to work with others cooperatively and prefer tasks with high interdependence.

H5: Individuals pursuing the goal of fostering social affiliation are more likely to choose tasks of high interdependence.

3. RESEARCH METHOD

Data for assessing the proposed model will be collected through a survey. A survey instrument has been developed and the survey is currently underway. Results of the survey will be presented during the conference.

Given the objective of understanding task choice, the target population of this study is individuals who have experience participating in crowdsourcing tasks. To ensure variance in task unstructuredness, commitment, and interdependence, the sample should include participants of different crowdsourcing websites. We have contacted potential respondents through Amazon Mechanical Turk (MTurk), a popular crowdsourcing platform. MTurk hosts a large variety of tasks, including data verification, language translation, and audio transcription (Mao et al., 2013). A two-stage survey will be conducted to ensure variance in task. In the first stage, respondents would indicate the crowdsourcing platforms they had participated, and responded to measurement items about their motivations to participate in crowdsourcing. Respondents who indicated that they had participated in crowdsourcing websites other than Amazon Mechanical Turk would be invited to participate in the second-stage survey conducted three weeks later, which contains measurement items about the key characteristics of tasks chosen in the past three weeks (i.e., weeks after the first-stage survey). The two-stage design also provides a stronger test of causal relationships and helps to reduce common method bias.

4. CONCLUSION

Going beyond a single and broad conceptualization of crowdsourcing participation behavior to examine the characteristics of task choices not only enriches our theoretical understanding of the concept and its antecedents (such as motivations examined in this study), but also offer practical insights into the appropriate motivation strategies for different tasks varying in complexity and knowledge requirements.
References


