Abstract

Existing approaches to crowdwork center around the unique ways in which work is sourced from the crowd, often emphasizing the kind of work characterized by hyperspecialized, microtask labor, such as that found in Amazon’s Mechanical Turk. However, real work in organizations is complex and rich, and as crowdsourcing is increasingly used alongside mainstream organizational work, social, technological, human-factors and work practice-related challenges arise. This paper presents the preliminary results of a research study designed to investigate models and methods for effective organizational uses of the crowd. The results indicate that despite the growing trend in organizational crowdsourcing, its implications on the organizational work performance and human requirements are yet to be fully understood.

Introduction

A number of definitions and frameworks for understanding crowdwork have been advanced (Quinn and Bederson 2011; Erickson 2011; Estellés-Arolas and González-Ladrón-de-Guevara 2012), and issues raised in relation to organizational uses of the crowd (Kittur et al. 2013). We have found that the nature of work in crowdwork is itself considered only tangentially.

Broad-based grounds for understanding the phenomenon of crowdwork are identified in such concepts as collective intelligence, “wisdom of the crowd”, and human computation. A remaining challenge is to provide a framework for effective use of crowdsourcing in organizations, which requires that organizational issues around the use and adoption of crowdsourcing be well considered. Crowd characteristics that are desirable to organizations are only beginning to emerge (Erickson, Petrick, and Trauth 2012), and implications of organizational uses of the crowd are just starting to be understood (Felstiner 2011). Such understandings are critical for exploring relevant issues that would enable the building of frameworks and processes for effective and efficient organizational uses of the crowd.

Research Study

The preliminary results presented in this paper are based on an on-going study to investigate organizational uses of the crowd for accomplishing traditional forms of work, e.g. in IT application maintenance and consulting. Here we specifically draw on results of a study of a non-commercial crowdsourcing system designed for organizational use. The system offers an outcome-based model enabling an organization to deliver small contained “components” or packages of work, known as events, at fixed prices using crowd-based resources. Events are defined per project, and are posted to the system portal so that crowd workers can subscribe to them. Events are to be completed within predefined short-cycle times. Successfully completed events are reviewed by project leaders and integrated into achieving main project goals.

The study takes an interpretivist qualitative approach, using literature review, study of existing applications, as well as semi-structured interviews as primary methods of data capture. The interviews focused on organizational motivations for leveraging the crowd, details of specific tasks performed, advantages gained, problems encountered and perceived impacts on the organizational work models. Analysis of data uses grounded theory in order to elicit emerging themes. Our goal in this paper is to discuss emerging initial themes, while highlighting issues in relation to the nature of work for organizational crowdsourcing.

Emerging Issues

Data analysis is focused on such questions as: what kind of work does it take to use crowd-based systems and models? What forms of work representations exist (explicitly or implicitly) in existing crowdsourcing models, and how much (if at all) do these representations take account of the
inherent complexity of work? In line with grounded
theory technique, we identified the following themes and
issues regarding the use of the system under examination
(see also Table 1)

The **meta-work of crowdwork** – Particularly in a
system designed with an aim to reduce cost, for example,
the significant amount of “meta-work,” i.e. the work re-
quired to plan and execute crowdwork, needs to be
accounted for as part of the overhead. This includes
providing the necessary tools and context to perform the
work (which is higher in crowdwork as participants do
not have the same access to the context as in-house work-
ers), planning and structuring work requests, accessing
and engaging the crowd, collaborating with the work pro-
ducers, reviewing the quality of the work, and integrating
the result of the work back into a larger project.

**Low-level outsourcing of routine tasks** – Many uses
of crowdwork focus on decomposing or “atomizing” rou-
tine time-consuming tasks into low-level pieces of work
to be performed by the crowd. The system under investi-
gation focused on short-cycle (though not microtask)
work. However, much of organizational work consists of
complex sets of interdependent tasks that need to be coor-
dinated as a single thread across organizational processes.

**Crowd knowledge management** – Crowdwork thrives
on harnessing crowd knowledge from an openly distrib-
uted pool of people. This sits rather uncomfortably with
other, more traditional forms of knowledge, including
tribal knowledge, application knowledge and local know-
how, which have proved to be an organization’s most
valuable knowledge asset. It can be difficult to effectiv-
ely utilize crowd knowledge in a manner that leverages other
forms of knowledge, while safeguarding organizational
intellectual capital.

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**Table 1: Summary of emergent themes**

<table>
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<tr>
<th>Emergent themes</th>
<th>Advantages offered by, or sought from, using the crowd</th>
<th>Challenges posed to organizational work performance</th>
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</table>
| Managing and specifying work takes work (the meta-
work of crowdwork) | Accomplishing work faster through the use of a diverse workforce | A huge overhead of “meta-work” is required to specify and enable crowdwork |
| | Outsourcing work to a crowd of people in a compelling way, including entertainment | Impacts on organizational work efficiency and quality |
| Current uses of the crowd takes the form of outsourcing of low-level routine tasks | Focus on componentized or “hyperspecialized” work | May lack compatibility with organizational workflow |
| | Possible automation of low-level routine tasks | Organizational work is inherently complex |
| | Access to an undefined network of workers | Organizational work performance assumes a pyramidal structure of workers with often rigidly defined roles |
| Ability to access open crowd knowledge, while safeguarding internal organizational know-how requires crowd knowledge management techniques | Access to distributed work | Reliability and accuracy of submitted work |
| | Access to expertise outside organizational boundaries | Protecting organizational intellectual property and competitive advantage |
| | Exploiting and utilizing crowd knowledge | Exploiting and integrating other forms of knowledge |
| | Leveraging collective intelligence | Selection or recruitment of individual intelligence from the crowd |

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**Concluding Remarks**

A significance of crowdwork is that large numbers of un-or loosely-affiliated people can contribute to a single
effort. Data analysis to date suggests that there are signifi-
cant implications of organizational uses of the crowd on
how work is performed. It points toward the need for
more coherent frameworks for organizational crowdwork
that take a broad-based approach to consider the
implications on the organizational work performance and
human requirements. Such approach will need to better
account for the inherent complexities of work, the many
ways work is conceptualized, experienced and described,
and the many forms and modalities it takes.

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