Crowd Science 2018: The Promise of IT-Mediated Crowds

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Abstract

Crowd Science 2018 is proud to welcome four impactful new works to the field this year, and in this short paper we provide a brief review of the new works in advance of their presentation at HICSS 51. We conclude this brief introduction with a look ahead to the Crowd Science 2019 minitrack, while illustrating numerous useful subjects for future research.

1. Impactful New Works

This year's crop of new Crowd Science research has continued our emerging tradition of bringing a diversity of high quality new works to the field. This diversity is reflected in the subject-matter covered by each paper, but also in respect to the methodological and analytical approaches to Crowd Science research.

The work of Mrass, Peters & Leimeister [53a] hones-in on two key Crowd Science concerns simultaneously; the complexity of the work that is able to be achieved by IT-mediated crowds, and the IT intermediaries that many times shepherd the crowd process for organizations. In doing so, the work makes substantial new contributions to both of these areas of Crowd Science through a very revelatory case study of a large public-sector German organization using a Crowdworking intermediary to generate new business models.

The work of Endress & Gear [20a] is our best paper nominee for 2018, and focusses upon the use of two disparate IT-mediated crowds for a common forecasting task. Leveraging multiple field experiments, the work generates a predictive model for the forecast of stock prices, leveraging both expert and non-expert IT-mediated crowds. In doing so, the work illustrates that multiple IT-mediated crowds are useful in concert, that expert and non-expert crowds can be used together, and that forecasting through IT-mediated crowds is possible without the use of market-like structures, such as those found in Prediction Markets.

The work of Leicht [36a] forms a very useful new resource for Crowd Science by coalescing an extensive body of research and practice on Crowdsourcing for software testing. Leveraging a systematic literature review, this research does some heavy lifting for the software development field by synthesizing the research on Crowdsourcing for software testing with traditional software testing research and practice, while at the same time illustrating that IT-mediated crowds can be leveraged to deliver complex software testing results.

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Last, but most certainly not least, is the work of Lipusch et al [38a] who round out our contributions for the year, by bringing much needed conceptual development to Crowd Science, and the sub-field of Crowdfunding in particular. The work focusses on reward-based Crowdfunding, and illustrates that these IT-mediated crowds can be leveraged for purposes beyond simple funding, and more specifically to co-create innovation for entrepreneurs. So, where our work by Endress & Gear [20a] illustrates that multiple IT-mediated crowds can be used for a single purpose, the work by Lipusch et al [38a] provides powerful evidence of the same IT-mediated crowd being used for both funding and innovation purposes.

2. **Crowd Science 2019**

From the perspective of this mini-track, IT-mediated crowd phenomena can be found in these areas of research; Crowdsourcing [11-14, 18, 64, 64b], Crowd Finance (Crowdfunding, Blockchains, Distributed Ledgers) [8, 21, 50, 64a], Prediction Markets [6, 23], Citizen Science [17, 71], Open Innovation & Tournament platforms [5, 9, 15, 16, 27, 53], Social Media for resource creation [30-32], Wikis & Wikipedia [39, 40, 72, 75], Big Data from Crowds [3], Spatial Crowdsourcing (Sharing/Gig Economy) [57], Situated/IoT Crowdsourcing [57], Wearables Crowdsourcing [57], IT-mediated Collective Intelligence [37, 42, 57]

We encourage new empirical and theoretical submissions from social, economic, technical and organizational scholars, investigating these phenomena in a variety of contexts, including: Health Care [49, 52, 61a], law [74], Education [4, 19, 22, 38, 47, 48, 54, 62], Governance & Policy [2, 14, 35, 43, 44, 45, 61, 70], Smart Cities & GIS, Entrepreneurship, User Innovation [68, 69], Institutional and Strategic perspectives, and International Business and Development perspectives [10].

Topics of interest for the minitrack include:

- Human computation, micro-tasking and virtual labour markets [26, 46, 67].
- Crowdsourced contests, their design and efficacy [9, 15, 16, 27].
- Gamification in IT-mediated crowds [29, 51, 65, 66].
- IT-mediated crowds and law/intellectual property [74].
- IT-mediated crowds for invention and commercialization [1, 7, 9, 16, 27, 33, 34, 41].
- Business models of IT-mediated crowd companies and startups.
- The economics of IT-mediated crowds.
- The knowledge dynamics of IT-mediated crowds [24, 25, 77].
- IT-mediated crowds and 3D printing.
- Wearables & Sensors in, and as crowds [57].
- IT-mediated crowds and machine learning [28, 36].
- The role of Bots/AI in IT-mediated crowds.

- Measuring IT-mediated crowds and outcomes [16, 27, 56, 60, 63,76].
- Formal models and computational models/simulations [20].
- IT-mediated crowd platforms/intermediaries [7, 26].
- IT-mediated crowds & common-pool resources.
- Varieties of Crowd Capital [58-60, 64]
- IT-mediated crowds and Industry/competitive dynamics.
- Crowd-Member/IT/Organization dynamics [20].
- Crowd Labor movements and labor dynamics.
- Expert, non-expert, and mixed crowds [20, 61].

As track co-chairs, we endeavor to coalesce a set of compelling talks, provide developmental paper reviews, and special issues stemming from the track, focused on one or more of the areas mentioned here.

Further, we would like to express how grateful we are for all the fantastic reviews, and reviewers, that make this track what it is, by extending our heartfelt thanks to all the top-notch scholars that have helped the cause.

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