Running Out of Time: The Impact and Value of Flexibility in On-Demand Crowdwork

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The Flexible On-Demand Work?

"Many things remain attractive about the on-demand economy… The work itself is flexible: workers choose their hours; can work for competitors; and are their own bosses."

--- "No, the on-demand economy isn’t about to implode", March 2016

"(the on-demand economy) is likely to benefit people who value flexibility more than security…"

--- "There is an app for that", December 2014

"Supporters argue that this on-demand economy offers those who choose to work for them the independence and flexibility to fit their work to their lifestyle…"

--- “The truth about working for Deliveroo, Uber and the on-demand economy”, June 2016
On-Demand Crowdwork Is Not That Flexible

Find Contact information for one (1) U.S. employees per company who has the following titles ONLY: product manager, product director, marketing manager, marketing director, training manager, training director, technical writer, and any title with "international" or "global" in it.

First name*:  
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The HIT you were viewing has expired.
There are no HITs in this group available to you at the moment. (Why?)
Understanding Flexibility in On-Demand Crowdwork

What if we provide more flexibility in on-demand crowdwork?

Traditional Workplaces

*Increased* temporal flexibility $\rightarrow$ *Better* work output & worker experience

On-Demand Crowdwork

Can on-demand crowdwork benefit from more flexibility?

The **impact** of granting more flexibility in on-demand crowdwork on workers?

The **value** that workers attach to flexibility in on-demand crowdwork?
Study 1: Experimental Design

Sentiment analysis

We have a large number of customer reviews on automobile related products and we want to know whether these reviews are positive or negative. Please help us classify these customer reviews as positive or negative. You can classify as many reviews as you want.

This is an idea whose time has not arrived. Perhaps, all, you have to purchase micro-fiber towels per the thousand dollars per month to do one panel at a time - spray, wipe and buff. Suppose you need to eliminate toxic runoff (apparently referring to the soapy water). I need to warn you about MUCH WATER TO WASH MY CAR. With eco touch I am left with a lot of dirty towels that would end up in a landfill because I don’t know how to recycle dirty towels. I believe that eco touch has a problem with “truth in advertising”. I can see using this for minor cleaning such as a deposit left by a bird or an insect on my vehicle. But, to wash the entire car is best done with a bucket, hose, sponge and chamois cloth. Or, take it to a car wash.

In my opinion, this review is:

- positive
- negative

Submit

3 time allotted

1 minute
1 hour
1 day

2 provision of estimate

Without estimate
With estimate

Behavior?
Quantity?
Quality?
Impact on Worker Behavior: Data

- Queue Time
- Dwell Time
- Between-task Break

Time Elapsed (seconds)
Impact on Worker Behavior: Queue Time & Dwell Time

More flexibility

→ Longer queue time

→ Longer dwell time
Impact on Worker Behavior: Number of Between-task Breaks

More flexibility → Fewer between-task breaks

# of between-task breaks that are at least x minutes
Understanding Flexibility in On-Demand Work

What if we provide more flexibility in on-demand crowdwork?

More flexibility → Longer queue time
   Longer dwell time
   Fewer between-task breaks
   Later between-task breaks
   Larger amount of work been completed
   Similar or better quality

On-demand crowd workers value flexibility. But to what degrees?

The impact of granting more flexibility in on-demand crowdwork on workers?

The value that workers attach to flexibility in on-demand crowdwork?
Understanding Flexibility in On-Demand Work

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*On-demand crowd workers value** flexibility. But to what degrees?

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The **value** that workers attach to flexibility in on-demand crowdwork?
Study 2: Measuring Value as Compensating Differential

Sentiment analysis
We have a large number of customer reviews on automobile related products and we want to know whether these reviews are positive or negative. Please help us classify these customer reviews.

Please carefully read the following customer review and decide whether it is a positive review or a negative review. You can classify as many reviews as you want.

This is an idea whose time has not arrived. Perhaps if one has a teeny tiny vehicle then this may work out. First of all, you have to purchase micro-fiber towels per the instructions. Be sure to get lots of them. You are instructed to do one panel at a time - spray, wipe and buff. Supposedly you will save 80 - 120 gallons of water and eliminate toxic runoff (apparently referring to the soapy water). I HAVE NEVER USED ANYWHERE NEAR THAT MUCH WATER TO WASH MY CAR. With eco touch I am left with a whole slew of micro-fiber towels that would end up in a landfill because I don't know how to recycle dirty towels. I believe that eco touch has a problem with "truth in advertising". I can see using this for minor cleaning such as a deposit left by a bird or an insect meeting its demise on my vehicle. But, to wash the entire car is best done with a bucket, hose, sponge and chamois cloth. Or, take it to a car wash.

In my opinion, this review is:
- positive
- negative

Submit

2 time allotted
1 minute
1 day

3 task price
3 cents
4 cents
5 cents

1800 workers, 100 tasks maximum
Measuring Value as Compensating Differential

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Measuring Value as Compensating Differential

1 cent ⇔ 5.76 task submissions

7.02 task submissions ⇔ flexibility in the task

Value of flexibility ⇔ 1.22 cents/task

⇒ $2.32/hour (18.9 seconds/task)

⇒ $0.83/hour (conservative, 51.2 seconds/task)
Engagement Levels with Platforms and the Value of Flexibility

In the past week, how many hours have you spent both searching for and doing tasks on MTurk?

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No positive value $0.98/hour $2.37/hour

Higher engagement level with platforms $\rightarrow$ More value on flexibility
Summary

• Higher flexibility levels within crowdwork significantly change worker behavior, leads to increased work quantity without sacrificing quality.

• On-demand workers attach substantial economic value to flexibility.

Requesters
• Carefully gauge and experiment with “time allotted”
• Delineate urgent tasks from tasks that could give workers more control of their time

Workers
• Learn to best utilize flexibility
• Take collective actions to request for more flexibility / a role in negotiating time limits in on-demand crowdwork

Thank you!