

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

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The Flexible On-Demand Work ?

WIRED

“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
Economist

“(the on-demand economy) is likely to **benefit people who value flexibility** more than security... ”

--- “There is an app for that”, December 2014

theguardian

“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 direct emails for contacts at specified companies

Requester: Michael Gray

Reward: \$0.35 per HIT

HITs Available: 1

Duration: 2 minutes

Qualifications Required: Total approved HITs is not less than 50; HIT approval rate (%) is not less than 75

Timer: 00:00:29 of 2 minutes

Finished with this HIT? Let someone else do it?

Submit HIT

Return HIT

Automatically accept the next HIT

Total Earned: \$2.94
Total HITs Submitted: 62

Find direct emails for contacts at specified companies

Requester: Michael Gray

Reward: \$0.35 per HIT

HITs Available: 1

Duration: 2 minutes

Qualifications Required: Total approved HITs is not less than 50; HIT approval rate (%) is not less than 75

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*: Last name*: Job title*:

Email address*:

Phone*:



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 → *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.

Please carefully read the following customer review and classify it 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 time to do one panel at a time - spray, wipe and buff. Supplies eliminate toxic runoff (apparently referring to the soapy water). I use MUCH WATER TO WASH MY CAR. With eco touch I am left with a lot of 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

Less than 30 seconds !

Behavior?

Quantity?

Quality?

3 time allotted

*1 minute
1 hour
1 day*

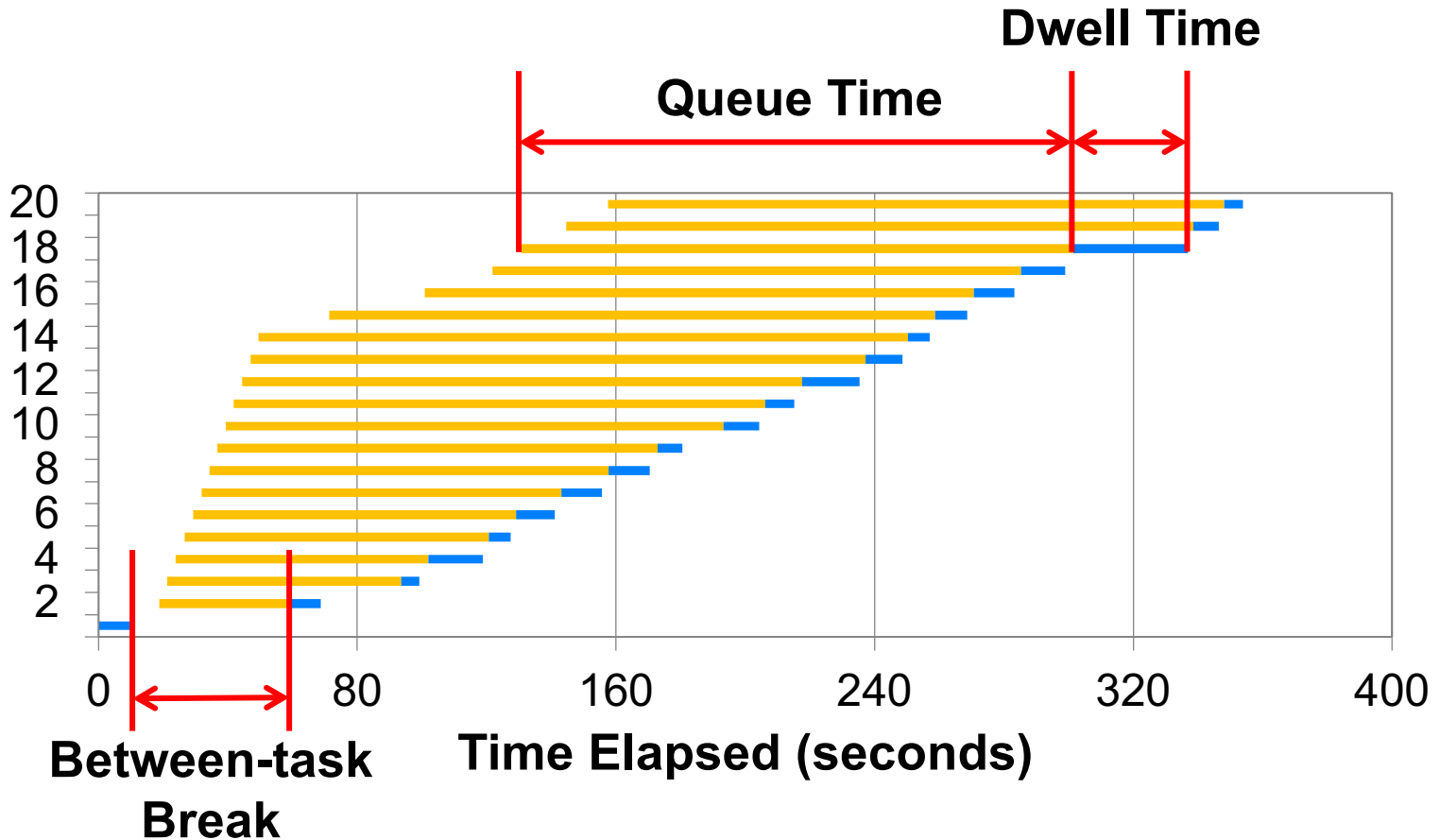
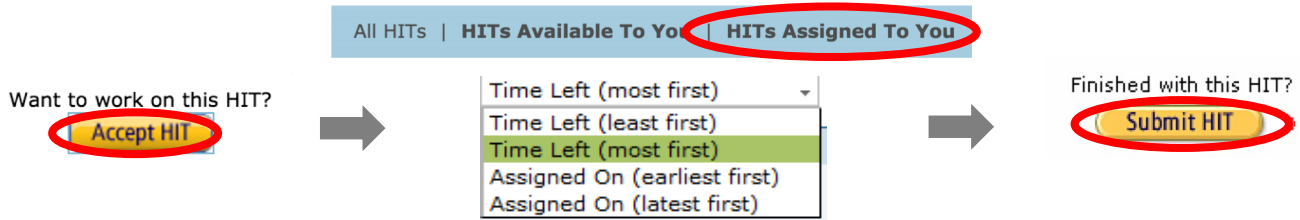


2 provision of estimate

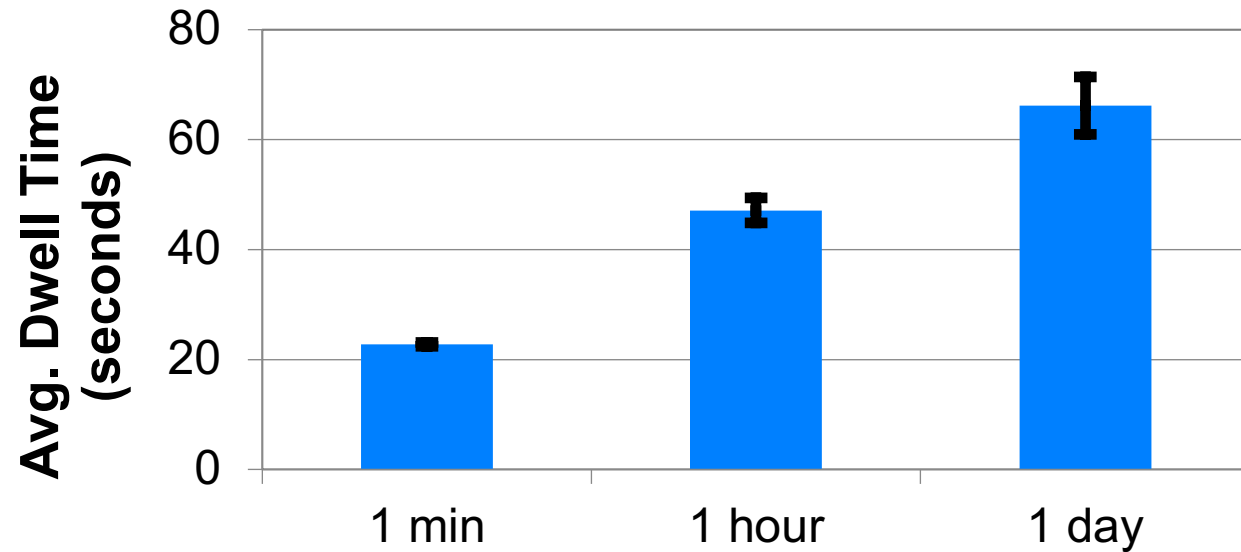
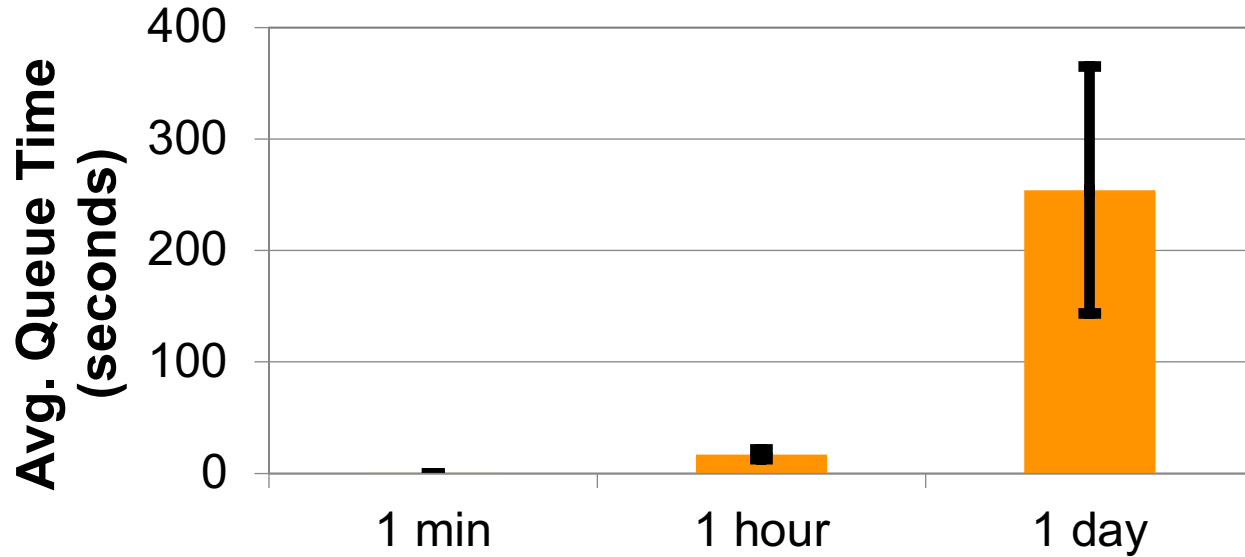
*Without estimate
With estimate*

1999 workers, **100** tasks maximum (5 cents each)

Impact on Worker Behavior: Data



Impact on Worker Behavior: Queue Time & Dwell Time

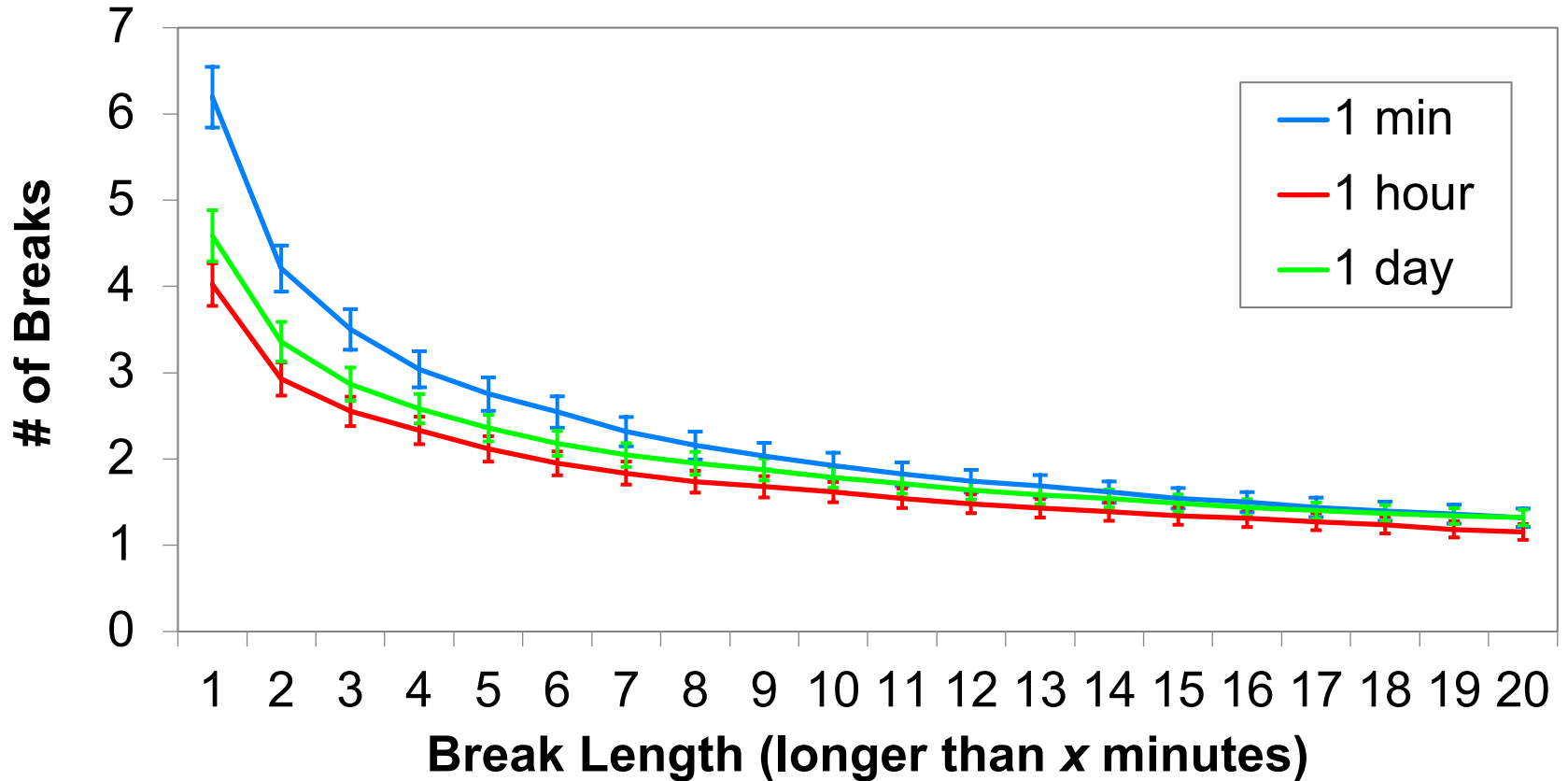


More flexibility

→ **Longer** queue time

→ **Longer** dwell time

Impact on Worker Behavior: Number of Between-task Breaks



of between-task breaks that are at least x minutes

More flexibility → **Fewer** between-task breaks

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?


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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



3 task price

1 minute
1 day

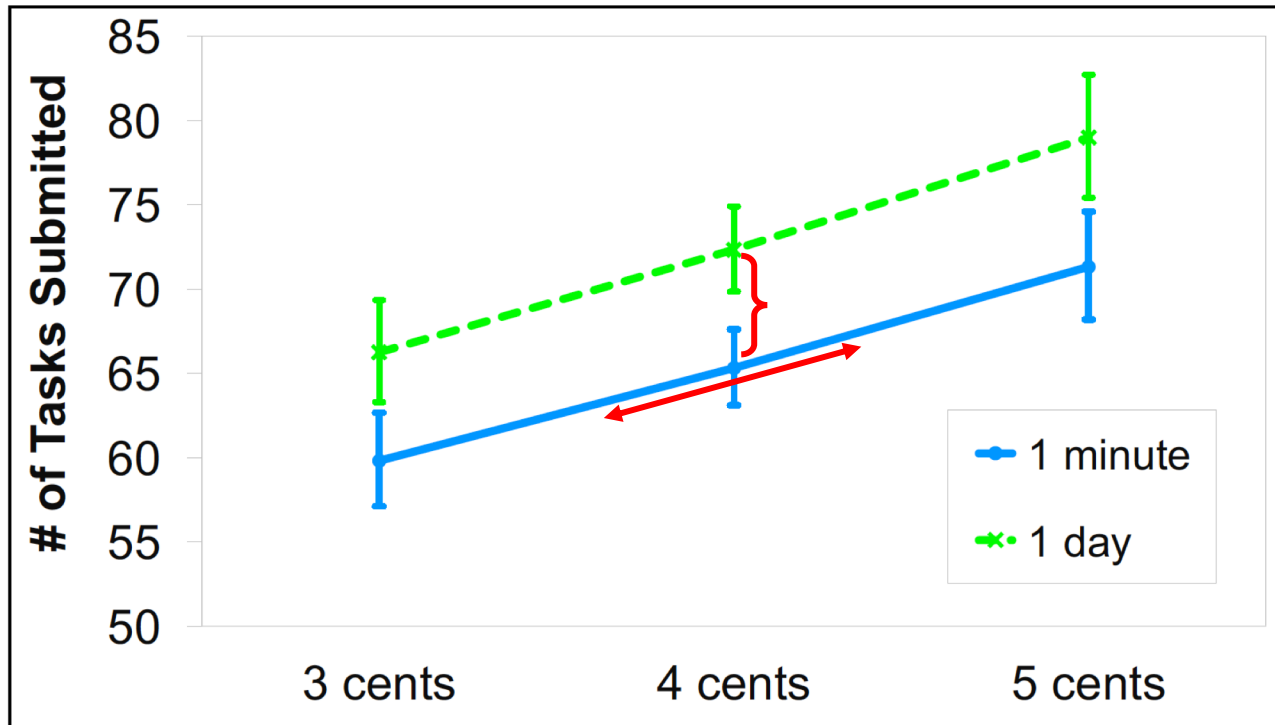
3 cents
4 cents
5 cents

1800 workers, **100** tasks maximum

Measuring Value as Compensating Differential

	All Data
Intercept	3.827 ^{***} (0.126)
1 day	0.102 [*] (0.049)
price	0.088 ^{**} (0.030)

Measuring Value as Compensating Differential



1 cent \Leftrightarrow 5.76 task submissions

7.02 task submissions \Leftrightarrow flexibility in the task

Value of flexibility \Leftrightarrow 1.22 cents/task

\Rightarrow \$2.32/hour (18.9 seconds/task)

\Rightarrow **\$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?

	0-10 hours	11-30 hours	30+ hours
Intercept	3.871*** (0.225)	3.854*** (0.030)	3.863*** (0.039)
1 day	-0.009 (0.090)	0.108*** (0.011)	0.218*** (0.014)
price	0.066 (0.055)	0.096*** (0.007)	0.069*** (0.009)



No positive value



\$0.98/hour



\$2.37/hour

Higher engagement level with platforms → **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!