The analytics of labor platforms

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Hertie School Workshop

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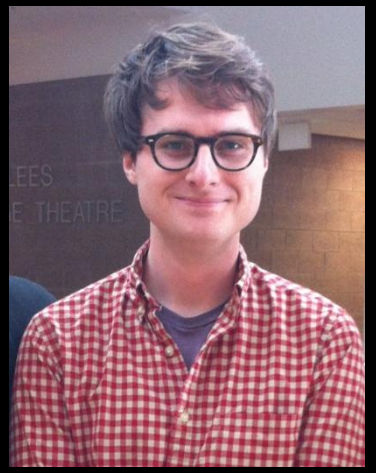
MacArthur Project: Connected Consumption & Connected Economy

2011-18 https://tinyurl.com/macschor



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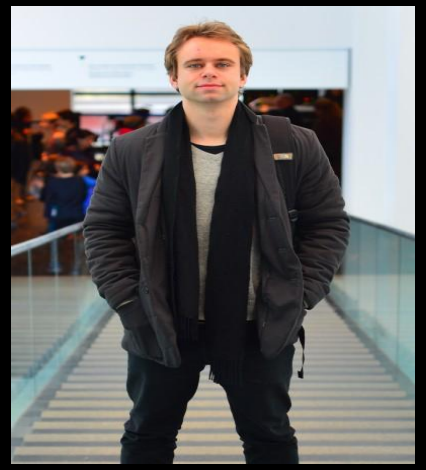

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”The Algorithmic Workplace” 2019-2022
NSF Future of Work at the Human-Technology Frontier

Ten platforms, interview, and survey data
Agent based modeling
Legal and regulatory issues

FAVOR

POSTMATES

airbnb

lyft

instacart

taskrabbit

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SUSTAINABLE STOCK
Stocksy
UNITED
Photography

deliv
delivery shortened

What do platforms do? Moving beyond the pro-con debate to an analytic approach

What, if anything, is new about platforms?
What difference does their technology make?
Do they have unique features?
Is employee status feasible?
How malleable are their current configurations?
My view: platforms are a new labor regime

Characterizing the literature—from Vallas and Schor (2020)

Efficiencies and Entrepreneurialism: economists' approaches

Algorithms and crowd-sourced information

Reduced management costs

Enhanced efficiency in logistics (for ridehail and delivery; "wild goose chases")

Lower search costs for consumers

Fosters entrepreneurialism (self-employment)

Solves information deficits to reduce risks of peer-to-peer exchange

Efficient payment systems

Sundararajan (2016); Einav, Farranato and Levin (2016); Castillo, Knopfle and Weyl (2018); Horton and Zeckhauser (2016)

The Algorithmic Manager

Algorithms control all aspects of the labor process

Asymmetric information between platform and worker yields systemic power over the workers

No human contact, arbitrary decisions

Rosenblat (2019); Calo and Rosenblat (2017); Cameron (2019); Wood et al. (2019); Griesbach et al. (2019); Rahman (2018); Rosenblat and Stark (2016); Shapiro (2018); and Robinson 2017)

Accelerated Precarity

Key feature of platform work is its precarity

Independent contracting v employee status (misclassification)

Ongoing trend since 1980s; acceleration but not a fundamentally new development

Neo-liberalism “on steroids”

Kalleberg and Dunn (2016); Ravenelle (2018); Scholz (2016); van Doorn (2017).

Institutional Chameleons

Cross-national perspective

European platform regulation as basis for view that platforms are perfectly malleable

Nothing unique about platforms

Thelen (2018); Söderqvist (2017, 2018) ; Berg and De Stefano (2018)

A unique, hybrid labor regime

"Retreat from control"
Platforms are "open" access (highly heterogeneous labor force)
Firms cede control over hours and aspects of the labor process

They use market discipline + technology
"platform dependence" highly determinative of outcomes
"*homines diversi*" (multiple earner strategies/orientations)

Importance of a multi-platform study (beyond "Uber-centricity")

Data and Methods

MacArthur sample: In-depth interviews (60-90 minutes) plus surveys

111 earners on 7 platforms (Airbnb, TaskRabbit, RelayRides, Postmates/Favor, Uber/Lyft)

Data collection from 2013-2016, 18-34 age range

At least 5 trades, Recruited through the platform, orientations (or if necessary, online groups or snowball)

NSF sample: Instacart, Amazon, and Deliv (shoppers and delivery)

Approx 70 interviews, Facebook recruitment, June-August 2020

No age restrictions. Analysis in process, not included in tables.

Key finding: platform dependence

Dependent: wholly or primarily dependent on the platform for their livelihood; rely on earnings to pay for monthly expenses; roughly equivalent to full-time workers)

Partially-dependent: rely somewhat on partially on platform earnings, but either work on multiple platforms or have part-time jobs, small businesses or other sources of income.

Supplemental: platform earnings ar**e** not part of their regular income source, and are considered extra, or supplemental. Many have full-time employment or activity (i.e., schooling).

Coded by answers on survey, interview data

Platform Dependence

	Supplemental	Partially-Dependent	Dependent
Airbnb	16	11	0
	(59.3%)	(40.7%)	(0.0%)
Favor & Postmates	9	10	7
	(34.6%)	(38.5%)	(26.9%)
Turo	5	6	0
	(45.5%)	(54.5%)	(0.0%)
TaskRabbit	14	8	9
	(45.2%)	(25.8%)	(29.0%)
Uber & Lyft	3	1	12
	(18.8%)	(6.2%)	(75.0%)
All Platforms	47	36	28
	(42.3%)	(32.4%)	(25.2%)

Supplemental earners: TaskRabbit

Good wages ($25- $150/ hour)

Non-pecuniary benefits (alleviate boredom)

High wages via selectivity

Avoid unsafe/problematic jobs

Flexibility and autonomy

Reduce precarity (earnings as a safety net)

Avoid low-end, exploitative work

Some manage a portfolio of earnings

Dependent earners: TaskRabbit

High wages but inadequate demand: poverty incomes

Lack of flexibility/autonomy. Must take jobs. Yields wage jeopardy and more risky tasks

Downward trajectory for platform experiences

Supplemental earners: Postmates and Favor

Reasonable extra money

Non-pecuniary benefits (eg exercise)

Ability to avoid unsafe conditions

Autonomy re: ratings

Dependent earners: Postmates and Favor

Job of last resort

Lowest earnings/bottom of ladder

Demand erratic

Need to maintain ratings

Vulnerability to weather, traffic, etc. More prone to accidents

Wage/autonomy tradeoff

Supplemental earners: Uber and Lyft

Earnings good

Flexibility and autonomy valued

Use spare time productively

Reduce costs associated with full-time work

Supplements inadequate compensation of full-time job (eg, for savings)

Finance leisure spending

Dependent earners: Uber and Lyft

- Loss of control of schedule
- Long hours
- Changing conditions on the platform are a source of jeopardy
- Concern about ratings/deactivation
- Debt to finance vehicles
- Earnings squeeze, abysmal conditions

Insights from Instacart, Amazon and Deliv

Dependent/supplemental distinction confirmed in this data

- Mitigating v accelerating precarity

New findings: over-hiring by platforms by summer => great difficulty getting tasks/shifts

Racial animosity around work availability

Squeezing workers on Instacart

Employment vs Independent Contracting: Deliv natural experiment

Deliv—national delivery platform, business to consumer

Transitioned California drivers to employees in advance of passage of AB5 (gig worker legislation reclassifying ICs to employees)

Findings

Increased efficiency

Flexibility retained

Costs (anecdotally) increased substantially

Homines Diversi: three earner orientations

Homo_varians	Airbnb	Stocksy	TaskRabbit	Total
HE	8	8	8	24
HI	15	7	9	31
HS	19	12	11	42
Hybrid	1	1	3	5
Total	43	28	31	102

THE PLATFORM HIERARCHY

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Platform cooperatives: technology + solidarity?

Stocksy case: very successful. Far better economic outcomes for artists, governance working well, highly satisfied members

Challenges: heterogeneity of member orientations (*homo varians*)
unequal revenue distribution (individual contribution)

Generic challenges for platform coops: financing, attracting customers, “tyranny of the market”

Platform labor analytics: present and future

Key findings: new type of labor regime; high heterogeneity across numerous dimensions; technology is key, but “political economic” factors also central

Can be a highly desirable/positive economic form for workers because it can offer high levels of autonomy/freedom

But is it a viable model over the long term for employers? (i.e. can the platforms profit without more labor control?)

Employment status is likely to transform the whole model

Platform	Respondents	Women	Men
Airbnb	28	10 (35.7%)	18 (64.3%)
Favor/Postmates	26	7 (26.9%)	19 (73.1%)
Lyft/Uber	14	3 (21.4%)	11 (78.6%)
Relay Rides	10	3 (30.0%)	7 (70.0%)
TaskRabbit	33	12 (36.3%)	21 (63.8%)
Total	111	35 (31.5%)	76 (68.5%)

Social Class	Gender	N	Lower	Lower Mid	Middle	Upper Mid	Upper
Airbnb	Women	10	0 (0.0%)	0 (0.0%)	7 (70.0%)	3 (30.0%)	0 (0.0%)
	Men	17	1 (5.9%)	2 (11.8%)	7 (41.2%)	6 (35.3%)	1 (5.9%)
Favor / Postmates	Women	7	3 (42.9%)	1 (14.3%)	2 (28.6%)	1 (14.3%)	0 (0.0%)
	Men	12	2 (16.6%)	3 (25.0%)	4 (33.3%)	3 (25.0%)	0 (0.0%)
Lyft / Uber	Women	1	1 (100.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
	Men	8	3 (37.5%)	1 (12.5%)	4 (50.0%)	0 (0.0%)	0 (0.0%)
RelayRides	Women	1	0 (0.0%)	0 (0.0%)	1 (100.0%)	0 (0.0%)	0 (0.0%)
	Men	6	0 (0.0%)	0 (0.0%)	4 (66.7%)	0 (0.0%)	2 (33.3%)
TaskRabbit	Women	11	1 (9.1%)	5 (45.5%)	4 (36.4%)	1 (9.1%)	0 (0.0%)
	Men	20	1 (5.0%)	9 (45.0%)	10 (50.0%)	0 (0.0%)	0 (0.0%)
Total	Women	30	5 (16.7%)	6 (20.0%)	14 (46.7%)	5 (16.7%)	0 (0.0%)
	Men	63	7 (11.1%)	15 (23.8%)	28 (44.4%)	10 (15.9%)	3 (4.8%)

Race	Gender	N	White	Black	Hispanic	Asian	Other
Airbnb	Women	10	9 (90.0%)	0 (0.0%)	0 (0.0%)	1 (10.0%)	0 (0.0%)
	Men	17	12 (70.6%)	1 (5.9%)	2 (11.8%)	1 (5.9%)	1 (5.9%)
Favor / Postmates	Women	7	4 (57.1%)	2 (28.6%)	0 (0.0%)	1 (11.1%)	0 (0.0%)
	Men	19	12 (63.2%)	3 (15.8%)	2 (10.5%)	1 (5.3%)	1 (5.3%)
Lyft / Uber	Women	3	0 (0.0%)	2 (66.7%)	1 (33.3%)	0 (0.0%)	0 (0.0%)
	Men	11	5 (45.5%)	3 (27.3%)	2 (18.2%)	0 (0.0%)	0 (0.0%)
RelayRides	Women	1	1 (100.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
	Men	6	4 (66.7%)	0 (0.0%)	0 (0.0%)	2 (33.3%)	0 (0.0%)
TaskRabbit	Women	11	7 (63.6%)	0 (0.0%)	3 (27.3%)	1 (9.1%)	0 (0.0%)
	Men	21	12 (57.1%)	5 (23.8%)	1 (4.8%)	1 (4.8%)	2 (9.5%)
Total	Women	32	21 (65.6%)	4 (12.5%)	4 (12.5%)	3 (9.4%)	0 (0.0%)
	Men	74	41 (55.4%)	12 (16.2%)	8 (10.8%)	3 (4.1%)	4 (5.4%)

Education Level	Gender	N	Less HS	High School	Some College	College	Graduate
Airbnb	Women	10	0 (0.0%)	0 (0.0%)	0 (0.0%)	6 (60.0%)	4 (40.0%)
	Men	18	0 (0.0%)	0 (0.0%)	1 (5.5%)	13 (72.2%)	4 (22.2%)
Favor / Postmates	Women	7	0 (0.0%)	2 (28.6%)	1 (14.3%)	3 (42.9%)	1 (14.3%)
	Men	19	0 (0.0%)	1 (5.3%)	7 (36.8%)	9 (47.4%)	2 (10.5%)
Lyft / Uber	Women	3	0 (0.0%)	1 (33.3%)	1 (33.3%)	1 (33.3%)	0 (0.0%)
	Men	11	0 (0.0%)	3 (27.3%)	2 (18.2%)	5 (45.5%)	1 (9.1%)
RelayRides	Women	3	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (33.3%)	2 (66.7%)
	Men	6	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (16.7%)	5 (83.3%)
TaskRabbit	Women	12	1 (8.3%)	0 (0.0%)	2 (16.7%)	4 (33.3%)	5 (41.7%)
	Men	20	0 (0.0%)	0 (0.0%)	7 (35.0%)	10 (50.0%)	3 (15.0%)
Total	Women	35	1 (2.9%)	3 (8.6%)	4 (11.4%)	15 (42.9%)	12 (34.3%)
	Men	74	0 (0.0%)	4 (5.4%)	17 (23.0%)	38 (51.4%)	15 (20.3%)