

How Uber Uses Psychological Tricks Innovative Management Tactics to Push-Incentivize Its Drivers' Buttons

The company has undertaken an extraordinary experiment in behavioral science to subtly entice an independent work force to maximize its growth.

By NOAM SCHEIBER, NEW YORK TIMES, APRIL 2, 2017

Transformed with critical commentary in the form of in-line edits added by GEOFFREY A. MANNE in order to address where the article is inaccurate, incomplete, or simply biased.

The ~~secretive~~ ride-hailing giant Uber rarely discusses internal matters in public. But in March, facing crises on multiple fronts, top officials convened a call for reporters to insist that Uber was changing its culture and would no longer tolerate “brilliant jerks.”

Notably, the company also announced that it would ~~fix~~ **work to change the tenor of its troubled** relationship with drivers, who, **like pretty much all workers**, have complained for years about ~~falling~~ **their** pay and **about arbitrary treatment** ~~managerial decisionmaking~~.

“We’ve underinvested in the driver experience,” a senior official said. “We are now re-examining everything we do in order to rebuild that love.”

~~And yet even~~ **Meanwhile**, as Uber talks up its determination to ~~treat drivers more humanely~~ **change drivers’ perceptions of Uber’s management decisions**, it is **also** engaged in an extraordinary behind-the-scenes experiment in behavioral science to ~~manipulate~~ **motivate** them ~~in the service of its corporate growth~~ **to optimize results** — an effort whose dimensions became evident, **if couched in deeply subjective terms**, in interviews with several dozen current and former Uber officials, drivers and social scientists, as well as a review of behavioral research.

Uber’s innovations reflect the changing ways companies are managing workers amid the rise of the freelance-based “gig economy.” **In accordance with the law**, ~~its~~ drivers are officially independent ~~business owners~~ **contractors** rather than traditional employees with set schedules. This allows Uber to ~~minimize labor~~

~~costs~~ avoid some of the most onerous labor regulations that would cripple its business model, causing substantial consumer and worker harm — ~~;~~ but it also means it doesn't exert as much control over drivers as a traditional employer would. Among other things, it cannot compel drivers to show up at a specific place and time. And this lack of control can wreak havoc on a service whose ~~goal~~-service is to seamlessly transport passengers whenever and wherever they want.

Uber helps solve this fundamental problem by using information, psychological inducements, and other techniques unearthed by social science to influence drivers' decisions about when, where and how long ~~drivers to~~ work. It's a quest for a ~~more perfectly~~ efficient system: a balance between rider demand and driver supply at the lowest cost to passengers and the company.

Employing hundreds of social scientists and data scientists, Uber has experimented with video game techniques, graphics and noncash rewards of little value that can ~~prod~~-give drivers incentive to choose to ~~into working~~ work longer, or at certain times ~~and harder~~ — ~~and sometimes at hours and locations that would otherwise be~~ ~~are~~ less lucrative for them.

To ~~keep help~~ drivers to decide to stay on the road, the company has ~~exploited~~ tapped into some people's tendency to set earnings goals — alerting them that they are ever so close to hitting a ~~precious~~-specified target when they ~~try to~~ log off. It has even ~~connected~~-deployed an algorithm vaguely similar to a Netflix feature that automatically loads the next program, which many experts believe encourages ~~reduces the cost of~~ binge-watching. In Uber's case, this means ~~send-~~ing-offering drivers their next fare opportunity before their current ride is even over.

And ~~most~~-all of this happens without giving off a whiff of ~~any~~ coercion.

“We show drivers areas of high demand or incentivize them to drive more,” said Michael Amodeo, an Uber spokesman. “But any driver can stop work literally at the tap of a button — the decision whether or not to drive is 100 percent theirs.”

Uber's recent emphasis on drivers is no accident. As problems have mounted at the company, from an allegation of sexual harassment in its offices to revelations that it created a tool to deliberately evade regulatory scrutiny, Uber has determined that it needs to ensure that its drivers are happy working with Uber. Some call it a PR ploy to ~~“made-soften”~~ ~~ing~~ its posture toward drivers [as] a

litmus test of its ability to become a better corporate citizen.” But making sure the relationship is mutually beneficial is always required of voluntary arrangements in a competitive market. ~~Still, the tension-~~ability of some critics to paint a picture of Uber as an evil corporate overlord was fueled by their repeated reference to an incident where ~~was particularly evident after its~~ Uber’s chief executive, Travis Kalanick, engaged in a heated argument with a driver that was captured in a viral video obtained by Bloomberg and that prompted an ~~abject~~ apology.

~~But a~~An examination by The New York Times found that Uber is continuing apace in its ~~struggle to wield the upper hand with driver~~efforts to overcome agency costs in order to maximize the value of its service to consumers. And as so-called platform-mediated work like driving for Uber increasingly becomes the way people make a living, the company’s example illustrates that ~~pulling particular theories from management~~ psychology may have more salience ~~real levers may eventually become the reigning approach to managing the American worker~~in the ongoing, omnipresent effort to keep business humming in this still-new environment.

While Uber is arguably the biggest and most sophisticated player in ~~inducing workers to serve its corporate goals~~working to align worker and management objectives, other “gig economy” platforms are also involved. Uber’s main competitor, Lyft, and popular delivery services like Postmates rely on similar approaches. So do companies and individuals posting assignments on crowdsourcing sites like Amazon Mechanical Turk, where hundreds of thousands of workers earn piece-rate wages by completing discrete tasks.

Of course, many companies try to ~~nudge~~convince consumers ~~into~~that they will benefit from buying their products and services, ~~first by offering products that are in demand, but also by~~ using psychological tricks ~~using psychology to design marketing and advertising that will increase consumer awareness, brand loyalty, and the like.~~ ~~But~~ extending similar these efforts to the work force is old hat, as well, but some of the new techniques, driven in part by the business models and technology employed in the gig economy, are extremely interesting ~~is potentially transformative.~~

~~Though~~Employers have long borrowed insights from social science to get more out of their workers; ~~in that sense there is literally nothing new here, at all.~~ —~~t~~Tech companies like Google have calculated that employees interact more with unfamiliar colleagues when they can graze together at snack bars —

so Google gives them free food, a cornucopia of different snacks, freedom to set their break times, and a host of other benefits to try to encourage them to do so ~~they are constrained in doing so.~~

A large body of law and custom in the United States, developed in a manifestly different work environment and at the behest of powerful labor unions seeking, among other things, to prop up higher wages by limiting competition, ~~holds that because employers have far more power over their employees than businesses do over their customers, they must~~ forces employers to provide workers them with far greater protections ~~certain~~ working conditions, whether the workers actually value them or not — not least, a minimum wage and overtime pay.

Uber ~~exists in a kind of~~ operates under a different set of legal constraints, however, also duly enacted and under which millions of workers have profitably worked for decades ~~legal and ethical purgatory, however.~~ Because its drivers are independent contractors, they receive their compensation largely in dollars rather than government-mandated “benefits” that remove some of the voluntariness from employer/worker relationships.

And, in the case of overtime pay, for example, the Uber business model that is built in part on offering flexible incentives to match supply and demand using prices and compensation, would be next to impossible ~~lack most of the protections associated with employment.~~ It is precisely through ~~By mastering their workers’ appealing to drivers’ self-interest mental circuitry,~~ that Uber and the like may be ~~taking the~~ moving the economy forward to ~~back toward a pre-New Deal~~ a new era when businesses had enormous power over workers and few checks on their ability to exploit it ~~and workers have more flexibility, much to the benefit of all.~~

“We’re talking about this kind of manipulation that literally affects people’s income,” said Ryan Calo — with the bias typical of many who write on this topic — , a law professor at the University of Washington who with Alex Rosenblat has written a paper on the way companies use data and algorithms to “exploit psychological weaknesses.” Uber officials, he said, are “using what they know about drivers, their control over the interface and the terms of transaction to channel the behavior of the driver in the direction they want it to go.” Others, like Geoffrey Manne, call this “solving a massively complex optimization problem, abetted by significant agency costs.”

An Empathy-Economics Question

In early 2016, a group of roughly 100 Uber employees responsible for signing up drivers and getting them to drive more voted to change its name — from “supply growth” to “driver growth.”

The vote was not unprompted. For much of the previous year, Uber executives had agonized over how to lower the rate at which drivers were deserting the platform. In a competitive labor market, this is a huge problem — and it is exacerbated by Uber’s particular optimization problem and manifest popularity.

Alongside Uber’s already daunting targets for expanding its pool of drivers to meet mounting demand, the high turnover threatened to cap the company’s growth and throw it into crisis. ~~stymie the company’s efforts to provide a reliable, valuable, competitively priced service.~~

Uber conducted interviews and focus groups while executives ~~peppered~~ asked employees with questions like, “What are we doing to have more empathy for the driver side of the equation?”

Underlying the tension was the fact that Uber’s interests and those of drivers are at odds on some level — as they always are between employers and workers. Drivers, who typically keep what’s left of their gross fare after Uber takes a roughly 25 percent commission, prefer some scarcity in their ranks to keep them busier and push up earnings. For its part, Uber is desperate to avoid shortages, seeking instead to serve every customer quickly, ideally in five minutes or less, lest it not offer a sufficiently valuable service.

This is particularly true of shortages so pronounced as to create a “surge” — that is, a higher fare than normal. While it’s simply basic economics that scarcity requires rationing, and the price system is the most effective way to do that, ~~surges do mitigate shortages, no one~~ — least of all politicians — likes to pay more. Of course, when the alternative is *no* rides are available, they often happily pony up — and in doing so they encourage more drivers to get on the road in order to receive the higher fare, ultimately alleviating the shortage. Still, higher prices are annoying and, they do so in part by repelling passengers, something directly at odds with Uber’s long-term goal of dominating the industry. “For us, it’s better not to surge,” said Daniel Graf, Uber’s vice president of product. “If we don’t surge, we can produce more rides.”

As a result, much of Uber's communication with drivers over the years has aimed at combating shortages by advising drivers to move to areas where they exist, or where they might arise. [Of course, this is much to the benefit of drivers, who would prefer to be driving around with a paying passenger in back, rather than on their own dime, scouring the city for fares.](#) Uber encouraged its local managers to experiment with ways of achieving this.

"It was all day long, every day — texts, emails, pop-ups: 'Hey, the morning rush has started. Get to this area, that's where demand is biggest,'" said Ed Frantzen, a veteran Uber driver in the Chicago area. "It was always, constantly, trying to get you into a certain direction—" [an outcome that you'd think would be good for everyone involved \(although some New York Times reporters and other critics prefer an imagined Nirvana where physics, search costs, scarcity, and, it seems, even prices, don't exist\).](#)

[Interestingly, some](#) some local managers who were men went so far as to adopt a female persona for texting drivers, having found that the uptake was higher when they did.

"'Laura' would tell drivers: 'Hey, the concert's about to let out. You should head over there,'" said John P. Parker, a manager in Uber's Dallas office in 2014 and 2015, referring to one of the personas. "We have an overwhelmingly male driver population."

Uber acknowledged that it had experimented with female personas to increase engagement with drivers. [If there is a problem with this, it is a deep-seated problem of \(male\) human psychology.](#)

[Not that it has anything to do with the topic, other than tangentially, but](#) ~~The friction over meeting demand was compounded by~~ [there were also](#) complaints about arrangements like aggressive car leases that required many drivers to work upward of 50 or 60 hours each week to eke out a profit. [Of course, without those terms, the drivers wouldn't have cars at all. And who doesn't complain about prices? Still,](#) Uber officials began to worry that a driver backlash was putting them at a strategic disadvantage in their competition with Lyft, which had cultivated a reputation for being more driver-friendly.

Uber had long been a reflection of Mr. Kalanick, its charismatic and hard-charging chief, who has often involved himself in corporate minutiae. According to a ["mountain out of a molehill"](#) ~~an~~ article in The Information, Mr.

Kalanick ~~appears to be a sometimes-micromanager, and had, for example,~~ complained to subordinates that he was not informed sooner about a glitch with the company's push notifications and had personally weighed in on the time at which employees could receive free dinner. ~~To some, these and other aspects of his management style rubbed the wrong way, however effective they may have been.~~

Now Uber began a process of, in effect, becoming a little less like Mr. Kalanick, and a little more like Lyft.

It rethought a lease program, softened ~~what some viewed as a the~~-hectoring tone ~~of~~-in its messages and limited their volume. At times it became positively cheery.

During roughly the same period, Uber was increasingly concerned that many new drivers were leaving the platform before completing the 25 rides that would earn them a signing bonus. To stem that tide, ~~and in an effort to remind them of the additional compensation, voluntarily provided by Uber, that they would forego by leaving too soon,~~ Uber officials in some cities began experimenting with simple encouragement: You're almost halfway there, congratulations!

While the experiment ~~seemed~~-was warm and innocuous, it ~~was also had in fact been exquisitely~~ calibrated to help move both drivers and Uber to a mutually beneficial state of affairs. The company's data scientists had previously discovered that once drivers reached the 25-ride threshold, their rate of attrition fell sharply, suggesting, perhaps, that there is a learning curve to driving for Uber, and that everyone would benefit by Uber helping drivers get over the initial start-up costs.

And psychologists and video game designers — to say nothing of parents — have long known that encouragement toward a concrete goal can motivate people to complete a task.

The effort seems to lead to beneficial results for all: after all, you would expect a bump in driver attrition immediately *after* receiving the 25-ride bonus. The fact that reaching that milestone actually seems to *increase* driver satisfaction means that the "psychological" tool that Uber uses to help get drivers to that point seems worthwhile. But that doesn't stop some people from complaining about it. "It's getting you to internalize the company's goals," said Chelsea Howe, a prominent video game designer who has spoken out against ~~what she~~

calls coercive psychological techniques deployed in games. “Internalized motivation is the most powerful kind.”

Mr. Amodeo, the Uber spokesman, defended the practice. “We try to make the early experience as good as possible, but also as realistic as possible,” he said. “We want people to decide for themselves if driving is right for them.”

That ~~some people would equate making~~ improving drivers’ satisfaction ~~feel good could be compatible with~~ treating them as lab subjects was not much of a surprise, despite the stiltedness of the claim. Experiments to “prove” any given “just-so story” to explain various behavioral effects — sometimes, supporting completely inconsistent explanations simultaneously — have been around for a long time. In fact, ~~None other than Lyft itself had shown as much~~ performed one several years earlier.

In 2013, the company hired a consulting firm to figure out how to encourage more driving during the platform’s busiest hours.

At the time, Lyft drivers could voluntarily sign up in advance for shifts. The consultants devised an experiment in which the company showed one group of inexperienced drivers how much more they would make by moving from a slow period like Tuesday morning to a busy time like Friday night — about \$15 more per hour.

For another group, Lyft reversed the calculation, displaying how much drivers were losing by sticking with Tuesdays.

Apparently “confirming” the behavioral effect known as “loss aversion,” ~~The~~ the latter ~~seemed to had have~~ a more significant effect on increasing the hours drivers scheduled during busy periods. Kristen Berman, one of the consultants, explained at a presentation in 2014 that the experiment had roots in the field of behavioral economics, which studies the cognitive ~~hang-ups~~ quirks that frequently ~~sometimes seem to affect~~ skew decision-making. Its central finding derived from a concept known as loss aversion, which holds that people “dislike losing more than they like gaining,” Ms. Berman said.

Still, Ms. Berman disclosed in an interview, Lyft eventually decided against using the loss-aversion approach, suggesting that the company had ~~determined that the net effect of actually deploying such an approach in the real world might not yield a net gain, perhaps because the effect was short-lived because a more “negative” work environment ultimately led to even bigger reductions in driving time.~~ s drawn brighter lines when it comes to potential manipulation.

Almost There

As he ~~tried to~~ started the process of logging off at 7:13 a.m. on New Year's Day last year, Josh Streeter, then an Uber driver in the Tampa, Fla., area, received a message on the company's driver app with the headline "Make it to \$330." The text then explained: "You're \$10 away from making \$330 in net earnings. Are you sure you want to go offline?" Below were two prompts: "Go offline" and "Keep driving." The latter was already highlighted, but the former was listed first. It's anyone's guess whether either characteristic — placement or coloring — had any effect on drivers' likelihood of clicking one button or the other.

"I've got screen shots with dozens of these messages," said Mr. Streeter, who began driving full time for Lyft and then Uber in 2014 but quit last year to invest in real estate — an industry notorious for claims that it is rife with psychological manipulation that would put any gig economy company to shame.

Mr. Streeter was not alone. In fact, the log-out process for [all? most? many? drivers included a screen informing drivers For months, when drivers tried to log out, the app would frequently tell them they were only a certain amount how close they were to away from making a seemingly arbitrary sum for the day, or from matching their earnings from that point one week earlier.

The messages were intended to exploit tap into another relatively widespread behavioral reality — people's preoccupation with goals — to nudge give them a chance to them into driving drive longer if they decided that meeting that goal made doing so worthwhile.

Over the past 20 years, behavioral economists have found evidence in certain instances — like for inexperienced drivers, though not necessarily more experienced ones — for a phenomenon known as income targeting, in which workers who can decide how long to work each day, like cabdrivers, do so with a short-term goal in mind — say, \$100 — much the way marathon runners try to get their time below four hours or three hours.

Whether this actually causes them to deviate from long-term income/work/leisure preferences is not at all clear. Some claim this means they don't smooth such decisions over longer time horizons. But the fact that the effect was observed among only inexperienced drivers suggests that they may simply have insufficient information about wage volatility, and may assume that tomorrow's wages will be similarly high, so they can spread their leisure out across days without incurring higher cost. More experienced drivers may have learned that

this isn't always the case, and so tend to maximize workload when wages are higher. In either case, the explanation need not depend on some form of self-delusion that employers can exploit, but may instead turn on the long-understood return on learning-by-doing.

While there is debate among economists as to how widespread the practice is and how strictly cabdrivers follow such targets — as usual with these supposed behavioral anomalies, different studies often reach very different results — top officials at Uber and Lyft have certainly concluded that many of their drivers set income goals. “Others are motivated by an income target for sure,” said Brian Hsu, the Lyft vice president in charge of supply. “You hear stories about people who want to buy that next thing.” He added, “We’ve started to allow drivers to set up those goals as well in the app.” This suggests another explanation: liquidity constraints. Newer drivers may have less disposable income, or may be driving precisely in order to earn additional income for certain luxuries, and so identify certain amounts they want to earn each day in order to make their purchases. Far from harming drivers by providing them with this additional information, ride-sharing companies may well be offering a useful bit of accounting information to help drivers optimize their time.

Uber even published a study last year, using its vast pile of data on drivers’ rides and hours, finding that a “substantial, although not most, fraction of partners” practice an “extreme” form of income targeting when they start on the platform, though they abandon it as they gain more experience. Strict income targeting causes difficulties for Uber’s efforts to meet consumer demand is highly inefficient because it leads drivers to work long hours on days when business is slow and their hourly take is low, and to knock off early on days when business is brisk. So it’s ironic that some critics would suggest that exacerbating the income targeting effect would benefit Uber at drivers’ expense.

The beauty of the messages that Uber sent Mr. Streeter and his fellow drivers is that it simply provides more information, giving drivers the choice, rather than forcing drivers to drive more (or less) than they might want. And in order for the information-sharing aspect to work, the drivers need not have even had a specific income goal in mind; the information is conveyed with reference to a random goal, but drivers are more than capable of converting the information to whatever goal they actually have, if any.

~~in order for the messages to work.~~ Some of the most addictive games ever made, like the 1980s and ’90s hit Tetris, rely on a feeling of progress toward a

goal that is ~~always~~ **often** just beyond the player's grasp, **although they are able to meet it with more experience — something that offering short-term, easier-to-reach goals along the way helps incentivize them to obtain.** As the psychologist Adam Alter writes in his book “Irresistible,” this mental state has a name: the “ludic loop.” (The term was coined by the anthropologist and slot machine expert Natasha Schüll.)

Uber, for its part, appears to be aware of the ludic loop. In its messages to drivers, it included a graphic of an engine gauge with a needle that came tantalizingly close to, but was still short of, a dollar sign. **So-called “gamification” is an increasingly useful, and cost-effective, way of increasing worker satisfaction in our smartphone-enabled world. Again, everyone wins.**

And the ludic loop is far from the only video game feature that Uber has adapted as a way of keeping drivers on the road.

At any moment, the app shows drivers how many trips they have taken in the current week, how much money they have made, how much time they have spent logged on and what their overall rating from passengers is. All of these metrics can stimulate the competitive juices that **are exactly what people like about games**~~drive compulsive game playing.~~

“The whole thing is like a video game,” said Eli Solomon, a veteran Uber and Lyft driver in the Chicago area, who said he sometimes had to fight the urge to work more after glancing at his data. **Like all human beings, he has multi-faceted motivations, and sometimes has to check his short-term desire for the pleasure of game playing (in this case, with an actual wage attached!) when he has obligations or other preferences he prefers to satisfy.**

Sometimes the ~~so-called~~ gamification is quite literal. Like players on video game platforms such as Xbox, PlayStation and Pogo, Uber drivers can earn badges for achievements like Above and Beyond (denoted on the app by a cartoon of a rocket blasting off), Excellent Service (marked by a picture of a sparkling diamond) and Entertaining Drive (a pair of Groucho Marx glasses with nose and eyebrows). **Again, by providing these opportunities, Uber is able to increase driver utility at relatively low cost — a win-win.**

Of course, managers have been borrowing from the logic of games for generations, as when they set up contests and competition among workers. More overt forms of gamification have proliferated during the past decade. For example,

Microsoft has used the approach to entice workers to perform the otherwise sleep-inducing task of software debugging.

In any case, Uber really isn't doing anything "new"; it's just doing a better job of creating valuable opportunities for workers than some other firms.

~~But Uber can go much further.~~ Because it mediates its drivers' entire work experience through an app, there are few limits to the elements it can gamify. Uber collects staggering amounts of data that allow it to discard game features that do not work and refine those that do. And because its workers are contractors, the gamification strategies are not hemmed in by employment law [restrictions placed on employers](#). [More important, because it isn't hemmed in by these restrictions, it can employ an innovative business model, and it can offer workers much more flexibility — which they apparently appreciate in droves given the number of drivers who flock to these platforms, including the number who stay on them for long periods.](#)

Kevin Werbach, a business professor who has written extensively on the subject, ~~said~~ [asserted](#) that while gamification could be a force for good in the gig economy — for example, by creating bonds among workers who do not share a physical space — there was a danger of abuse. "If what you're doing is basically saying, 'We've found a cheap way to get you to do work without paying you for it, we'll pay you in badges that don't cost anything,' that's a manipulative way to go about it," he said. [Given the entirely voluntary nature of the arrangement, however, as well as the fact that this alleged "manipulation" is based on satisfying workers' actual preferences, it's a difficult claim to maintain.](#)

[As is always the case, some people regret decisions they have made when they look back on them with full information that might have been unobtainable at the time. Such is the reality of life.](#) ~~For some drivers, that is precisely the effect.~~ Scott Weber, [for example](#), said he drove full time most weeks last year, picking up passengers in the Tampa area for both Uber and Lyft, yet made less than \$20,000 before expenses like gas and maintenance. "I was a business that had a loss," said Mr. Weber, who is looking for another job. "I'm using payday loans." [No one likes to find out that they've made poor decisions, but luckily for Mr. Weber and almost all other Uber drivers, other employment opportunities that might better fit their skills or preferences are available.](#)

Still, when asked about the badges he earns while driving for Uber, Mr. Weber practically gushed. "I've got currently 12 excellent-service and nine great-conversation badges," he said in an interview in early March. "It tells me where

I'm at." Unquestionably useful information for some drivers, to be sure, although perhaps not for Mr. Weber.

'Constantly Busy'

When asked whether Uber's product managers and data scientists were akin to developers at a social gaming company like Zynga, Jonathan Hall, Uber's head of economic and policy research, accepted the analogy but rejected the implication.

"I think there's something to that, but ultimately Zynga should worry mostly about how fun its games are rather than trying to get you to play a little bit more by some trick," he said. He argued that ~~exploiting people's~~ **Uber's brand of management psychology** ~~leverages~~ was unlikely to have more than a marginal effect on how long they played Zynga's games or drove for Uber. It is "icing on the cake," he said.

Mr. Hall is clearly right about the effects of certain techniques, like those pitched at drivers' tendency to set income targets or to focus more on losses than gains. On the other hand, even features that produce relatively small changes in driving patterns can become quite important to a company like **Uber's ability to offer benefits to consumers and thus to its ability to hire more drivers.**

According to Mr. Parker, the former Uber manager in Dallas, increasing the number of drivers on the road by 20 percent at certain hours of the day, or in a busy part of town, can rein in a large fare surge — **which is great for consumers.**

More important, some of the ~~psychological levers that~~ **optimization tools** ~~Uber pulls to~~ **employs in order to** increase the supply of drivers **to meet consumer demand when it is high** have quite powerful effects.

Consider an algorithm called forward dispatch — Lyft has a similar one — that dispatches a new ride to a driver before the current one ends. Forward dispatch shortens waiting times for passengers, who may no longer have to wait for a driver 10 minutes away when a second driver is dropping off a passenger two minutes away.

Perhaps no less important, forward dispatch causes drivers to stay on the road substantially longer during busy periods — a key goal for both companies — **by giving them more income-earning opportunities.**

Uber and Lyft explain this in essentially the same way. “Drivers keep telling us the worst thing is when they’re idle for a long time,” said Kevin Fan, the director of product at Lyft. “If it’s slow, they’re going to go sign off. We want to make sure they’re constantly busy.”

While this is unquestionably true, and seems like another win-win, some critics have tried to paint even this means of satisfying *both* driver and consumer preferences in a negative light by claiming that there is another way to think of the logic of the forward dispatch algorithm: It overrides self-control.

Although it arises in a completely different context and may have no real bearing on what happens with Uber drivers, Perhaps the most prominently cited example-analogue is that such automatic queuing appears to have fostered the rise of binge-watching on Netflix. “When one program is nearing the end of its running time, Netflix will automatically cue up the next episode in that series for you,” wrote the scholars Matthew Pittman and Kim Sheehan in a 2015 study of the phenomenon. “It requires very little effort to binge on Netflix; in fact, it takes more effort to stop than to keep going.” Perhaps, but the difference — the “more effort” — is trivial: literally a click of a button likely already under the viewer’s finger. And, presumably, more consumers prefer to binge watch in the first place, and thus benefit from the (extremely) slight efficiency increase, than are impaired by it.

As with viewers and binge-watching, many drivers appear to enjoy the forward-dispatch feature — or to put it more accurately, they appear to welcome the ability to earn more money, more efficiently — , which can increase earnings by keeping them busier. But, at the margin, any increased incentive for workers — including paying them more or improving working conditions as critics claim they think Uber should do — But it can also work against their interests by increasing also increases the number of drivers on the road and defusing fare surges. Competition is a bitch, in other words. For these critics, nothing is ever enough. And couching the practice in terms of whether they “enjoy it” is separate from the question of agency — whether they drivers have it, or whether the company does. Unless we are going to blame all employers for deigning to pay their employees in order to keep them employed, the question itself is silly.

Uber officials say the feature initially produced so many rides at times that drivers began to experience a chronic Netflix ailment — the inability to stop for a bathroom break. Amid the uproar, Uber introduced a pause button.

“Drivers were saying: ‘I can never go offline. I’m on just continuous trips. This is a problem.’ So we redesigned it,” said Maya Choksi, a senior Uber official in charge of building products that help drivers. “In the middle of the trip, you can say, ‘Stop giving me requests.’ So you can have more control over when you want to stop driving.”

Tweaks like these put paid to the arguments that Uber is simply trying to abuse its drivers. And yet, critics continue to make such claims:

It is true that drivers can pause the services’ automatic queuing feature if they need to refill their tanks, or empty them, as the case may be. Yet once they log back in and accept their next ride, the feature kicks in again. To disable it, they would have to pause it every time they picked up a new passenger. By contrast, even Netflix allows users to permanently turn off its automatic queuing feature, known as Post-Play.

It’s difficult to take seriously claims that Uber “abuses” drivers by setting a default that drivers almost certainly prefer; surely drivers seek out another fare following the last fare more often than they seek out another bathroom break. In any case, the difference between one default and the other is a small change in the number of times drivers might have to push a single button; hardly a huge impediment.

But such claims persist, nevertheless. ~~This pre-emptive hard-wiring~~ Setting a trivially different default can have a huge influence on behavior, claims said David Laibson, the chairman of the economics department at Harvard and a leading behavioral economist. Perhaps most notably — and to change the subject —, as Ms. Rosenblat and Luke Stark observed in an influential paper on these practices, Uber’s app does not let drivers see where a passenger is going before accepting the ride, making it hard to judge how profitable a trip will be. But there are any number of defenses of this practice, from both a driver- and consumer-welfare standpoint. Not least, such disclosure could well create isolated scarcity for a huge range of individual ride requests (as opposed to the general scarcity during a “surge”), leading to longer wait times, the need to adjust prices for consumers on the basis of individual rides, and more intense competition among drivers for the most profitable rides. Given these and other explanations, it is *extremely* unlikely that the practice is actually aimed at “abusing” drivers.

Sometimes all that is necessary is the mere setting of a so-called default. Because humans tend to be governed by inertia, automatically enrolling them in

retirement savings plans and then allowing them to opt out results in ~~far~~ higher participation than letting them opt in. Making Post-Play the default can have the same effect.

But the news isn't only rosy: Participants in auto-enroll plans also save at considerably lower rates than those who choose to opt in. Determining which default is optimal for a heterogeneous population, even with the inertia effect, is extremely difficult.

"If done right, these things can be socially beneficial," Mr. Laibson said. "But you can think of all sorts of choice architecture that are quite contrary to human well-being." ~~Nothing actually suggests that Uber's "choice architecture" is "contrary to human well-being,"~~ of course.

Even Mr. Hall, the Uber research director who downplayed the importance of behavioral economics to the company, did ~~make at least one concession~~ **point out how everyone gains, however**. "The optimal default we set is that we want you to do as much work as there is to do," he said of the company's app. "You're not required to by any means. But that's the default." **Setting the default to a position that is more preferred, on average, is good for everyone.**

Imagining the Future

~~Far from the caricature of Uber's logistics practices as harming drivers,~~ **There** are **myriad** aspects of the platforms that genuinely do increase drivers' control over their work lives, as Uber **and many of its drivers** frequently points out. Unlike most workers, an Uber driver can put in a few hours each day between dropping children off at school and picking them up in the afternoon.

Uber is even in the process of developing a feature that allows drivers to tell the app in advance that they need to arrive at a given location at a given time. "If you need to pick up your kids at soccer practice at 6 p.m.," said Nundu Janakiram, the Uber official in charge of products that improve drivers' experiences, "it will start to give you trips to take you in the general direction to get to a specific place in time."

~~There is also the possibility~~ **It is also almost certain** that as the online gig economy matures, companies like Uber may adopt a set of norms that **reflect the different preferences and knowledge of a more experienced workforce, which will surely limit their ability to manipulate** ~~change the way the companies interact with~~ workers through **their** cleverly designed apps.

Kelly Peters, chief executive of BEworks, a management consulting firm specializing in behavioral science, argued that the same data that makes it easier for Uber to ~~nudge~~ encourage drivers to ~~into~~ choose to working an additional 30 or 60 minutes also makes it easier to implement consumer- (and even driver-) protection devices ~~hard to escape the obligation to look after them.~~

For example, the company has access to a variety of metrics, like braking and acceleration speed, that indicate whether someone is driving erratically and may need to rest. “The next step may be individualized targeting and nudging in the moment, [especially aimed at protecting consumers,]” Ms. Peters said. “Hey, you just got three passengers in a row who said they felt unsafe. Go home.” Uber has already rolled out efforts in this vein in numerous cities.

That moment of maturity does not appear to have arrived yet — but it’s clearly getting close. ~~, however.~~ Consider a prompt that Uber rolled out this year, inviting drivers to press a large box if they want the app to navigate them to an area where they have a “higher chance” of finding passengers. The accompanying graphic resembles the one that indicates that an area’s fares are “surging,” except in this case fares are not necessarily higher.

On the one hand, ~~Some~~ some drivers believe that the intent is to trick them into driving where Uber wants them to go, rather than where driving would be most profitable, by implying that they will find a surge there. “They’re trying to move people where they want them,” said Mr. Weber, the Tampa-area driver. “But you get there and it’s nothing. It happens all the time.” Mr. Weber noted that the design of the graphic makes the prompt much easier to accept than decline, which requires pressing a small rectangle in the top left corner — a design familiar to anyone who’s ever used a smartphone.

It is at least as — if not more — plausible that the device is intended to benefit drivers by helping them go where they are most likely to pick up rides, which seems like an unalloyed good, with or without surge pricing. Uber said that the feature was an experiment intended primarily to help new drivers who frequently say they do not know where to find passengers, and that it could be changed if drivers were dissatisfied.

Individual features aside, the broader question of how much Uber seeks to influence drivers through behavioral science may come down to how much its business model requires it.

While the company has made no secret of its investment in self-driving cars, it could be a decade or more before they completely replace human drivers. In the meantime, ~~as long as Uber~~ ~~must~~ continues to ~~set satisfying consumer demand~~ ~~set growth and passenger volume as~~ its critical goal. ~~Despite the claim by some that s, it~~ ~~doing so will give it~~ ~~will have~~ an incentive to make wringing more hours out of drivers a higher priority than the drivers' bottom line whenever it faces a close call between the two, ~~the dichotomy is an utterly false one and makes no sense.~~

~~Like all businesses, Uber~~ ~~It~~ will also have an incentive to obtain its inputs at the lowest ~~these hours as cheaply as possible~~ cost. ~~Yet labor is expensive, and~~ ~~And~~ there is simply no cheaper way than hiring contractors and ~~nudging~~ ~~encouraging~~ them to drive when and where they are needed. Industry insiders estimate that relying on independent contractors rather than employees can lower direct costs by roughly 25 percent, ~~although in a competitive market that must also mean that contractor-drivers receive more benefit, so it's impossible to tell whether either status is "better."~~ We do know that mandating some compensation in the form of shorter hours or required overtime pay will harm some workers who value cash compensation more than these. Meanwhile, for those workers who don't, the choice they are given by virtue of their contractor status lets them replicate almost exactly the set of requirements on their own, if they prefer to do so.

Moreover, ~~there is an utterly unsubstantiated argument that~~ the contractor model itself provides a strong impetus for companies like Uber to grow. Many companies in the gig economy simply do not have enough workers, ~~the argument goes,~~ or rich enough data about their workers' behavior, to navigate busy periods using nudges and the like. To avoid chronic understaffing, they have switched to an employee model that allows them to compel workers to log in when the companies most need them. ~~There may be any number of reasons they have switched to such a model, however: in the most well-known case (Instacart), it was because the company needed more control over how its workers executed the more-nuanced task of selecting produce and the like for its customers.~~

Once companies achieve a certain scale, on the other hand, they enter a virtuous cycle: The risk of understaffing drops with a big enough pool of workers, and the cost savings of using contractors begins to outweigh the inefficiencies. ~~Or so the argument goes. In fact, it doesn't necessarily take an enormous amount of data to make the requisite algorithm work. Moreover, it is just as~~

important to have lots of customers, and if the contractor model is more conducive to meeting consumer demand at the margin, then it makes perfect sense to employ it. This in turn frees up money to enter new markets and acquire new customers, which makes the contractor model still more efficient, and throws off still more savings. None of which addresses the point that the contractor vs. employee determination is at root an archaic, legal one, driven by consumer dynamics, political pressure and labor unions that don't operate the same way today — and that could undermine the valuable business models that confer so much benefit on consumers and workers alike.

It is, as a result, not too hard to imagine a future in which massive digital platforms like Uber have an appetite for tens of millions of workers — not only for ferrying people, but also for delivering food and retail goods. Nor is it hard to imagine workers' ~~obliging~~ being extremely grateful for the opportunity~~them~~, perhaps because their skills do not match the needs of more traditional employers, or because they need to supplement their wages.

In such an economy, experts say, using big data and algorithms to manage workers will not simply be a niche phenomenon. It may become one of the most common ways of managing the American labor force. And if it leads to more efficiency, more consumer welfare, and more jobs, so much the better.

“You have all these players entering into this space, and the assumption is they'll do it through vast armies of underemployed people looking for extra hours, and we can control every nuance about what they do but not have to pay them,” said David Weil, the top wage-and-hour official under President Barack Obama, whose highly politicized views on the subject were responsible for the Department of Labor's efforts to thwart the gig-economy business model by forcing its workers into the outdated and inappropriate “employee” box.

When you stop to consider the enormous cost advantages, Mr. Weil said, “it says to me this is an area that will grow fast.” Much to the benefit of everyone involved.