

Ridesharing Drivers and Their Experiences Navigating the User Interface: A Value-Sensitive Design Perspective

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ABSTRACT

Uber is a ridesharing application that enables a digitally mediated workplace for drivers and their riders. This paper will delve into workers' perception of the user interface and experience with riders by answering the questions: Does Uber's user interface (UI) show specific biases to Uber drivers? How does the technology design affect drivers' work? Both survey and interview data are collected from rideshare drivers in southern California. Value-sensitive design framework was adopted and both quantitative and qualitative data are analyzed. The research finding will offer useful insights into enhancing the UI design and improving the digitally mediated workplace.

Keywords: Uber; Ridesharing; Rating System; User Interface; Value sensitive design; Worker Experience; Bias

EXTENDED ABSTRACT

The gig economy is a marketplace that consists of for-hire service workers. This work can range from rideshare services like Uber and Lyft, grocery and delivery like Instacart and Postmates, to contracting workers for tasks and odd jobs through online spaces like Fiverr and Amazon Mechanical Turk. Research institutes like eMarketer and Toluna have found that in 2018 the percentage of the population that has used a rideshare service at least once is 24.4 and 35 respectively [1]. Such a popular and growing field has found itself flushed with plenty of people looking to both supplement their current income or in many cases completely relying on gig work as their main source of income [2, 3]. The gig work itself is seen as a promising field with common perks like creating your own schedule, being selective of what jobs you take on and the ability to make good money in short periods of time. As such this has attracted and continues to attract new laborers into the gig economy, who we will refer to as gig workers from here on.

One of the most popular and controversial of these companies is Uber, a ridesharing application that enables a digitally mediated workplace for drivers and their riders. As recently as April of 2019 Uber has been caught manufacturing surge prices for the patron, while worker was unaware that they were supposed to be receiving surge payouts [4]. These types of scenarios put the drivers in a position of difficulty: they cannot cancel rides on the patron without taking a hit to their score, as well as the potential of suffering a poor rating from an impatient patron, but while idling en route to the pickup site they are not being paid either. These all can add a level of stress that can wear on the workers mental health.

This paper will delve into workers' experience and workers' perception of the user interface (UI) by answering the questions: *Does Uber's user interface (UI) show specific biases to Uber drivers? How does the technology design affect drivers' work?* Answering these questions can provide us further insight into the gig economy and whether the digitally mediated workspace that Uber facilitates is in fact fair and balanced. We hope that the research finding will offer useful insights into enhancing the UI design and improving the digitally mediated workplace.

When attempting to understand the gig economy, particularly through the perspective of the worker the lens, we decide to draw on value sensitive design (VSD) framework [5, 6], a process that works to keep human values integrated in the creation process of new technology. VSD is a value-oriented design methodology commonly adopted in human-computer interaction (HCI). VSD seeks to understand how human values (e.g., welfare, accountability, autonomy, freedom from bias) that can be accounted for in the design of computer technologies. This framework has been adopted by prior studies of gig work such as Amazon Mechanical Turk [2]. Friedman and Khan [6] provide a classification of values (referred to as a collection of 12 "human values with ethical import"): human welfare; ownership and property; privacy; freedom from bias; universal usability; trust; autonomy; informed consent; accountability; identity; calmness; and environmental sustainability. The list of values informed our coding of the narratives of gig workers in our study.

In total, our interview data reveals eight values appreciated by Uber drivers, including *access, accountability, autonomy, communication, dignity, fairness, freedom from bias, physical and psychological well-being, and transparency*. However, only two values, access and accountability, are found sufficiently promoted by the platform design and Uber work environment. Below is the list of human values perceived by Uber drivers, presence or absence in their daily work, and supporting quotes from the driver interviews.

The value of **Access** refers to open and equal access to work opportunities offered in the gig work environment [2]. It's commonly perceived and appreciated by the drivers. One driver shared his experience, "I like that it's easy to turn on and turn off, really in control of your own schedule that way."

Accountability value refers to the properties that ensure that the actions of a person, people or institution may be traced uniquely to the person, people or institution [6]. Workers expressed their appreciation for this value promoted in the gig work environment of ridesharing, as one worker explained, "once you report rude riders through the app and Uber makes it so you don't ever have to pick them up again. But I never really had to use this option."

Autonomy refers to one's ability to decide, plan, and act in ways that are believed will help in achieving personal goals [5] or having a strong sense of freedom and independence in work choices [7]. While some drivers liked the flexibility to decide when to start accepting Uber ride requests, they expressed frustration with difficulty to end their daily driving time, due to the algorithms control of the apps. For example, one driver elaborated, "If you wanted to end the day and then you get sent to the opposite side of the city and it just gets really inconvenient, or if you were planning on getting lunch and short ride it messes it up."

The value of **communication** refers to the capability to inform others and being informed during driving for Uber (derived from the study). The communication between a driver and a rider is not sufficiently supported by the Uber app. One driver shared a frustrating experience, "...you also don't know the

direction the rider is going and so you can't think about what side of the street would be best to pick them up and the riders assume that you know where they are exactly and they get frustrated when you are on the wrong side of the street..."

Dignity is defined as a sense of pride in oneself and self-respect [8]. Drivers' experience was mixed. While some drivers felt respected by riders, others complained about unrespectful riders. One driver provided us with details, "people are more rude on the road in general. You know, they expect you to do things for them, like take me to somewhere, or wait for me like 10 minutes to go and pick up groceries. You know what I mean? Something like that. I mean, they could just get another Uber driver. And then if you tell them like, I can't make that stop, you know, then they go 'Why not?' then they give you a bad rating. Uber will likely take away your driving privilege, you know, if you refuse to do like a stop or something like that."

The value of **fairness** means having right to be treated fairly or the gig work process (the work assignment, compensation, and performance evaluation) being unbiased [9]. While Uber drivers felt the ride fare is not fair, they also perceived unfair treatment by riders. A driver elaborated on the unreasonable demands by riders, "People also get mad because they don't get dropped off where they wanted in Uber express pool and give a low rating for that. Or sometimes because I don't have an aux cord or the right charger for their phone. Little things that don't seem all too fair to drivers. You get a warning email from Uber when you get a low average rating."

Freedom from bias means not privileging one person, group, stakeholder over another [10]. This value was not perceived by drivers; they frequently cited that company favored riders, instead of drivers. One driver explained, "drivers have to rate each rider or they can't move on to the next ride. If you (drivers) leave a low score you have to say why you're giving a low score which is 3 or lower. Riders have to say why they left a low score too but they don't always have to rate their rides."

The value of **physical and psychological well-being** refers to a sense of being safe (not vulnerable) in public spaces while performing gig work [10]. This value is not sufficiently promoted in the Uber work environment, especially for female drivers. One female driver shared with us an uncomfortable (or even risky) situation when she picked up someone whom she thought was going to be girl late at night, based on the name of the rider. As she recalled, "the rider ended up being a guy. He didn't want to leave my car until I gave him my number so I gave him my real number and he immediately called it and when he saw it was right, he finally got out my car. As a girl you feel taken aback, you feel vulnerable. Pick and choose your battles, carries pepper spray on their door in case of emergency, tries to be as alert and prepared as possible."

Finally, the value of **transparency** refers to the process by which the gig work standards and protocols are certified to be open and understandable [10]. There exists information asymmetry in platform work like Uber driving [11]. The company often controls the data about the market demand and information about workers' rights and benefits. One driver gave us an example about the insurance misinformation by the company, "there's a lot of things that Uber does say that they do cover us but they don't, like they say that we're supposed to have a \$1 million insurance. But then one time I got an email from them saying oh if you want the \$1 million insurance, then you have to pay for it. And it's like 1000 bucks. We have to pay for it. And if that was the case, we cannot afford it, you know, because we barely made like, \$600 or \$700 a week on Uber, you know, so how I could afford to pay the \$1,000?"

Our study provides a rich description of an emerging paradox of gig worker experience in ridesharing and provides insights into accounting gig worker values in the design of technology platforms in order to improve the gig work environment.

REFERENCES

References available upon request from the authors.