Uber Technologies, Inc.

Overview
In December 2014, Uber Technologies, Inc., an app-based transportation system that allows consumers to request a driver with the touch of a button, reached a record-breaking valuation of $40 billion. Considered to be the dominant disruptor in the taxi and car service industry, Uber differentiates itself through its ability to maximize efficiency in connecting riders with drivers and to meet consumers’ increasing needs for “instant gratification.”

This case study explores how interactions within the “Uber system” have driven the way Uber organizes and utilizes its resources - both riders and drivers - to successful widespread adoption.

What is Being Organized?
From the rider’s side, Uber organizes many facets of personal and transactional data, including riders’ names, current locations, previous trip destinations, money spent, type of Ubers requested (such as low-cost uberX or pricey UberLUX), referrals, number of ride cancellations, drivers’ ratings of riders, as well as what riders have rated their drivers. These data resources may also transcend basic rider-submitted profile data and trip logs. In September 2011, Uber executives at a party were reported to show off a “God View” of the whereabouts of 30 “notable” Uber customers. Based on these allegations, which were not confirmed nor denied by Uber, the company may also organize data on the societal positions of select riders.

The personal and transactional data resources gathered from the driver’s side are similar to those of a rider, with a special focus on the driver’s overall rating and performance with riders. Performance data includes drivers’ “acceptance rates” (how many rides a driver has accepted over the total number of rides offered to him or her), number of cancellations, infractions, and any correspondence with Uber support teams about transaction issues.

Why is It Being Organized?
What separates Uber from the traditional taxi industry is its focus on the experience it provides its riders. Depicted through its tagline, “Everyone’s Private Driver,” Uber’s goal is to bring the once-exclusive, quality- and service-driven experience of riding in a private sedan to the mass market, without the barriers of cost or the inconveniences of reserving a driver.

In its online training video series for drivers, Uber repeatedly emphasizes the importance of providing a “seamless” experience for riders. This vision controls the interactions between riders and drivers in the Uber system, which include:

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• Instant driver-rider matching: once a rider requests an Uber, the app immediately
matches the rider with the closest driver.
• Refusals and cancellations are penalized: Drivers must accept and commit to the rides
assigned to them or their acceptance rate will fall, leading to termination and loss of
usage of the Uber driver app.
• All transactions are cashless: the Uber app calculates fares and handles all payments
instead of between riders and drivers. Any problems are solved by Uber support teams.
• There is no tipping: Uber does not want riders to feel like they need to pull out their
wallets at the end of a ride to pay drivers.3
• Phone calls between drivers and riders are discouraged: the Uber app automatically
sends text messages to alert riders when they’ve been assigned a driver and when
their driver has arrived.4
• Drivers are encouraged to provide “service and amenities:” the training videos advise
drivers that they will be “always more likely” to receive five-star ratings if they open
doors for riders and provide amenities, such as bottled water and phone chargers.5

In order to support the seamlessness of these interactions, Uber collects and organizes
multiple types of data resources about its riders and drivers. Constant location reporting by
both parties ensures that the closest pair is matched, leading to faster pick-up times and
ultimately, higher rider satisfaction and driver efficiency. Allowing the Uber app to handle all
fare and transaction data lowers the possibility for miscalculations and overcharges.

Real-time performance data and ratings ensure that drivers are consistently providing seamless
and reliable Uber experiences. While traditional taxi drivers have fewer obstacles stopping
them from refusing fares and practicing “destination discrimination,” Uber’s acceptance rate
data pushes drivers to commit to riders regardless of where riders want to go.6

The “blind date”-like, instantaneous, and computational nature of the request and matching
process further supports the reliability and commitment that Uber can provide its riders. While
taxi drivers often decide whether or not to accept riders based on their physical appearance,
Uber matches are calculated simply based on distance and time, thus diminishing the
possibility for fare refusals due to racial discrimination.

How Much is It Being Organized?
Precision is fundamental to Uber’s overall success in terms of how quickly it responds to rider
demands (thus influencing rider satisfaction) and how efficiently it organizes its drivers (which

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http://cityroom.blogs.nytimes.com/2011/02/24/taxi-panel-focuses-on-destination-discrimination/. It is illegal for taxis to practice
"destination discrimination" in which they refuse to take a passenger based on where he or she wants to go. Taxis face fines for
their refusals, but fines are only levied once a passenger make the effort to complain, such as in New York City where one must
call 3-1-1 to file a report. In contrast, due to real-time feedback from both riders and drivers, Uber has automatically logged data
that tracks the number of trips offered as assignments, and the number accepted.
similarly affects driver satisfaction). As a result, Uber is extremely granular with how it collects and organizes rider and driver data, in addition to environmental factors such as nearby events or situations that may affect demand. This granularity is used to simulate and predict where riders want to go, and where Uber should send its drivers. The more accurate its predictions, the more precise Uber can be with its trip assignments. This is particularly fundamental to its new UberPool product, a carpooling concept in which drivers are able to pick up and serve multiple riders at a lower consumer cost.

Uber discusses some of its prediction processes through a blog post by its data science team, entitled “Making a Bayesian Model to Infer Uber Rider Destinations.” The company used rider data, specifically pickup locations’ latitudes and longitudes, to try and predict where riders will want to go based on that information. Uber found that 74% of the time, its model could “correctly identify which of the numerous possibilities riders are headed - all with no additional information or context to go on.” This goal of trying to predict the exact address for a rider’s destination emphasizes Uber’s reliance on the granularity of its data.

Granularity can also be seen in the multiple categories of rides customers can request. Uber utilizes a hierarchical classification of its options, classified by base fare cost into categories ranging from the budget uberX choice to the pricey UberLUX line. This classification further determines the types of “sample cars” that riders can expect, such as an entry-level Honda Accord for uberX to an expensive Mercedes Benz S-Class for UberLUX.

In Los Angeles, the base fare for the UberLUX option is $20.00, nearly 19 times the $0.80 base fare for an UberX. Prices for the options between uberX and UberLUX, including Uber XL (“low cost rides for large groups”), uberPLUS (“a step above the everyday”), UberBLACK, and UberSUV, steadily increase.

This granularity in classification allows Uber be more precise with the type of Uber experience that riders are likely to have and helps to ensure that Uber meets its riders’ individual expectations. It also plays into Uber’s goal for achieving seamless transactions and fulfilling riders’ appetites for “instant gratification.”

For example, by creating an UberLUX category, a rider with a special occasion in mind will be able to request that specific choice of Uber and will most likely not be surprised at what type of car comes to pick him up, or how much the total fare is when charged at the end.

When is it being organized?

8 Ibid.
10 Ibid.
Uber must continually respond to rider-driver needs in order to produce optimal rider experiences. As a result, Uber therefore organizes much of its data resources in real-time to ensure that both parties are matched as efficiently and effectively as possible. It must continue to track performance data, including ratings, to ensure that drivers stay committed to their assignments, that riders are happy with their experiences, and that issues are taken care of quickly.

Sometimes, however, this real-time organization can work against Uber. In December 2014, a hostage situation in Sydney, Australia forced many people to try and evacuate a particular area for fear of a terrorist attack. As more people began to request Ubers so they could leave the area, Uber’s “surge pricing” mechanism kicked into effect. “Surge pricing” is an automated system process that multiplies base fares as a response to high rider demand with a low supply of drivers. Uber has said that surge pricing is meant to encourage offline drivers to start working and meet the demand. In the situation in Sydney, the base fare for an Uber quadrupled to as much as AUD$100, which was met with worldwide backlash and criticism for taking advantage of a crisis. This example demonstrates how Uber’s real-time organization of its rider and driver data in order to set prices can work against the company when used improperly.

How or by whom is it being organized?
Unlike many traditional taxi dispatch agencies that manually take reservations by phone or email or even individual taxis who look for fares as they drive along the streets, Uber’s rider and driver organization is conducted computationally through its mobile apps in order to conduct real-time matching. Riders help the organizing process by identifying their needs according to the type of Uber needed, their pickup locations, and destinations. Drivers help to organize themselves by going online or offline to tell the system if they should be organized as active and willing to take fares, or not.

Ratings submitted by both parties are fundamental to Uber’s organizing system by ranking both riders and drivers. This helps Uber identify the best and most valuable riders and drivers, as well as the riders and drivers who may be detrimental to the system’s progress.

Finally, when automated methods, such as surge pricing, need to be overridden or computationally-calculated fares need to be fixed, Uber utilizes support staff who are able to add a manual touch to the organizing process.

Other Considerations
As it added over $1 billion of financing in December 2014, Uber has “signaled its ambitions to be a one-stop shop for delivering anything, anytime, anywhere -- even groceries -- perhaps one
day rivaling the likes of Amazon, eBay, and Google.\textsuperscript{15} The company recently released Uber Essentials in select cities, including Washington D.C., which allows riders to order from an extensive, though curated list of household items from drivers with essentially mobile pantries in their cars. As Uber continues to expand beyond purely transportation services, its organization and classification scheme will need to expand and evolve in order to account for all the potentially new rider-driver interactions that will be created. The precision/recall tradeoff may also change within the Uber system, particularly if additional products are introduced, as it may become necessary for drivers to carry a range of potentially relevant items.

Brief: The Legal Implications of Uber

Overview
Symbolically, Uber has evolved beyond just an app-based transportation system since its inception in 2010. Its fundamental principles of providing instant, on-demand services and utilizing the masses to serve the masses have created change in multiple industries beyond the transportation arena. The “Uber-ification” of a service is now recognized in countless new business strategies aiming to also achieve Uber’s goal of seamlessly connecting consumers and service providers.

Uber is a disruptor in both the transportation and tech industries. In the medallion- and government-regulated world of the taxi industry, Uber has created chaos with its freedom in how it sets its own fares, hires, maintains, and pays its drivers, and gains riders. The Uber method of hiring its drivers as independent contractors has changed how many new tech companies hire and classify their workforce, growing what is known as the “peer-to-peer economy in which companies such as Uber act as middlemen and use software to link customers with service providers.” These disruptions have directly raised a range of legal questions regarding government regulation, employee insurance, liability, dynamic pricing, and employee criminal and background checks.

To narrow the scope, this legal brief will specifically focus on Uber and the legal implications of the dispute over its definition as a “transportation technology company” or as a taxi service. How does the way Uber organize and classify its resources and interactions affect its definition, and what consequences will that bring?

Issues
Unlicensed and Unregulated Taxi Service
Several cities around the U.S., including Portland, Boston, San Francisco, Los Angeles, Chicago, and New York City, have sued Uber for operating illegally as an unlicensed and unregulated taxi service. Uber has also been banned in global locations, such as Paris and in New Delhi, over the same fundamental reasons.

Currently, taxi services are regulated by city governments which focus on consumer protection, such as standards for “vehicle safety, driver safety, guaranteed service to all neighborhoods, and service to the disabled.” Pricing is also regulated by cities, which set the base fares for city taxis, as well as requirements for sufficient driver and vehicle insurance.

19 Ibid.
If Uber defines its organization as a technology platform instead of a taxi service, this could allow the company to argue that it does not need to be held accountable under the same regulations. According to the New York Times, Uber “compares itself to the auction site eBay, connecting a buyer and a seller but not liable for what happens between them.”\(^\text{20}\) In order to abide by this removed, middleman-like definition, Uber would need to consider what role the Uber system and its mobile app play in the connection of rider and driver resources. Is Uber designed to actively intake rider requests and dispatch drivers? What is the collection scope of its rider and driver data - is it considering individual requests, or does it only analyze rider demand at an abstract level?

**Liability and Insurance for Drivers**
Further issues can be seen with Uber in its lawsuits regarding how its driver resources are classified and described within the system. Uber classifies its drivers as contract workers, in contrast to the career, full-time status of many of its corporate workers. This separation in categories directly affects drivers’ access and eligibility for insurance and liability.

In a recent case in which an Uber driver was charged in the death of a 6-year-old girl, the driver’s working status directly affected Uber’s involvement and level of responsibility in the incident. Uber stated that because the driver was “not providing services through the Uber system” at the time of the accident, Uber therefore bore no culpability and the driver was not covered under any insurance policies provided by the company.\(^\text{21}\)

This brings into serious question Uber’s descriptions and classifications for its drivers as resources within the Uber system. When is a driver considered to be “on the job” with Uber and thus protected with insurance? Uber has claimed that “when the [app] is off, personal insurance should kick in and cover a driver”, but according to the SF Gate, the personal insurance industry have “flatly refused” this claim.\(^\text{22}\)

**Final Considerations**
How Uber defines itself in the face of competing industries and the demands of the government for regulatory control will continue to set a precedent for other on-demand service-focused companies, particularly those that similarly utilize contract workers. As it matures and expands into other business areas, Uber may need to reconsider and adjust the way it organizes and classifies its resources and the interactions connected to them.