

# **Uber & Surveillance Pricing**

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## Introduction

Uber is one of the world's largest & leading ride-hailing mobile apps, offering services related to carpooling, food delivery services, auto rentals, and gig opportunities. The company operates on a dynamic pricing model, adjusting fares in real-time based on supply and demand. Uber increasing prices during peak hours to incentivize driver availability. This approach has led to controversy - for instance, Uber's surge pricing has resulted in significantly higher fares during holiday operations, leading to accusations of price gouging (The Sun, 2025). Surveillance Pricing takes Uber's pricing strategy a step further, leveraging data analytics from location, browsing history and purchasing behavior to personalize pricing for individual users. This strategy enables companies to categorize consumers and set targeted prices based on their predicted willingness to pay (FTC, Surveillance Pricing 6 Study, 2025). While this approach can potentially optimize revenue and improve market efficiency, it also raises concerns about fairness, data privacy, and transparency in pricing decisions.

A positive perspective on Uber's surge pricing is that it effectively balances supply and demand, leading to improved efficiency and availability of rides during peak demand periods. According to Hall, Kendrick, and Nosko (n.d.), surge pricing incentivizes more driver-partners to be available in high-demand areas, ensuring that more riders can access transportation when they need it most. By dynamically adjusting prices, the surge algorithm allocates rides to those who value them the most, thereby optimizing resource distribution and reducing excessive wait times. Additionally, this system enhances driver earnings, encouraging greater participation in the marketplace, which further contributes to overall service reliability. The alternative, as seen during a temporary surge pricing outage on New Year's Eve, resulted in supply shortages, longer

wait times, and lower ride completion rates, demonstrating the necessity of surge pricing in maintaining market equilibrium (Hall et al., n.d.).

### **Current Pricing Strategies**

Uber's current pricing strategy involves dynamic pricing as its pricing model, matching demand in real-time with surge pricing. They use various pricing techniques to attract and keep consumers, including surge pricing during rush hour, service-level-based pricing differentiation, and promotional incentives (Cuofano, 2024). This concept is driven by machine learning and artificial intelligence, which optimize price decisions by analyzing massive volumes of real-time data (Svetlana, 2024, pg. 23). Uber also incorporates localized pricing techniques to maintain market competitiveness, considering local cost structures and economic realities.

According to Mahdawi (2018), Uber uses route-based pricing, meaning fares vary depending on route even if distance and time are similar. Instead of calculating fares based on miles and minutes, Uber considers factors like demand patterns, common traffic conditions, and route popularity (Mahdawi, 2018). For example, a trip from a wealthy neighborhood to a downtown area may cost more than a similar-length trip to another part of the city.

Uber's pricing mechanism works through algorithm-driven surge pricing and adjusts fares in real time based on passenger demand and driver availability. When demand exceeds supply in a specific area, Uber automatically increases ride fares to incentivize drivers to accept trips. The pricing increase is often displayed as a multiple of the base fare (e.g., 1.5x, 2x, etc.), alerting riders to the price hike before confirming the ride (Mulay et al., 2024). Uber employs "**hyperlocal pricing,**" meaning that pricing varies significantly between neighborhoods, even within the same city. This is done using geofenced **hexagonal pricing zones** that monitor traffic flow, rider demand, and driver supply (Mulay et al., 2024). Uber also uses data from past ride

behaviors and real-time conditions to predict the best pricing model for maximizing efficiency and earnings.

Significant negative attitudes have surfaced towards Uber's surge pricing strategy, especially during emergencies and natural disasters, where fares can skyrocket due to increased demand. Critics argue that this strategy is exploitative, as it disproportionately affects low-income individuals and those with urgent travel needs. There have been multiple lawsuits and regulatory challenges against Uber's surge pricing model, with allegations that it constitutes price gouging.

For example, Uber published an article talking about the new pricing update during the Hurricane Sandy. Uber's surge pricing during Hurricane Sandy sparked significant backlash, with critics accusing the company of exploiting a crisis for profit. According to the information Uber (2012) has published, Uber initially subsidized driver fares to keep rider costs stable, but it soon reverted to surge pricing, arguing that higher fares were necessary to keep more cars on the road. Amid a disaster that left many New Yorkers stranded, this move was widely perceived as price gouging, disproportionately affecting vulnerable individuals left with no choice but to pay steep fares. Despite Uber's claim that all surge revenue would go directly to drivers, public sentiment remained overwhelmingly negative, fueling broader debates about the ethics of dynamic pricing in emergencies. The controversy ultimately led to increased scrutiny of Uber's pricing policies and influenced regulatory actions to curb price surges during future crises.

### **Potential Implementation Strategy for Uber's Surveillance Pricing**

Uber collects extensive user data, including ride history, frequently visited locations, travel frequency, and time-of-day preferences, allowing the platform to analyze consumer

behavior and optimize pricing. For example, frequent peak-hour riders often exhibit higher price tolerance, making it possible for Uber to apply slight fare increases without deterring them. Meanwhile, occasional riders who abandon bookings due to high fares may be offered personalized discounts to encourage continued platform engagement. A study by Buchholz et al. (2024) found that ride-hailing platforms utilize estimated time of arrival (ETA) and urgency-based pricing, meaning Uber likely determines fares based on demand patterns and urgency of the ride, rather than tracking a user's search history. Additionally, Uber's monthly active platform consumers (MAPCs) reached 150 million in Q4 2023, marking a 15% year-over-year increase (Uber, 2023). This strong user retention rate suggests that behavior-based pricing can be an effective strategy for increasing consumer engagement and maintaining loyalty.

Uber's pricing adjustments are not limited to user behavior but also integrate external data sources such as event-driven demand, weather conditions, and real-time traffic congestion. During high-demand events, such as concerts or sports games, Uber experiences demand surges that justify temporary price increases to balance supply and demand. Similarly, bad weather significantly affects commuter behavior by discouraging walking and public transit use, leading to higher ride demand and subsequent surge pricing. Uber's dynamic pricing algorithm automatically adjusts fares during these periods to incentivize drivers to be available (Phillips, 2019). Additionally, real-time traffic congestion analysis allows Uber to adjust fares based on route delays. If a route experiences severe congestion, Uber increases fares to compensate for longer travel times, while providing passengers with alternative route suggestions. This ensures that pricing remains competitive while optimizing efficiency (Labs & Didur, 2021).

Uber's AI-driven pricing models leverage historical ride data, consumer behavior patterns, and competitive market conditions to predict demand shifts and adjust pricing

accordingly. For instance, business travelers taking frequent airport rides are typically less price-sensitive due to expense reimbursements, allowing Uber to slightly raise fares for these users without reducing demand. Conversely, students and budget-conscious riders who frequently compare Uber prices with competitors such as Lyft may be offered discounted fares to ensure continued platform loyalty. A study by Sánchez-Cartas & Katsamakas (2023) found that AI pricing models, including Q-learning and Particle Swarm Optimization (PSO), effectively optimize fare structures, ensuring that ride-hailing platforms can dynamically adjust pricing based on competition, demand, and user behavior. In summary, AI-driven pricing maximizes long-term revenue potential by continuously adapting fares to evolving market conditions.

Despite its financial benefits, surveillance pricing raises critical ethical concerns related to fairness, privacy, and consumer trust. One concern is price inequality, where users with certain characteristics may be charged higher fares than others based on non-transparent factors. For example, research shows that iPhone users spend 26% more per transaction than Android users, making them a more lucrative consumer segment (Battle, 2021). If Uber's pricing algorithm charges higher fares to iPhone users, it could face serious accusations of unfair pricing. Similarly, if Uber applies higher base fares in affluent neighborhoods, the company may attract regulatory scrutiny and legal challenges regarding socioeconomic inequality (Cowles, 2025).

To address these concerns, Uber should take proactive steps to ensure fairness and transparency in its pricing model. First, clearly disclosing how fares are determined will provide riders with a better understanding of pricing adjustments, reducing uncertainty and mistrust. Additionally, allowing users to opt out of personalized pricing will give them greater control over their ride costs, ensuring consumer autonomy. Another key solution is introducing a loyalty program, such as Uber Gold, which offers stable, predictable fares for frequent riders. This

approach can balance fairness and personalization, rewarding loyal customers while maintaining competitive pricing strategies.

### **Competition: Lyft:**

In the western ride-share market, Lyft is Uber's greatest competitor. Like Uber, Lyft's fare pricing revolves around a dynamic upfront price, which varies depending on ride type, time, traffic, driver availability, and customer behavior (Lyft, n.d). What separates Lyft from Uber is their focus on "fair pricing" – emphasizing the stakeholder environment at large - by selling to ethically-minded consumers, and prioritizing driver welfare, sustainability, and ethical business practices. For example, Lyft's "Lyft Up Initiative" involves accessibility to transportation, grocery, alternative transportation (bike-share), and disaster response services (Lyft, n.d.).

However, Lyft is easily dominated by Uber in the market as it is domestically limited to the U.S. & Canada. In addition, Lyft does not have nearly as much access to advanced technology features – such as artificial intelligence or data collection tools to employ dynamic pricing to the same extent as Uber. As a result & natural consequence, Lyft's total gross bookings (\$16.1bn) & revenue (\$4.3bn YoY) (Lyft, 2025, p.4) sits at a nearly three times lower value than Uber's (\$44.2bn), (\$12.0bn YoY), respectively (Uber, 2025, p.1) – making Uber a dominating force against Lyft in price discrimination wars, and rendering Lyft less able to drive economies of scale, driving up costs for driver acquisition. Furthermore, Lyft's target market – ethically-minded consumers – are likely to engage in **identity management** to protect their data & attempt to undercut Uber – using VPNs, cookies, fake accounts to avoid targeted personalized pricing. Interestingly, a study done by Chen et. al (2020) reveals that the tactics of the ethically-minded consumers end-up benefitting the very companies they're trying to undercut – because then they can "extract full surplus from their targeted consumer base" with perfectly tailored

price estimates, whilst “inducing firms not to serve consumers” (Chen, Choe & Matsushima, 2020, p.4003), resulting in deadweight losses if the price of targeting non-consumers is already expensive. In summary, in the long run, Uber naturally outcompetes Lyft because of already-established market domination & global standardization. Lyft’s stakeholder-first approach, however, positions it well as an ethical & sustainable rideshare brand.

### **Competition: Didi Chuxing:**

In the Chinese Market, Didi Chuxing, a subsidiary ride-sharing enterprise owned by Tencent, serves as Uber’s biggest international threat. Owning roughly 90% of the Chinese market share, aggressively expanding into markets where Uber’s influence is limited, and even integrating a FinTech app “Didi Pay” – connected with the ridesharing service - Didi champions standardization and makes it extremely expensive for Uber to compete globally. In addition, Didi is heavily backed by the biggest technological corporations – Apple, Tencent, Alibaba, and Softbank. Currently, the company is working to take advantage of China’s EV leadership by standardizing EV ride-hailing, however they could go further to expand their FinTech services & partner with Chinese municipalities for AI-powered urban transit optimization.

Of course, their heavy reliance on data analytics & AI-driven competitive advantages prompts the Chinese government to heavily scrutinize their privacy, security, and operational practices. On July 21, 2022, the Cyberspace Administration of China fined Didi ¥8bn (\$1.2bn USD) for violations regarding the collection & handling of data since 2015 (De Souza, 2022 Jul. 26). Despite such a massive fine, however, Didi demonstrated resilience with revenue increases in 55.5% in Q4 2023, when they were given permission to relaunch their apps, effectively earning ¥49.4bn yuan (Didi Global Inc., 2023). Even then, Didi wasn’t safe from regulatory compliance - China’s new Network Data Security Management Regulations effective January 1,



2025 (Interesse, 2024 Oct. 2), serves a formidable challenge for Didi to sustain their AI-driven business models. Furthermore, Didi faces even more challenges in western markets, where the GDPR (EU), Privacy Act (Canada & U.S.), and the PIPEDA (Canada) are in effect. Didi's growth, however, remains promising, as their plan to implement autonomous self-driving vehicles by 2030 has garnered them a \$1bn dollar investment from Apple (BBC, 2022 Jun. 23).

### **Risks & Benefits**

The benefits of Uber's surveillance pricing model are they offer consumers the best deal through extensive data processing. They can gauge how sensitive a customer is to price, and leverage discounts to high-price sensitive markets – increasing user experience & conversion rates. However, some users feel that it is unfair that the price is set based on different data, and customers may feel that their purchase is being monitored, fearing their privacy issues will be exposed. Second, monitoring pricing can have a twofold impact on brand image. It can boost corporate profits and give companies an edge over the competition. On the other hand, if consumers find that they are paying a higher price than others, it may damage their trust in the brand and may cause public backlash. For example, one Amazon test was the subject of consumer complaints and regulatory investigations for monitoring pricing policies, which led users to even choose companies with more transparent prices (Chang & Chakrabarti, 2024).

Regarding competitive dynamics, financial, economic, and regulatory risks and benefits arise from surveillance pricing. A study completed by Rhodes & Zhou (2024) measured the impact of personalized pricing relative to uniform pricing in an Oligopoly model. Involving the 2 benchmark case applications, they show that “personalized pricing hinges on the degree of market coverage”. In economic terms, if coverage is high (production costs are low, firm

quantity is high), firms are worse off (obtain lower value) and consumers are better off (obtain higher value), however when coverage is low (production costs are high, firm quantity is low), firms are better off & consumers are worse off (Rhodes & Zhou, 2024 p.2141). Because Uber operates in a duopoly in the U.S. & Canadian market with Lyft, real-time price adjustments give Uber an edge in some cases. If a competitor offers lower fares, Uber can use algorithms to offer lower prices than their competition and attract more users. In fragmented markets where subsidiaries like Bolt, Grab, Didi Chuxing and Ola Cabs compete for market share, Uber is less positioned to set competitive, personalized prices because of the numerous brands & options available, and may have to rely on diversified & innovative business models (like Didi with Didi Pay, or Lyft with “fair pricing”) to be an attractive consumer choice.

Additionally, a systematic literature review done by Chenavaz & Dimitrov (2025) reveal the many trends & threats behind leveraging A.I. in dynamic pricing. They discuss the potential risk for algorithmic pricing to autonomously induce “supracompetitive pricing, raising apprehensions about algorithmic collusion within oligopolistic markets” (Chenavaz & Dimitrov, 2025, p.22). Supracompetitive pricing, however, isn’t a danger for 2 reasons. A.I.-driven platforms already exude benefits by driving enhanced market competition & price discrimination, effectively “offering a mechanism to counteract collusive benefits” (Chenavaz & Dimitrov, 2025, p.22). A study conducted by Johnson et al. (2021), involving Q-learning algorithms & personalized marketplaces validates this, concluding that not only does such pricing benefit consumers, but sophisticated demand steering policies that condition on precedent behavior “rotate demand & split industry profits, showing a platform can undermine collusion even when firms become infinitely patient.” (Johnson et al, 2021, p.1841). Furthermore, Uber’s reliance on both internal ride data and external market data is critical role to its surveillance

pricing business model – which, to regulate monopolistic behavior & protect the privacy rights of the public – pressure governments to enforce regulations. Zimmer (2025) highlights the lengthening litigation tail in the data economy, demonstrating that legal disputes surrounding data privacy are evolving beyond isolated incidents to include “regulatory claims, data breach class actions, mass arbitrations, and wrongful collection class actions”. For Uber, failure to comply with regulatory standards in data collection and privacy protection result in severe financial repercussions, including: “increased operational costs, shareholder lawsuits, loss of client trust, regulatory fines, and cyber coverage limitations”, For Uber to sustain competitive leadership in the market, Uber must choose ethical, FTC compliant data sources to avoid legal risk (Kully et al., 2024) – through, as mentioned, transparent data policies, compliance with global privacy laws, and proactively addressing consumer privacy concerns.

### **Recommendation**

Our analysis shows that Uber’s use of real-time data to adjust fares has been effective in driving revenue and maintaining high user engagement. However, further personalization through surveillance pricing introduces challenges in terms of fairness, privacy, and regulatory compliance. Based on these findings, we recommend that Uber continue to leverage its dynamic pricing strategy while evolving toward a more refined surveillance pricing model. To achieve this transition while mitigating risks, we propose the following measures. For example, initiating pilot programs in select markets to assess consumer response and fine-tune the pricing algorithm. Moreover, enhance transparency by clearly disclosing the factors that influence fare adjustments. Providing users with an opt-out option for personalized pricing will help maintain consumer trust and alleviate concerns regarding unfair pricing practices. Furthermore, strengthen of introduce

loyalty initiatives such as setting up an upgraded Uber Gold program to offer stable fare options for frequent riders. This measure can balance personalized pricing with fairness, ensuring that loyal customers are not adversely affected by variable pricing.

In summary, while surveillance pricing introduces additional risks compared to traditional dynamic pricing, its potential to maximize revenue and enhance market responsiveness makes it worth pursuing provided that ethical safeguards and transparent consumer practices are rigorously implemented.

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