

INTRODUCTION

It was a Friday evening in December 2015, and the office was buzzing. Amid the vast, monochromatic corridors of Uber's San Francisco headquarters at 1455 Market Street—two football fields' worth of gleaming LED lights, light woods, concrete, and steel—the office was still mostly occupied at 8 p.m. Some sat at their desks quietly typing emails while others debated energetically with colleagues over video-conference. Others were drawing on whiteboards, hosting impromptu jam sessions to tackle the tricky operational problems facing who-knows-what. And a few pairs of employees were walking up and down the main flow in one-on-one meetings, some in intense discussion and others just catching up.

Everywhere you looked, there were reminders of the global scale of Uber's business as well as the international heritage of the team driving it. Colorful flags from every country hung from the ceiling. Conference room screens hosted videoconferences with colleagues from faraway offices in Jakarta, São Paulo, and Dubai—sometimes simultaneously! Flat-screen TVs were scattered throughout the floor showing metrics, broken down by mega-region, country, and city, so that teams could monitor progress. The global culture seeped into the naming conventions for conference rooms: near the entrance, the names started with Abu Dhabi and Amsterdam, and at the far other end of the floor, they ended with Vienna, Washington, and Zurich.

At first glance Uber might just look like a simple app—after all,

the premise was always to hit a button and get a ride. But underneath its deceptively basic user interface was a complex, global operation required to sustain the business. The app sat on a vast worldwide network of smaller networks, each one representing cities and countries. Each of these networks had to be started, scaled, and defended against competitors, at all hours of the day.

It was in my role at Uber that I really came to viscerally understand networks, supply and demand, network effects, and their immense power to shape the industry. As you might imagine, the Uber experience had its ups and downs—it was a rocketship and a roller coaster, rolled into one. I’ve come to call it a “rocketcoaster” experience, which is an appropriate description for a company that had gone from an idea to a tiny startup to a massive global company with more than 20,000 employees in less than a decade.

The worldwide operations of the company were complex and intense, and much of the command and control radiated from the center of Uber’s San Francisco headquarters. In the middle of the main floor, built from gleaming surfaces of glass and metal, stood the War Room.

To many, it was a big mystery—the War Room didn’t share the normal naming convention of city names where Uber operated. It couldn’t be booked for meetings as the others could, and was sometimes attended to by security guards. That’s because it wasn’t a normal meeting room. Many companies (inside and outside tech) have the notion of “war rooms.” But, they are typically conference rooms converted temporarily to dedicated use by a product team, working intensely to tackle an emergency product. After the situation is resolved, the room is quickly converted back to normal use. For Uber, perhaps appropriate to its unique needs, this War Room was not temporary at all—it was built to operate twenty-four hours, around the clock. It was built as a huge, permanent room with dark wood walls, multiple flat-screen TVs, a large conference table that could fit a dozen people, and additional sofa seating. Red digital clocks gave the current times in Singapore, Dubai, London, New York, and San Francisco. Given the company’s global

footprint, there was almost always some kind of emergency situation somewhere in the world that needed attention, and this was often the room where it was dealt with.

That December, the emergency was in San Francisco, the company's hometown.

Scheduled to start at 7 p.m. and run into the night, the urgent meeting was booked on everyone's calendar as "NACS," which stood for the North American Championship Series, an oblique reference to its agenda focusing on operations, product road map, and competitive strategy in the top markets in the United States and Canada. This meeting was a key mechanism for the CEO of Uber, Travis Kalanick—called "TK" within the company—to review the entire business, city by city.

A small group of about a dozen executives and leaders attended the meeting, including myself and the heads of finance, product, and critically, the RGMs—short for "Regional General Managers." The RGMs ran the largest teams at Uber, constituting the on-the-ground Operations city teams that engaged with drivers and riders. The RGMs were thought of as the CEOs of their markets, holding responsibility for revenues and losses, the efforts of thousands of Ops folks, and were always closest to the trickiest problems in the business. I was there to represent the Driver Growth Team—a critical team responsible for recruiting the scarcest asset in the entire business, Uber drivers. It was a big effort for Uber—we spent hundreds of millions just on driver referrals programs, and nearly a billion in paid marketing. Adding more drivers to the Uber network was one of the most important levers we had to grow the business.

The weekly NACS meeting opened with a familiar slide: a grid of cities and their key metrics—tracking the top two dozen markets. Each row represented a different city, with columns for revenue, total trips, and their week-over-week change. It also included operational ratios like the percentage of trips that hit "surge pricing," where riders had to pay extra because there weren't enough drivers. Too much surge, and riders would switch to competitors. Uber's largest

markets, New York, Los Angeles, and San Francisco, were always near the top of the list, representing billions of annual gross revenue each, with smaller cities like San Diego and Phoenix near the bottom.

TK sat closest to the screen, dressed casually in a gray T-shirt, jeans, and red sneakers. At the sight of the numbers, he sprung up from his chair and walked up close to the screen. He squinted, staring intensely at the numbers. “Okay, okay . . .” he said, pausing. “So why did surge increase in San Francisco so much? And why is it up even more in LA?” He began to pace up and down the side of the War Room, the intensity of the questions increasing. “Have we seen referral sign-ups dip in the last week? How’s the conversion rate in the funnel going? Were there big events this week? Concerts?” Folks in the room began to chime in, answering questions and raising their own.

A Network of Networks

It was my first year at the company, and although many companies have weekly reviews, Uber’s were different. First, in the discussion about each city, the level of detail surprised me. For San Francisco, the group began to discuss the surge percentages in the city’s seven-mile by seven-mile center, versus East Bay, versus the Peninsula. This was a senior group of executives, but the granularity and level of detail was incredible. But this was a requirement to run a complex, hyperlocal network like Uber where supply and demand depended on the dynamics of popular neighborhoods and frequent “lanes”—like Marina and the Financial District—that tended to be poorly served by other transportation options.

In the weekly dashboard, each row represented a city—yes—but more important, each city was an individual network in Uber’s global network of networks that needed to be nurtured, protected, and grown. It was deeply and uniquely ingrained in Uber’s DNA to talk about met-

rics at the hyperlocal network level. In my several years there, it was unusual to ever hear about an aggregate number—like total trips or total active riders—except as a big vanity milestone at a company all-hands. Those aggregate metrics were regarded as mostly meaningless. Instead, the discussion was always centered on the dynamics of each individual network, which could be nudged up or down independently of each other, with increased marketing budget, incentive spend for either drivers or riders, product improvements, or on-the-ground operational efforts.

The NACS meetings were used to evaluate the health of each of the networks and the global network as a whole—a central means of accounting for the twenty or so cities that represented the majority of revenue to the company. Furthermore, it was important to go even further in granularity and break the network into the two sides, both the rider side (demand) and the driver side (supply), to make sure each side was healthy but also that they were in balance with each other. Too much surge, and riders stop taking trips. Too little surge, and drivers start to go offline and head home after a long night.

The slides continued. Several of us on the NACS team, including myself, had been working on a hypothesis over the past few days. Ops teams had reported seeing large increases in driver referrals by our primary US competitor, Lyft, over the past few weeks, which was causing drivers to switch over in droves. Driver referrals were typically structured as a give/get incentive—give \$250 and get \$250 when your friend signs up to drive. A dramatic rise in demand during the holiday season was causing a big undersupply of drivers in the key competitive markets on the West Coast, primarily San Francisco, Los Angeles, and San Diego. For riders, this resulted in a terrible experience—if you request a ride, it would take far longer than usual, sometimes twenty minutes, which meant more riders were canceling their requests. They might even decide to check our competitor's pricing and service level, and book there instead. These cancels were frustrating for Uber's drivers, who might have already driven for a few minutes. Piss them off too

many times, and it might cause a chain reaction as they'd have even more incentive to stop for the night, and switch off to a competitor's network.

TK grew more intense and agitated as the hypothesis was presented. "This is not good, guys. Not good." He exhaled deeply. What was the right solution? With the years of experience from operating these networks, it was likely that one solution would quickly rebalance the sides of the market. The right solution would need to start on the supply side, to grow our base of drivers quickly and lower ETAs and the cancel rate, and that meant a driver incentive. "What if . . . we did a \$750/\$750 referral bonus here in SF, LA, and San Diego?"

This would be a big move, a far bigger number than had ever been thrown out. But San Francisco, Los Angeles, and San Diego needed the help. These were some of the most competitive markets that would need to be quickly rebalanced with more supply. TK looked around the room, pausing, and then answered his own question. "Yeah. That would get their attention. That'll wake them up!" he said, smiling and nodding.

Others were not so quick to jump to incentives as the solution. The past year had been good for Uber in the United States, turning it into a cash-flow positive area as the competition in the new China business simultaneously generated both incredible trips growth and severe losses. Uber was in a vicious fight with Didi—its Chinese rideshare competitor—burning on the order of a billion dollars a year primarily because of incentive spending. We started to bat around other ideas, including improving how to display ETA estimates as well as ways to discourage riders from canceling. There were other ways to rebalance the various networks without using incentives, which is a powerful tool but not the only one. The conversation went in circles, and TK grew visibly frustrated.

TK paced around the room again. "No, no! Look, guys. Our network is collapsing. We need to stop the bleeding . . . now!" He chopped his hand into the other. "Let's do the other stuff and get it on the road

map, but let's get this email out over the weekend. Who can help me put it together?" This decisiveness was informed by years of fierce in-the-trenches competition—companies like Flywheel, Sidecar, Hailo, and many others that were vanquished—driven by lightning-fast responses in situations like this. The Uber team monitored and responded to the health of their local city networks with speed and precision. And with that, the next step was clear.

The RGMs agreed to own it, and I would work with my team—which was accountable for the product/engineering side of driver referrals—to make changes to the structure and amounts. We committed to ship the changes before Monday. We took note of a number of other follow-ups due from the meeting, and we all decided to reconvene the group again next week. It was Friday and almost 10 p.m., and many of us had been working since early morning to prep for this meeting. I walked home, just a few short blocks away in the Hayes Valley neighborhood of San Francisco, and started my "Netflix and email" routine to close out the day.

This was my first experience with the North American Championship Series, and it turned into a weekly briefing, usually Friday midmorning. But sometimes it got scheduled at Tuesdays at 9 p.m., or Sundays at 2 p.m., when that was the only way to get everyone together. Although NACS was just one part of my role at Uber, it quickly became one of the most educational in how to think about starting and scaling network effects. For a multiyear span, I was lucky to be embedded in this critical team that operated Uber's biggest markets. Each week was different. At the NACS meetings, we shifted our attention nimbly each session from network rebalancing on the West Coast, to prioritizing product features to increase revenues, to launching new regions, and everything in between.

Uber was already hitting its stride when I joined but I had a front-row seat to the team that grew the business to 100 million active riders in 800+ markets worldwide, and \$50 billion in gross revenue. It was an incredible experience, and I am proud of the work that we