Analytics
The Agile Way

Phil Simon

Award-winning author of *Message Not Recieved* and *The Age of the Platform*

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Analytics

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Analytics

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The readiness is all.

—Hamlet

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Preface
The Power of Dynamic Data

The most valuable commodity I know of is information.

—Michael Douglas as Gordon Gekko, *Wall Street*

On August 7, 2015, the mood at Chipotle headquarters in Denver, Colorado, was jovial. The stock (NYSE: CMG) of the chain of "fast casual" Mexican restaurants had just reached an all-time high of $749.12. Sure, the company faced its fair share of challenges (including an alarmingly high number of lawsuits), but today was a day to celebrate.

Fast-forward six months. As so often is the case these days, things had changed very quickly.

A series of food-borne illnesses came to light at the end of 2015—and not just a few mild stomachaches caused by a batch of bad salsa. The true culprit: *E. coli*. As the Centers for Disease Control and Prevention (CDC) announced on December 2, 2015, "52 people from nine states have been sickened, 20 have been hospitalized, and there are no deaths."[1]

By April 16, 2016, Chipotle's stock was in free fall, dropping 40 percent from its high to $444. Things continued to spiral downward for the chain. The stock hit $370 on December 9 of that year. In August 2016, nearly 10,000 employees sued the company for unpaid wages. In September, a 16-year-old girl won a $7.65 million lawsuit against the company for sexual harassment. One of the victim's attorneys described the situation as "a brothel that just served food."[2] Damning words to be sure.

Sensing opportunity, activist investor Bill Ackman started gobbling up Chipotle equities. His hedge fund, Pershing Square Capital Management (PSCM), purchased large quantities of options trades, "normal" stock buys, and equity swaps. Rumor had it that Ackman wasn't just looking to make a buck; he wanted seats on the Chipotle board and a significant say in the company's long-term and daily management. And PSCM wasn't the only hedge fund betting long on CMG in 2016. Plenty of others were taking notice.[3]

Ackman is an interesting cat and a mixed blessing to the Chipotles of the world.* Over the years, he has earned a reputation as a thorn in the side of many distraught companies and their boards of directors. Still, Chipotle executives knew that his hedge fund was keeping their portfolios healthy. No doubt that CMG would have fallen further if PSCM and other funds weren't buying so aggressively.

Why were hedge funds buying Chipotle's shares on the cheap in 2016? You don't need to be Warren Buffett to see what was happening. The heads of these funds believed in the long-term value of the stock. Chipotle would eventually recover, they reasoned, so why not make a few bucks? In a way, Ackman and his ilk are no different from Homer Simpson. The patriarch of the iconic cartoon family once summarized his remarkably facile investment philosophy in the following seven words, "Buy low. Sell high. That's my motto."†

This begs the natural question: On what basis do these folks make their multibillion-dollar bets?

At a high level, sharks such as Ackman operate via a combination of instinct and analysis. With regard to the latter, hedge funds have always coveted highly quantitative employees—aka *quants*. As Scott Patterson writes in *The Quants: How a New Breed of Math Whizzes Conquered Wall Street and Nearly Destroyed It*, their complex and proprietary models factor in dozens or even hundreds of variables in attempting to predict stock prices and place large wagers.

New and unexpected data sources could be worth a fortune.

---

* Watch an interview with him on *Charlie Rose* at http://bit.ly/2mTzWKv.

† From "Burns Verkaufen der Kraftwerk," one of my very favorite episodes of *The Simpson*.

FOURSQUARE'S RISE, FALL, AND DATA-DRIVEN SECOND ACT

Although Facebook beat it by five years, Foursquare still arrived relatively early at the social-media party. Launched in March 2009 as a "local search-and-discovery service mobile app," it didn't take long for the company to approach *unicorn* status. Cofounder and CEO Dennis Crowley became a bona fide rock star. Millions of people used the app to check in to restaurants and bars. Of course, none of this would have been possible as late as 2006. By 2009, though, the smartphone revolution was in full swing. Foursquare could piggyback on the ubiquity of iPhones and Droids.

Crowley and Foursquare allowed anyone to download and use the app for free. Millions of people did. Oodles of active users, however, do not a business model make. There's a world of difference between a *user* and a *customer*.

At some point, like all enterprises, Foursquare needed to make money. By growing its *user* base, Foursquare hoped to expand its *customer* base: local businesses that could create highly targeted ads that its millions of users would see and, it was hoped, act on.

Foursquare was about to take location-based advertising into the smartphone age. No longer would a city pub owner or restaurateur need to pay someone to interrupt passersby on the street and hand out cards that advertised two-for-one drink specials. Via Foursquare, eateries could reach potential customers in a way never before possible.

At least that was the theory.

Foursquare's promise has always exceeded its financial results. For all of its users and hype, the company has never reported earning a profit.[4] At different points in 2012, both Marissa Mayer's acquisition-happy Yahoo! and Facebook reportedly flirted with acquiring Foursquare. In the end, though, the parties never consummated a deal.[5] Yahoo! remained a mess, and Facebook didn't really need Foursquare. Its network was enormous, and it wasn't as if the idea of a *check-in* had never occurred to Mark Zuckerberg. (In August 2010, the social network launched Places, a feature "not unlike" Foursquare.[6]) Determined to remain relevant, Crowley and his troops soldiered on.

Version 2.0: Two Apps Are Better Than One

On May 15, 2014, Foursquare launched a spin-off app called Swarm. The new app allowed users to broadcast their locations to their friends on social networks such as Facebook and Twitter. The main Foursquare app would still exist, but with a new focus. It would attempt to wean market share from Yelp. Writing for *The Verge*, Ben Popper and Ellis Hamburger explained the two apps' different purposes:

> Swarm will be a social heat map, helping users find friends nearby and check in to share their location. The new Foursquare will ditch the check-in and focus solely on exploration and discovery, finally positioning itself as a true Yelp-killer in the battle to provide great local search.[7]

Splitting Swarm from the Foursquare app has not turned out to be a panacea. Over the past few years, many industry analysts have doubted its long-term financial solvency. Foursquare has lost its status as an *it company*. In Figure P.1, Google Trends shows just how far the company has fallen.

Something had to give.

On January 14, 2016, COO Jeff Glueck replaced Crowley as CEO. On the same day that that long-rumored change of leadership took place, Foursquare bit the bullet and announced a new investor lifeline at a fraction of its prior valuation. Yes, the company and its employees had to endure the ignominy of the dreaded *down round*. As Mike Isaac wrote for the *New York Times*:

> Foursquare said it had raised $45 million in a new round of venture funding, as it tries to bolster its location data-based advertising and developer businesses. The financing pegs Foursquare's valuation at *roughly half* of the approximately $650 million that it was valued at in its last round in 2013, according to three people with knowledge of the deal's terms, who spoke on the condition of anonymity.[8] [Emphasis mine.]

Despite Foursquare's well-documented struggles, the app still sports a reported 50 million monthly active users.[9] As Bloomberg TV's Cory Johnson is fond of saying, "That ain't nothin'." Was it possible that Foursquare's next and ultimately best business model was staring its management in the face?

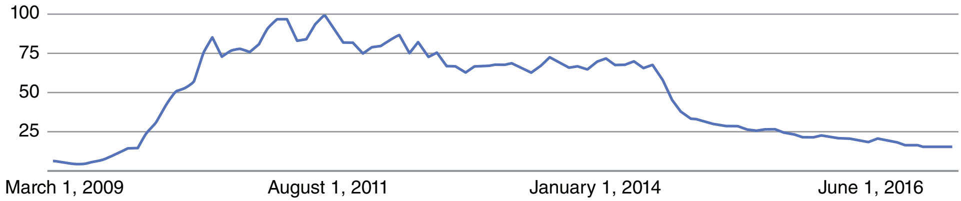

Figure P.1 Foursquare Interest over Time, March 1, 2009, to March 29, 2017
Source: Google Trends.

Version 3.0: A Data-Induced "Pivot"

On April 12, 2016, Glueck penned a fascinating post on Medium[10] that qualified as *bragging* or at least *posturing*. The Foursquare CEO revealed how his company collated user check-in data and other variables to accurately predict Chipotle's first-quarter sales. (The number dropped nearly 30 percent compared to the fourth quarter of 2015.)

As anyone who has studied retail knows, *foot traffic* isn't a terribly innovative concept these days. Brick-and-mortar retailers have known for many decades that it can serve as a valuable proxy for sales and revenue. All else being equal, there's a direct relationship between the former and the latter. Still, Glueck's lengthy data- and graph-laden article illustrated the power of "digital" foot traffic. Figure P.2 shows one of the post's charts.

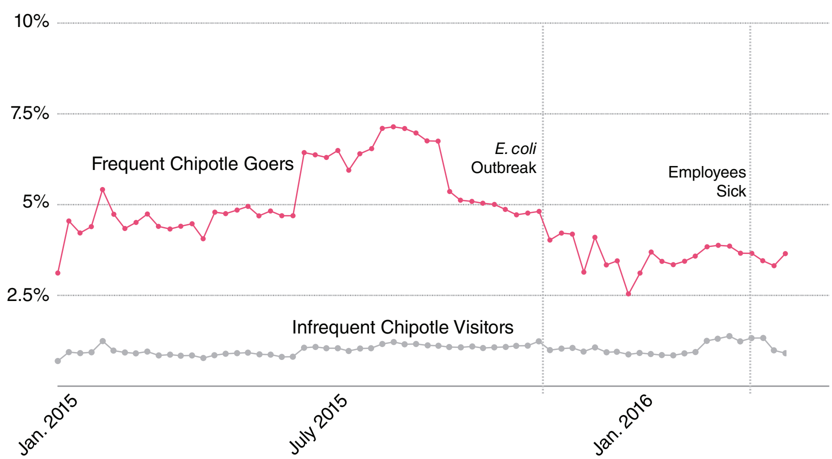

Figure P.2 Chipotle Share of Restaurant Foot Traffic (Week over Week)
Source: Foursquare Medium feed.

Glueck's post does not formally ask the following questions, but it certainly implies them:

- What if Foursquare could harness this type of data en masse and tie it to detailed user demographic information? (Foursquare allows its users to log in via Facebook, arguably the world's richest data trove.)
- Would companies with physical presences be willing to pony up for this kind of information? (Better question: Why *wouldn't* they be willing to pay handsomely for it?)
- What about opportunistic hedge-fund managers looking to outsmart the market? What about the Bill Ackmans of the world?
- Could Chipotle use location-based information to offer different deals and coupons to its growing number of ex-customers? Could Foursquare help Chipotle rescue customers? Could it be a means to an end?
- Would any chain restaurants be willing to pay Foursquare *not* to release this type of damning information? (Admittedly, this might qualify as *blackmail* or at least as *unethical*.)

Glueck wasn't just speculating about what his company could theoretically offer. As it turns out, Foursquare no longer just sells in-app ads to local bars and restaurants; an unknown but evidently increasing revenue stream for the company involves "renting" its data to interested parties. Foursquare's new Place Insights service purportedly offers:

- Insights from the world's largest opt-in foot traffic panel
- Overnight analysis of a global, cross-category dataset
- Translation of real-world behavior into business health, trend detection, and consumer insights*

Put differently, Glueck is attempting to redefine Foursquare as a data-licensing company. Just look at the company's website copy in early 2010:

> Foursquare on your phone gives you & your friends new ways of exploring your city. Earn points & unlock badges for discovering new things.†

* See https://enterprise.foursquare.com/insights.
† See http://bit.ly/2oImTsS.

The focus is clearly on the consumer/user. At the time, many companies employed gamification strategies. Now contrast that one with the company's business-first message today:

> Foursquare is a technology company that uses location intelligence to build meaningful consumer experiences and business solutions.*

The differences between Foursquare's early message and its contemporary one could not be more stark. Nothing against Joe Sixpack or Melissa Millennial, but they probably don't understand what *location intelligence* and *meaningful consumer experiences* even mean. I doubt that they would sign up for them. It's a moot point, though, because Foursquare isn't chasing the Joes and Melissas anymore. They don't pay the bills, at least directly.

Given Foursquare's history, its decision to rebrand is no coincidence, nor is its new message isolated to its website. Foursquare now consistently refers to itself as a "location intelligence company." Just view its official Twitter† and Medium‡ feeds. Its blog posts, while certainly informative, are meant to plant a very specific seed in the heads of prospective customers—that is, firms that would benefit from using Foursquare's data. For instance, in a post on Medium dated August 4, 2016, Foursquare claimed that it knew precisely how many women (justifiably) avoided Trump properties during the 2016 presidential election.§ Other posts boast previously successful predictions of Apple iPhone 6 sales and the impact of the decision by McDonald's to sell breakfast all day long.

To use Eric Reis's now-hackneyed term, if Foursquare successfully *pivots*, it would be neither the first in history nor the craziest. YouTube began as "Tune In Hook Up," a dating site redolent of HotorNot.** Instagram used to be Burbn, a location-based gaming and social networking app nearly identical to Foursquare.[11] Before finding its footing with photos, Flickr focused on gaming.

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* See https://foursquare.com/about.

† See https://twitter.com/@foursquare.

‡ See https://medium.com/@foursquare.

§ See http://bit.ly/2lOtPaE.

** See http://mashable.com/2011/02/19/youtube-facts.

Chapter 3 will return to Foursquare in the context of streaming data and application program interfaces. For now, suffice it to say that the current, data-oriented incarnation of Foursquare seems closer than ever to finally capitalizing on its promise.

CHAPTER REVIEW AND DISCUSSION QUESTIONS

- Foot traffic has always mattered. What's different about it today?
- Why would hedge funds and even individual investors be interested in data related to "digital" foot traffic? Can you think of any other uses for this data?
- Why has Foursquare struggled to meet its financial goals? What is it trying to do to finally meet them? Do you think that the company will succeed?

NEXT

Do stories, ideas, questions, and issues such as these interest you? Do you wish that you could use data and analytics in this way? If so, then keep reading. You have found the right book.

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