MOONSHOT

Harnessing the Power of Network Effects

by Andrew Chen

Overview

Software is most certainly eating the world. Its impact is now measured in the billions: the world's leading social network has over 2 billion daily active users; consumers watch over a billion minutes per day of video uploaded by millions of individual creators, streams, and media properties. Our professional workforce — whether based in shiny downtown skyscrapers or out of noisy coffee shops — runs software to collaborate and share documents and files, built on a multi-hundred billion dollar cloud software industry. The largest hotel chain in the world, which facilitates over 100 million stays per year and generates billions in bookings for travelers looking for a place to stay, doesn't actually own any hotels at all.

These are among the world's most powerful technology companies, and they are united by the technology industry's most powerful market force: Network effects.

Networks effects are embedded into many of the most ubiquitous and successful tech products around us. When products become more useful as more people use them, it creates a virtuous cycle that can quickly add millions of new users through viral growth — in turn increasing engagement and frequency, leading ultimately to products with millions and sometimes even billions of users. For the past few decades, we've called this collection of outcomes a network effect, and it's incredibly important. Products like eBay, OpenTable, Uber, and Airbnb are all examples of marketplace networks comprised of buyers and sellers. Dropbox, Slack, and Google Suite are workplace collaboration products built from the network of your teammates and coworkers. Instagram, Reddit, YouTube, and Twitter are networks of content creators and consumers. Developer ecosystems like Android and iOS make it possible for consumers to discover and pay for apps, and the developers that build them. These are all very diverse products with different value propositions, target customers, and business models, and yet they all share common DNA — the products are useful because others use them too.

This concept is key to understanding the way that technology is driving the disruption of major industries like commerce, education, media, and transportation — touching the lives of billions of people in the process. It underlies the upward trajectory and dominance of many of our tech giants, and the competitive dynamics between them. It also explains how tiny startups grow into the next generation of

multi-billion dollar enterprises. Network effects help explain why the most important and successful technologies behave the way they do, and how they got there. Network effects also provide a foundation to understand the future — what kinds of new startups and technologies are most likely to succeed, and why.

It turns out that a basic understanding of network effects — that they exist, and that they are important — was mentioned as early as 1908. In their annual report, the American Telephone and Telegraph Company (which we know now as AT&T) referenced the core concept without the contemporary name:

> "A telephone without a connection at the other end of the line is not even a toy or a scientific instrument. It is one of the most useless things in the world. Its value depends on the connection with the other telephone and increases with the number of connections."
> —*Theodore N. Vail, Chairman of the American Telephone and Telegraph Company*

This statement could apply to a telephone network, or a social network, or the chat platform you use at work. Intuitively, it makes sense; if your friends, family, coworkers, or celebrities you know aren't using the same apps that you are, then the network is much less useful — or maybe completely useless. Whether it's a photo-sharing app where you'd want to see their photos, or a file-sharing service you use to access your coworkers latest documents, you want the right people on the network with you. It's a simple idea with profound implications for everything from product design to marketing to business strategy.

In the early 1900s, when Theodore Vail realized that the value of networks lay in its number of connections, the entire American Telegraph and Telephone Company network consisted of merely 600,000 telephones—three for every 100 households. Compare that to 1996: even with the dot com boom in full swing, just 20 million users — 7% of the US population — had access to the internet, mostly via dial-up modems. The networks that we can construct today are several orders of magnitude larger than those of the past, and the ubiquity of the internet, mobile phones, and app stores today is massive. This provides every new upstart access to a global market with billions of potential customers, and gives the dominant companies valuations into the hundreds of billions. The reach of these new products is unprecedented, and the mastery of network effects is what unlocks the potential to build the world's most valuable businesses.

MOONSHOT is about 1) how network effects lie in the center of the world's most important technology companies, and what that means for how technology will develop in the future; and 2) how to launch a company based on network effects, grow and develop it, and compete in a new era of networked products. It is written from the perspective of an insider with first-hand knowledge and direct access to the entrepreneurs and operators who have built some of the most important technology products of our time.

I began to research and to write this book because I found my own understanding of the dynamics of networks to be unforgivably shallow for something so core to the technology industry. I saw first-hand the importance of network effects to Uber, where I spent years working with the executives growing its network of riders and drivers. It reappears as a theme in my new role at Silicon Valley venture capital firm Andreessen Horowitz, where I evaluate thousands of startups per year, many of which are launching new networks in media, marketplaces, and workplace collaboration. Despite this direct experience, it felt like I lacked the vocabulary and the frameworks to articulate the deep nuances of network effects. Many foundational insights from the industry, such as the oft-cited Metcalfe's Law — which states that that the value of a network increases exponentially to the number of users — are actually wrong. The industry lacks the common vocabulary to discuss and evaluate these impacts, let alone describe how to best take advantage of these dynamics. And the way the tech industry currently attempts to describe network effects — as if they are binary, as if products "have" or "don't have" network effects — is both too simplistic and too vague. I'm lucky to have been at Uber during a hyper-growth period, to have seen network dynamics in hundreds of markets around the world, and learned what it's like to compete with fearsome local competitors who have their own strong network effects. There is a set of universal laws and insights that could be — and should be — extracted from both my own messy first-hand experience as well as the stories and lessons of entrepreneurs and operators in the industry. There needs to be a more definitive and concrete understanding of how network effects lie at the heart of customer acquisition, retention, engagement, and monetization. This book provides that common vocabulary and a comprehensive framework for how "networked products" should be defined, launched, and scaled.

The book is organized around a central metaphor — a rocket launch — to describe each stage of the journey. Every network begins with a cold start, where immense energy is needed to break past the gravitational pull of low engagement and churn; this first stage is where most new products fail. The second stage is to scale up the network as it reaches escape velocity and begins to benefit from positive network effects. The final stage is to scale out the network by using the momentum of the existing users

to slingshot into other markets, geographies, and product lines. As these three stages are described, I'll also discuss how network effects create competitive moats, and the dynamics of two networks competing with each other, with examples throughout.

MOONSHOT fills a keyhole in the market, creating a systematic framework that explains the foundations of a ubiquitous topic and popular set of companies. It is a tech business book that shows how wildly successful products are often built using the power of networks, and furthermore, articulates the underlying concepts to explain how the networks were launched, why they grow, and how they compete in the broader market. These insights are based on substantial primary research and first-hand accounts, and provide engaging case studies from the teams who built iconic consumer product from recent past, including Uber, Dropbox, Slack, Tinder, Airbnb, Instagram, YouTube, and others. The book also contrasts these examples with failure cases--from MySpace and Friendster to Hipchat and Digg--resulting in a combination of fast-paced narrative and how-to manual for understanding and using network effects to build a company.

Chapter Summaries

Introduction

The book opens in the midst of an emergency session at Uber in 2015, convening the executive team to address a series of crises with the company's rider/driver networks in their core cities: San Francisco and Los Angeles. The power of network effects had fueled the company's meteoric rise from its founding in 2009 to a valuation of $50 billion with operations in over 500 cities in just 6 short years. However, the network had a vulnerability at its core, with its "power drivers" — the top 15% of drivers that representing over 50% of the trips — who were motivated by higher earnings and would switch to rival platforms like Lyft and Via whenever bigger bonuses were offered. In late 2015, high bonuses driven by intense competition had suddenly caused drivers to switch platforms en masse in two of Uber's most important cities, starting a domino effect of losses. As riders and drivers experienced degraded performance and earnings, even more left, compounding the problem. The team had to act fiercely, and immediately, to reverse the destructive network effects — in the process teaching me that not all network effects are good!

Using this story, I connect Uber's mastery of its city-by-city rideshare networks to the way network effects have become a fundamental concept driving some of the huge technology industry successes in the past decades. Even as these issues are critical to the industry, I argue that we lack an understanding of them, using examples like the problematic origin and use of Metcalfe's Law, the relatively fixed level of comprehension we've had since AT&T's 1900 notes on the topic, and my own struggle with network effects as a venture capital investor.

The Cold Start

Today, online dating services connect hundreds of millions of people to each other, creating new families, lifelong partnerships, or sometimes, just a little bit of fun. Tens of millions of couples have matched using dating apps, and the power of networks — aggregating millions of singles in any city — means people can evaluate thousands of profiles to find their perfect match. It may not surprise you to learn that Tinder, the dominant network in the category, now handles nearly 2 billion swipes per day--but how does a worldwide phenomenon like this get started? It had humble beginnings — at a single party on the USC campus in 2013, where a few hundred students first discovered the right-swipe; through a series of interviews with Tinder's founding team, I present the vivid story of how the product was first launched.

We will see why this approach — creating a small, dense network of users with a strong motivation to connect — is a proven strategy that reappears across the launch strategies of many successful networked products including Slack, Facebook, Twitch, and Yelp. This technique of starting a network in a dense niche is important because initially, networks naturally tend towards self-destruction — in other words, there are “negative network effects” as well as the positive ones that are more commonly discussed. In other words, when a product is first getting off the ground, and there aren’t many users, network effects initially hurt rather than help. After all, who wants to use a dating app or social network with only a handful of strangers to talk to? As friends, acquaintances, and folks close to your own demographics join, the product becomes a lot more compelling. Getting to this critical mass is called the “cold start problem” — and it is a classic and wicked problem that every new product must solve to succeed.

To counteract the gravitational pull of negative network effects, I’ll introduce the concept of an “Atomic Network,” i.e., the minimum set of users that are needed to create a stable, functioning network. This chapter will analyze case studies of picking and launching the atomic networks for Slack, Dropbox, Uber, YouTube, Paypal, and other networked products, and the insights we can take away from their approaches.

Failure to Launch

Most networks fail in their launches; the story of Twitch/Justin.tv follows the difficult journey of one company from launch failure to recovery, then success. In 2018, a record 110 million live viewers watched one of the most popular esports events in the world — the world championship of popular game League of Legends — with an audience ten times the size of Wimbledon. The event was hosted on the video streaming site Twitch, and it’s viewership numbers like these that motivated Amazon to acquire the company for nearly $1B. However, before it became a successful network of streamers and viewers, it was something else: A failing video startup called Justin.tv, featuring just one streamer, its founder Justin Kan, running around with a camera mounted on a baseball cap and a backpack of wireless networking gear. The journey of Justin.tv shows what it looks like for a new network to launch and fail, and the years of experimentation by the entrepreneurs to assimilate customer insights, to find growth hacks, and to create the product and network that ultimately broke through. The breakthrough was counterintuitive — instead of attacking the biggest market letting people stream and watch others stream anything they wanted, the entire focus needed to just be one simple thing: Letting people watch each other play video

games. I explain why this move — to go very, very focused to build something big — is surprisingly, the best strategy to create large-scale network effects.

The difficulty of this journey underscores the truth that most networks fail to reach escape velocity, and that they are more likely to end up like Justin.tv than like Twitch. Why? To answer this question, I propose an alternative to Metcalfe's Law to explain the dynamics of network effects, derived from animal population models for social animals like meerkats and sardines. It turns out these animal populations have dynamics similar to network effects, where a critical mass of population is required for the species to thrive. This is driven by the ability to find mates, but also by the group's ability to resist predators, like the warning system that meerkats use to alert other members of a group that a predator is near. And similar to the overcrowding effects that kick in when a social network's feed gets too crowded with content, there are also negative network effects when there are too many animals living in the same environment. The equations used by ecologists to study these populations — called Allee curves — can be utilized to understand networks of users. I build on the decades of ecological study to provide insights on the rise and fall of network effects for tech products.

I will then get practical, using this framework to examine the root causes of failed network launches, as well as the metrics to diagnose the underlying problems. Getting to escape velocity can often be counterintuitive, since it involves ignoring common business wisdom like focusing on profitability or only taking on efforts that can scale. Instead, the focus should be on finding the right entry point into the market, getting density (rather than scale), and finding an innovative growth hack to catalyze the launch. New networks often take advantage of a growth hack to bootstrap an initial network to break through and hit escape velocity. We'll examine many of the techniques that have been used at some of the largest networked products like Uber, Tinder, Dropbox, Slack, and others. For example, one of the most important teams in Uber's early days was the "Launcher" team, which followed a detailed playbook to build a new network of riders and drivers from scratch. The launchers would start by recruiting the drivers — the supply side — and begin with guaranteed hourly earnings, to activate them on the platform. The riders side would then be launched with a week of free rides, starting with a "Rider Zero," usually a famous local celebrity or politician, like the mayor, to kick things off. If that didn't work, a series of now-famous promotions like "Uber Ice Cream," "Uber Kittens," and regional variations like "Uber Mariachi Band" and "Uber Dragon Dance" were used to jumpstart growth. We look at how each of these tactics were able to break through the obstacles presented by a network effects curve, and how they gradually got easier over time as Uber built its global rideshare network.

Escape Velocity

Once networks have momentum, some wonderful things start to happen: new users start to appear without increased spend on marketing, engagement goes up, and so does monetization. Even so, these aren't magical, all-powerful forces. They come on slowly, need a lot of work to accelerate, and degrade easily. I start with a deep-dive into Dropbox, where within two years of its launch, it was clear that the company had hit escape velocity. It solved the cold start problem quickly, going from zero to 2 million users, rapidly doubling again and again to reach over 500 million users, with minimal spend on marketing or advertising. By 2017, as its IPO neared, Dropbox had become the fastest SaaS company to reach $1B annual recurring revenue run rate, becoming one of the first in a generation of so-called "consumerized enterprise" products that ride on network effects to create adoption in the B2B industry.

Today, many of the most exciting B2B products share network effect dynamics, from Slack, to Google Docs/Sheets, to more specialized tools for designers, like Figma, or for developers, like Github. When a network hits momentum like this, it's easy to see that all the revenue and user engagement is going up and to the right. In this chapter, I'll demystify how network effects actually impact business metrics at a tactical and tangible level — down to the metrics and operations of the business. There are two topics in particular that are very important: viral loops and smile curves. Viral loops are the manifestation of network effects for customer acquisition, delivering new users without marketing spend; we look at how platforms like LinkedIn, which leveraged email address books, and Airbnb, which took advantage of Craigslist postings, have found ways to accelerate viral growth. Smile curves, defined as the metrics-based representation of increased engagement and usage as a network scales, are driven by more network density over time, with more usage, monetization, and reactivation.

Uber, at scale, was able to tap into both of these network effects: one of the most powerful curves I saw at Uber was the company's smile curve, showing that its average users would start to use its service more and more over time — rather than less, which is the norm. We'll discuss how to measure and grow these effects for maximum impact, and how, as a venture capital investor, I look for indicators of successful network effects in new startup investment opportunities.

Space Race

Networks often compete against each other — Facebook versus Friendster, Uber versus Lyft, Slack versus Hipchat. There is a surprising fragility to networks. In fact, they often weaken as they get bigger

and attract competition from rival networks both large and small. The scale effects of a large network eventually begin to plateau as a gravitational pull begins to emerge. There are factors like market saturation, as the network hits the limits of its initial market, and overcrowding, where too many users can pollute social feeds, create too many notifications, and compete against each other for common resources. There are also effects like multi-tenanting and supply professionalization which can kick in as large video streamers, content creators, or marketplace sellers begin to have a profit motive — potentially endangering and commoditizing the consumer user experience.

Success attracts competition. From that standpoint, I'll take a look at competition between rivals from the perspective of a Goliath (the larger network) — and how that will look different from that of the smaller player. I will explain how to best think about network-oriented competition; how it differs from traditional strategies; and how the tactics differ when you're Goliath as opposed to David. When you're the Goliath — the big player in a market — it means your network effects are stronger: you are better at acquiring and engaging users than your rivals. As Uber did with targeted discounts ("25% off your next 5 rides") and driver subsidies, the larger network can inflict negative network effects on their rivals by targeting the highest value users on their networks, prompting them to switch. On the other hand, when you're the smaller player, then the goal is to just catch up by focusing on a niche within your larger competitors' networks, asking their users to try both products — often called "multi-tenanting." This might take the form of encouraging price check: Look at our price and Uber's when the price is being surged! Or it can look like Instagram's initial strategy, to make it easy to publish to both their own network as well as sharing to Facebook, which eventually created a distinct, separate, and highly valuable social photo-sharing network.

These competitive moves and countermoves need to be anchored by an analytics effort that can track the relative size and strength of each network in the market. In the tech industry it is now a best practice to use a new combination of Nielsen-like techniques to understand widespread consumer behaviors: aggregating and analyzing anonymous credit card data to see consumer purchasing trends, tapping into the APIs of mobile app stores to see the trajectory of competitive apps, and using machine learning to estimate numbers and fill in the blanks. This intelligence gathering combined with David and Goliath strategies are key in the tech industry, where a "defensible moat" is not driven by deep technology differentiation — at least not in the last decade — but rather through the mastery of network jiu-jitsu.

Slingshot

Before Yelp was a place to review everything from dentists to national monuments, anywhere in the world, it was a place for millennial tech hipsters to write San Francisco restaurant reviews. Before Paypal was the best way to send money to friends and merchants around the world, it was just a way to pay for collectibles on eBay. This is a common pattern, to start small and then grow into a bigger, larger network: Dropbox started with the startup community, Facebook at Harvard, and Airbnb at SXSW renting out airbeds. Networks usually start in one niche, come to dominate it, and then grow into larger adjacent ones. It is a vital but difficult maneuver to build a large-scale network.

What makes one expansion strategy successful while another fails? For example, even as Facebook took over the rest of the world, it took years for it to figure out Japan, which represented a distinct network on its own. Facebook didn't have success until the social network was properly customized to suit the region. Similarly, it took Dropbox years to succeed in the enterprise market, as its product needed both customization on features like administrative controls and security, as well as an enterprise sales motion to complement the stunning viral growth it was already seeing. I will look at some of the key indicators that a product needs to slingshot into new markets, such as when growth vectors start to slow, and the market begins to saturate.

There are many dimensions of expansions, whether it's jumping into new countries and cities, new product lines, looking at adjacent audience segments, or often a few in combination. As a success case, Uber Eats has been an unequivocal success for Uber, growing to $10B in gross bookings within a few short years — and why is that? In the Uber Eats case, there was a fantastic execution of pivoting its existing network of riders and drivers into a new network of riders-turned-eaters, restaurants, and the delivery drivers to transport the food. Eats allows Uber to reach a new, suburban customer base, and add another product that can be cross-promoted in its products.

Future

In the final chapter of the book, I'll look at the future of networks.

First, I'll speculate on the future of the networks of marketplaces that are reinventing our global economy and the professional lives of billions of people. The trend line is clear — more and more goods and services will be bought via software intermediaries, as online marketplaces have been transforming the way that buyers and sellers have come together in the past few decades, starting with classifieds-inspired listings sites like eBay and Craigslist. Recent years have seen the next wave of

transformations, from companies seeking to “unbundle Craigslist” (like Thumbtack, Care.com, and Angie’s List) to “Uber for X” startups (like Instacart, Doordash and Postmates) to today’s era of “managed marketplaces” (this generation’s new startups like Honor and Wonderschool). I’ll explain each of these transitions, its effects, and how each new era has enabled hundreds of billions of dollars of goods and services to be transacted via apps and websites. But what’s next? Over time, if software intermediates every kind of demand, consumers will experience convenient, push-button experiences for more than just goods like books and appliances: next will be services like housing, childcare, or getting your nails done. It will be transformative to consumers, but even more so to the marketplace’s supply — the workforce of millions of Americans delivering these services. In a world where software intermediates our economy, we will need a workforce that can evolve and retrain as fast as our algorithms can identify supply and demand imbalances in the economy. We will need to think about what happens when tens of millions of members of our workforce are told what to do by software, and what it will mean when the work of the future is bifurcated into two kinds of jobs: ones where you tell computers what to do, and ones where computers tell you what to do. The next generation of billion dollar startups will grow from the industries that are most likely to be disrupted by marketplaces and networks, from across the services sector — in particular regulated ones, like education, fintech, healthcare and transportation, but also many forms of routine work like food service and retail.

Next, we’ll look at the seemingly unstoppable drive towards decentralization for networks in media, publishing and broadcasting networks — and what it means for the future. Nearly a century ago, we started with 3 TV channels; then there were a dozen; then the introduction of cable brought us hundreds. With the advent of the internet, we had thousands of new websites, then millions, and then, user-generated content networks with billions of creators publishing photos, messages, and more. So what's next? I argue that blockchain technologies are next; they are programmable economic protocols that bring together networks without platform owners. The most valuable technology companies are often the builders of the world’s largest networks, and their power — including their ability to extract value — is derived from their ability to create the rules that govern their networks. YouTube centrally decides what content can be published on their platform, and how many ads its users will watch. So what happens in a world where a decentralized network can operate without a ruling corporate entity? We should talk about this, because blockchain technologies will soon enable it. While it may lead to higher degrees of trust and participation, as the rules cannot be changed by the whims of a central network owner, there are significant downsides as well. The same features that might make a decentralized social network able to resist censorship will also make it more difficult to remove harmful or illegal content. Marketplaces are

built on trust, and the ability of a decentralized platform to police inaccurate listings and fraudulent users will require new techniques beyond the centralized ratings systems we use today. I will examine these tradeoffs and more as the future of decentralized networks continues to unfold.

Finally, we'll close with a scene from a gathering of over one hundred of Uber's earliest alumni, organized by some of its first employees. The fastest growing startup in history has produced a new generation of founders and venture capitalists. What kinds of lessons about growth and the power of network effects will they bring to their next endeavors?

Market

MOONSHOT will combine three unique factors to differentiate itself: 1) highly-accessible vocabulary and frameworks that resonate with a broad business audience; 2) first-person knowledge and narrative of a critical period within one of the fastest growing companies in history; and 3) extensive, detailed interviews with dozens of founders and teams who have created iconic consumer tech companies.

MOONSHOT is intended to be a mainstream business book, but with several focused audiences in mind:

1. Readers of the author's blog, newsletter, and social media audiences, who are already heavily engaged in analytical/strategic content about the tech industry. This audience includes Silicon Valley insiders such as the CEOs and executives of companies like Uber, Slack, Dropbox, Microsoft, and top venture capital firms.
2. The broader core target audience consists of technology professionals at startups and technology companies, as well as professionals in other industries seeking to understand the technology industry more deeply, and students studying business and technology.
3. The broadest audience includes mainstream business readers, investors, and entrepreneurs. The examples and stories in the book focus on some of the most widely used products on the planet, creating a relatable, idea-driven narrative on important business concepts. Network effects are a foundational business idea and play a key role in technology but also a wide range of traditional industries, including telecommunications, retail, banking, media and broadcasting, and many more.

About the Author

Andrew Chen is a general partner at Andreessen Horowitz, investing in consumer startups. Previously, Chen spent nearly 3 years at Uber, where he led Rider Growth — focusing on acquisition, new user experience, churn, and notifications/email — and where weekly meetings with the CEO and executive team gave him privileged insight into key strategies and decisions. During his time at the company, he saw the company grow from 15 million active customers to over 100 million, and from 4,000 employees to 15,000.

Chen has a wide social media following, including a professional blog that he has published for nearly a decade, and for which he has written over 700 essays. The blog's newsletter has over 130k email subscribers (200k expected by EOY 2019), and Chen has over 130k followers on Twitter. Among his subscribers and followers are founders/executives from hundreds of startups and Fortune 500 companies. Chen has been quoted in publications such as *New York Times*, *Wall Street Journal*, *Wired*, *Fortune*, and many others as an expert on mobile and digital media.

Chen is an advisor and investor for dozens of tech startups including AngelList, Barkbox, Boba Guys, Dropbox, Front, Gusto, Product Hunt, Sandbox VR, Tinder, Workato and others. He holds a B.S. in Applied Mathematics from the University of Washington, where he graduated at the age of 19.

Related Books

The book that is closest in concept to MOONSHOT is *Crossing the Chasm: Marketing and Selling Disruptive Products to Mainstream Customers*, by Geoffrey Moore (Harper Collins, 1991). In this 30-year old classic, Moore clearly described an already well-known and important idea called the “Technology Adoption Curve” — also adding nuance and complexity to the concept in practice. Like Moonshot, *Crossing the Chasm* also broke down the problem of introducing a new product into discrete steps, with specific challenges and opportunities, plus case studies to illustrate. In much the same way, MOONSHOT builds on the core, critical idea of network effects in the new era of the important technology companies in our time, and provides a systematic lens to both understand and recreate their success. It incorporates cutting edge stories, with an insider's access to the entrepreneurs and operators who built some of our most beloved products.

There are several books written by journalists covering recent startups that MOONSHOT also covers, specifically Uber and Airbnb, such as ***The Upstarts****: How Uber, Airbnb, and the Killer Companies of the New Silicon Valley Are Changing the World by Brad Stone* (Little, Brown and Company) and ***Wild Ride****: Inside Uber's Quest for World Domination* by Adam Lashinsky (Portfolio). These, however, are written as narrative nonfiction, and focus more on characters and the companies’ stories. MOONSHOT aims to start with a strategic framework for understanding a core concept and add examples and stories from these companies and others — but at the service of understanding networks effects and how to implement them.

Finally, there are several books from academics that focus on marketplaces and multi-sided platforms: ***Matchmakers****: The New Economics of Multisided Platforms* by David S. Evans and Richard (Harvard Business Review Press); ***Platform Revolution****: How Networked Markets Are Transforming the Economy--and How to Make Them Work for You* by Geoffrey Parker. (W. W. Norton & Company). These books are authored by professors, whereas I’m a technology industry insider. As a result of their academic backgrounds, the books focus on a high-level point of view on the subject, discussing everything from policy questions, monetization, and strategic frameworks. In contrast, MOONSHOT will written from the perspective of an operator and industry expert — it will provide a how-to guide for professionals and practitioners in the technology industry, with an expert POV on how to build, launch, operate a networked product.