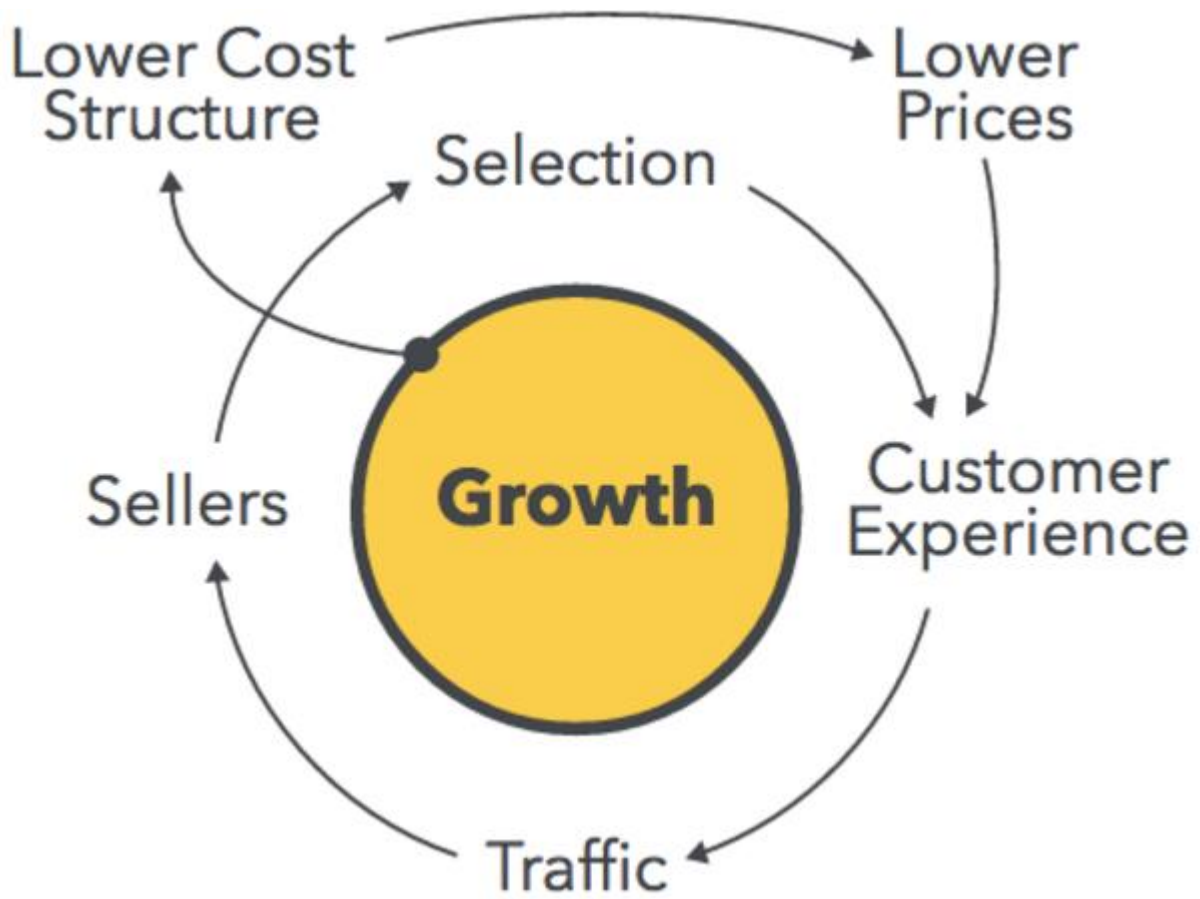




# On Platforms

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## Intro

The hope is that these “teacher’s reference guides” help highlight and clarify the key terms and concepts of the topic at hand.

This guide focuses specifically on platform businesses. At its most basic level, platforms create a valuable ecosystem by 1) bringing together groups of consumers and producers, 2) by enabling efficient and accretive interactions through rules and incentives, 3) by curating content and participants, 4) by reducing frictions and 5) using advanced data capture and analysis to continuously improve the platform. Platforms are becoming increasingly powerful and dominant as technology is constantly lowering distribution and transaction costs, advancing data analysis is allowing for more curated content to be effectively distributed and more sophisticated algorithms allow for better decision-making.

Network effects are a platform’s biggest competitive advantage and occurs when each individual producer or consumer adds incremental value to every other producer or consumer. Platforms do not create any content and do not control their most important asset, the users, but the ecosystem they create, foster and curate creates exceptional value. Many of today’s dominant businesses are platforms and it seems likely that this business model will be dominant for the foreseeable future.

So, why is this exciting and worth spending time understanding? Because platforms unlock tremendous value by reducing frictions and righting certain market failures. Because they bring on additional supply and demand, in effect expanding the overall market. Because they can help make possible what used to seem impossible. Because these will be the companies which can change the world.

Please note that this guide is something I plan to update, iterate, improve and expand upon over time. There are surely flaws throughout and parts which true experts would disagree with. I welcome any questions, comments and corrections in this quest to better understand platforms companies!

## Key Terms & Concepts

### *The Goal of Platforms*

The goal of platforms is to mediate and enable interactions between producers and consumers in a repeatable, sustainable and efficient manner. This means that core to the entire enterprise is the interaction it fosters and not the technology. The technology should be built only after understanding the interaction that needs to occur. Without this in mind, one often ends up overemphasizing the technology and building a platform that nobody wants to use. This interaction-first mindset allows designers to hone in on the tools and services, rules and incentives, curation mechanisms and data capture which truly matter to build the most valuable platform for all relevant parties.



## *The Platform Business Model*

Platforms are a business model, a holistic description of the way a company creates, delivers, and captures value rather than simply a piece of technology. With the goal of sustainably enabling frictionless interaction, platforms aim to create technology to help connect at least two or more different types of customers in an interactive ecosystem and to facilitate valuable interactions. This business model has existed for centuries (think of bazaars or night clubs) but has grown to unprecedented scale since the early 2000s in part due to the “Connected Revolution.” This revolution includes the democratization of processing power, the declining cost of communication, the rise of ubiquitous connectivity and sensors and growing returns to scale on data analysis. In addition, lower storage costs, lower information processing costs, decentralized production and the rise of AI also allows for ever-decreasing costs of transacting. Platforms have an inherent advantage over traditional businesses as they typically don’t have high fixed costs and are able to bring zero marginal cost to the supply side. Part of their power lies in that they become exponentially more efficient the larger they become as expenses don't grow as quickly as revenues do and network effects take over.

Core to designing an effective platform is sociological insight and continuous behavior design. This culminates in four core functions which every platform must take into account: audience building, matchmaking the right consumers to the right producers, providing core tools and services and creating rules and standards to foster the community and interactions you deem desirable for your platform.

Often a platform’s most important resource, the ecosystem it fosters, is external to the organization. Value has moved from creating products and services to facilitating connections between external producers and consumers, thus becoming the center of exchange. This curation and management of the network is one of the platform’s most important jobs. The firm no longer invests in production but rather in building the infrastructure and tools to support and grow an open, participative, plug-and-play infrastructure for producers and consumers to efficiently interact, to curate the participants and content on the platform and to govern the social and economic interactions that ensue. In essence, platforms are correcting market failures by more efficiently allocating resources. Local knowledge is local no more and this leads to the improved possibility and efficiency of “central planning” through large organizations.

Platforms don't even try to guess what customers want, they simply facilitate interactions. An often overlooked platform phenomenon is the fact that they bring hidden demand and supply into the market, expanding the overall pie. For example, many more people use Uber than ever used taxis because it has become cheaper, more convenient and faster than ever before.

Following are some of the most important considerations to take into account when building and designing a platform:

Core Value Unit – The core value unit is the minimum standalone unit of value that is created on top of the platform. It represents supply or inventory created on top of the platform and without this, the platform has very little value in and of itself. At the beginning, a platform should strive to have the highest standalone value possible, where producers and/or consumers get value from



participating on the platform even if the other side never shows up. This gives people an incentive to join the platform although network effects are weak early in the platform's lifecycle. The core value unit can include goods, standardized services, non-standardized services, apps, data and more.

Core Interactions – The core interaction is the set of actions producers and consumers must complete in order to exchange value. It is the most important aspect to get right and typically has three core areas: participants, the value unit (any info which helps users decide if they want to proceed, like the price and description of an item on eBay) and the filter (search query or any other filter which effectively provides users with only the value units they're interested in). These three must be effectively designed to make the core interaction as frictionless and value-additive as possible. All actions in the core interaction fall into one of the following buckets: creation, connection, curation, customization, consumption and compensation. The key to creating a powerful and scalable platform lies in simplifying each of these actions as much as possible and thus making the complexity of the core interaction as low as possible. As it is inevitable that participants will use the platform in ways the designers never anticipated, it is important to build into the system modularity which yields to complex adaptive behavior and allows for unexpected, emergent behavior to grow and expand over time.

Plug-and-Play – At their core, platforms enable a plug-and-play business model where other businesses can easily connect their business with the platform, build products and services on top of it, and co-create value. Platforms primarily benefit not from internal production but from a wider source of open co-creation and open market interactions. This ability to drive interactions through a plug-and-play infrastructure is a defining characteristic of platform scale.

Monopolistic tendencies – Platforms tend to lead to winner-take-all scenarios because of the scale of usage and participation, not ownership of resources like in the past. Platforms are natural monopolies as having many platforms in a specific economy or industry would lead to higher costs (of some sort) to users. Winner-take-all scenarios play out because platforms become increasingly powerful and efficient the larger they become.

Scaling – Platforms can become so powerful and big in record time because they create value with resources they don't own or control and this allows them to scale at unprecedented rates. Platform scale is achieved by maximizing the repeatability and efficiency of the platform's core interaction. Interactions must be executed smoothly and in a manner which kick-starts the next interaction organically. Achieving platform scale requires the ability to scale value creation with value exchange – the ability to scale production and consumption simultaneously – and to repeat the two so that each reinforces the other. There are five key drivers of platform scale: minimal marginal costs of production and distribution, network effects powered by positive feedback, behavior design and community culture, learning filters and virality.

Curation – Skillful curation is extremely important as platforms tend to devolve in quality as the size increases. Curation and reputation of content and participants are the new quality control and is achieved by limiting poor behavior and interaction risks through design, incentives, screening, algorithms and community support through ratings and voting. A large network isn't a moat if it is polluted with bad actors and largely removes first-mover advantages (as happened with



Chatroulette). While important, growth is not an end in itself and while incumbents have advantages over newer, smaller entrants, it only matters if the advantage is sustainable. Platforms tend to be path dependent, meaning that the types of users your network will attract in the future depends on the composition and behavior of your network's existing users. This path-dependent nature of networks makes platform design especially crucial early on. Who uses a platform at the start can have a big effect on the growth trajectory and this is important to take into account early on as you have the most leverage to shape the community and its culture when the network is still forming. A common way for new platforms to accomplish this is to limit participation to a high-value subset of users at the start. Quality begets quality.

Pricing – Platforms have to take into account the relative pricing on all sides of the platform, how much to charge and how much to earn on each side relative to the other side. One side tends to be subsidized and figuring out the price structure is crucial. The platform can often make more overall profit by actually losing money on one side as it can attract more users overall. Price sensitivity, whether to charge access or usage fees or both are important to consider and it is important to charge those who are the least price sensitive. Often a good strategy is not to charge either side early on but simply take a small transaction fee. Transactions will occur and to the users it will only feel like a small tax on the service provided by the platform. Another good tactic is to charge companies for postmortems to help them understand what they did well and where they can improve. Other effective pricing tactics include charging for access or enhanced access or employing a “freemium” model. The platform should try to keep as many monetization opportunities open for as long as possible.

Incentives – It is impossible to get everyone on each side of the network to all agree to join the network at the same time so that everyone benefits so the platform must incentivize users to join via monetary subsidies, product feature subsidies and/or user sequencing (prioritizing the acquisition of certain user groups that others will want to interact with). Value creation for platforms directly depends on what kinds of currency are being exchanged and how much of it the platform can capture. Every exchange between producers or consumers involves three things: information, goods or services and some sort of currency (money, attention, reputation, likes, reviews, ratings, shares, comments, follows or other forms of social currency). Thoughtful design of incentives is key as it will drive the type of behavior and interactions you desire and limit the undesirable ones.

Openness – As platforms by definition derive value from external producers and consumers, it is key to find the right level of openness – the level of influence these external players can have on the design, product, service, behavior, etc. of the platform. While more openness encourages innovation, it also gives up much control and can quickly lead down a path of lower quality. Determining how open, which areas to leave open and how users can participate is absolutely vital and has immense strategic repercussions and is why openness is at the top of every platform manager's agenda. There are generally three key decisions about degrees of openness: decisions regarding manager and sponsor participation, developer participation and user participation. There are proprietary models like Apple initially which control the whole ecosystem, licensing models like Google with Android, joint ventures like Visa early on and shared like Linux. As a platform manager, you cannot let an outside developer drive too much of the value creation on the platform. In this case, either buy the app or the company that created it, as Apple did with Siri. Platforms in



similar arenas may choose to differentiate themselves through varying levels of openness. Absolute openness is almost never chosen because it can't always be relied upon to be fair and satisfactory for all.

Data – Data is the new oil as it fuels growth and aids ecosystem optimization. The importance of data aggregation and analysis cannot be overstated. The more data a platform has about its producers, consumers, their habits, their interactions, their preferences, their behaviors, etc., the more focused, customizable and potentially lucrative interactions they can help foster.

Trust – Strong trust mechanisms are vital and can be thought about in the following seven areas: confirmed identity, centralized moderation, community feedback, codified behavior, culture, completeness and cover. It is important to replace individual trust with trust in the platform through those 7 C's as well as through strong filters, curation and relevance.

Tools and Services – The distinction between tools and services has to do with what a platform chooses to centralize. Tools are self-service and decentralized. Anyone can use them and they don't require ongoing involvement or assistance from the platform. Tools typically include much of the technology and software products that will help users create value and connect with each other. Services are centralized, and require continued involvement from the platform. Customer support is the most common example and it's a service most platforms have to offer. Tools or services that don't line up with one of the key steps in the core transaction are often unnecessary and platform entrepreneurs often make the mistake of trying from the start to add every tool that they think users might want.

Governance – Good governance is determined by rules which outline who gets to participate in an ecosystem, how to divide the value created and how to solve conflicts. Good governance increases trust and transparency thereby enabling good interactions to occur, allows people on different sides of the market to find each other more easily, minimizes congestion when too many people are involved or quality is too low and minimizes repugnant activity. The scale and scope of today's largest platforms like Facebook and Alibaba often have direct or indirect consequences on tens of millions of people and hundreds of billions of dollars. They can learn much from cities and states – namely, how best to create wealth and distribute it fairly. There are four broad tools of good governance which states use but should be adopted by platforms: laws, norms, architecture and markets. In addition, they must act consistently, can't play favorites, can't promise not to change but simply promise early notice, must have skin in the game, can provide differentiated access and value but must clarify who or what qualifies, must promote the welfare and health of partners, especially smaller partners and can't take an "unfair" amount of the value created. Governance failures occur because of information asymmetries, externalities, monopoly power and risk.

Metrics – The goal is to measure the rate of sustainable and desirable interaction success and the factors which contribute to it. Pipelines are more concerned with flow of value through the pipeline but platform managers care more about value creation for the whole ecosystem, both on and off the platform. Revenues, cash flow, profitability are key to pipelines but less relevant for platforms during their startup phase. Once critical mass is attained, conversion of active users to customers can take priority. The metrics used to measure what really matter evolves as the platform scales. Metrics during the startup phase should measure the core interaction and the value it creates for



both consumers and producers, including liquidity and illiquidity (% of listings which lead to interactions within a given time period), matching quality and trust. Metrics during the growth phase include a measure of failed interactions, producer fraud, and producer and consumer lifetime values. Metrics during the maturity phase should measure incremental innovation through studying extensions built on top of the platform. It is important to keep in mind that at the end of the day, the most important metric is the number of happy customers on every side of the network who are repeatedly and increasingly involved in positive interactions.

Regulation – Future policy, regulation and tax regimes will need to adapt and evolve to take platforms into account since they provide so much value to both producers and consumers. It is important for government regulation to not limit the market power of these platform businesses – a move that would likely diminish overall consumer welfare – but rather to address the behavior of these businesses in specific areas of concern.

### *Pipes vs. Platforms*

It is helpful to view traditional, linear businesses as pipelines in the sense that they build products or craft services, push them out, and sell them to customers. Value is produced upstream and consumed downstream, creating a linear flow of value, much like water flowing through a pipe. While still powerful, pipes today are falling behind platforms as they cannot scale nearly as quickly or efficiently. Pipes traditionally dominated through increased efficiency from supply economies of scale (owning production or resources) but platforms tend to dominate from demand economies of scale – taking advantage of efficiencies from technological advancements on the demand side such as efficiencies in social networks. This pits high fixed cost companies against low fixed cost companies, as seen in the disruption of the hotel industry by AirBnb.

Platforms can scale exponentially rather than linearly for a number of reasons such as: having the ability to incorporate products and services of outside partners into activities and capabilities of the platform, removal of gatekeepers which typically slow down the flow of information from producers and consumers, "unbundle" services so consumers can get exactly what they want for less, bring new sources of supply online, have superior marginal economics of production and distribution and, most powerfully, take advantage of massive network effects. Value creation is still dependent on aggregation, but not of labor or resources. Rather, the aggregation of consumers and producers creates a powerful ecosystem which can be thought of as the new warehouse and supply chain which are able to scale through network effects.

Platforms have shown such success not only because of this ability to scale but because it tends to expand the pie rather than just taking share of a fixed market (like Amazon was able to do with Kindle and self-publishing) or go sideways and create new markets with new supply (like Uber did with transportation).

Andreesen’s quip about “software eating the world” is evolving into platforms eating pipelines as they enable efficient social and business interactions at unprecedented levels. The Internet is no longer just a distribution channel, a pipeline, but also acts as a creation infrastructure and coordination mechanism which is only today beginning to be understood and exploited.





## *Network Effects & Virality*

Network effects are one of the platform's major competitive advantages but can also quickly lead to its demise. Positive effects occur when additional value is created for each new member that joins a network and this is the principal competitive advantage of platforms. It encourages an open, cooperative interaction which removes friction from matching suppliers and consumers while also removing barriers of time and space. Networks are much harder to duplicate than features and many believe are the strongest economic moat of all. Negative network effects occur when interaction efficiency and repeatability diminishes to the point that users begin abandoning the platform en masse. If the critical tipping point is reached, the platform may become nearly useless.

To achieve sustainable scale, a platform needs to scale both the quantity and the quality of interactions that it enables. A scaling strategy for platforms should involve scaling of production, scaling of consumption, strengthening of filters through ongoing data acquisition, scaling social curation, scaling community culture and minimizing interaction risk.

The great network effects mistake was that it assumed multi-sided platforms followed the same rules as one-sided network effect companies where there was only one type of customer when in fact there are many. Multi-sided platforms have indirect network effects. For example, an additional diner on OpenTable directly benefits restaurants rather than other diners. Building share first and fast doesn't apply as much to multi-sided platforms and in fact the first movers often die. It is important to recognize that indirect network effects also work negatively and therefore dominance can dissolve relatively quickly. Important to not only have a lot of customers on both sides but also the *right* customers whom the other side wants to interact with (a lot of restaurants and also the right restaurants).

Another big mistake is to think that any new user is as good as any other but this is not true and means that not all growth is equally valuable and at times each new user can have a negative effect on other users. Not every potential connection in a network is relevant and some users are more valuable than you think. In other words, many network effects are local, not global.

There are several forms of network effects such as, 1) data-driven network effects where the more users and therefore the more data you have, the more effectively you can curate, 2) same-side network effects where consumers affect consumers and producers affect producers and 3) cross-side network effects where consumers affect producers and vice versa.

It is important to understand the difference between network effects and virality as there are some key differences. Virality is about attracting people to join the network and network effects is about delivering additional value once on the platform – temporary vs. sustainable reasons to join the network.

Virality is a design problem, not an optimization problem and must take into account sender incentives, choice of the external network to incorporate into the platform and recipient incentives. There are four key optimization priorities for achieving sustainable viral growth: maximizing the outflow of units from the platform, ensuring that units spread on the external network, maximizing clicks on an external network and minimizing cycle time.



There are many misconceptions about virality but some of the most common include 1) virality and word of mouth are two names for the same phenomenon (virality a consequence of users using the platform, not loving the offering), 2) virality does not need fans, it merely needs users who are encouraged to bring in other users, 3) virality and network effects are the same and lead to rapid growth (open platforms like email do not benefit from network effects whereas closed ones do, but both can have virality), 4) virality is all one needs for a growth strategy (should be complemented with other user-acquisition models) and, 5) virality involves manipulating users to send out invites to other potential users.

### *The Chicken and the Egg Problem*

All platforms face the “chicken and the egg” problem as an ecosystem with no consumers is not valuable to producers and vice versa. Overcoming this problem is one of the toughest problems a platform will ever face but once critical mass is reached, the minimum network size at which there are enough producers and consumers of value on the platform to ensure that interactions spark off reliably, it will have built an incredible moat.

In *Platform Revolution* by Choudary, Van Alstyne and Parker, they dive deeply into many of the solutions which are worth studying but, broadly, solutions to the chicken and egg problems tend to have one of the following five design characteristics: finding a compelling bait to start the loop, ensuring there is no friction in the feedback loop, minimizing the time it takes for the startup to reach critical mass, incentivizing the user that is more difficult to attract and staging the creation of two-sided markets.

Some examples of these solutions include monetary subsidies (provide security and confidence through a large, up-front investment and cooperate with industry incumbents), product features (platform can act as its own producer early on and tap into an existing network – digital or otherwise) and monetary subsidies and product features (attract high-value or celebrity users and target a user group to fill both sides).

### *Finding Future Platform Opportunities*

Due to the numerous technological and social trends highlighted in the platform business model section, it seems highly likely that platforms will only play an increasingly large role in our lives and economies moving forward. Spotting new areas where platforms could cause disruption could lead to potential business opportunities or make for a fantastic investment.

Education, certain sectors within finance, the Internet of Things and renewable energy may be the most prime for disruption by platforms. Other potential areas for disruption include industries with non-scalable gatekeepers (publishers), highly fragmented industries as well as companies with important information close to the source (media and telecom). Industries which are more likely



to fight off platforms include industries with regulatory control (healthcare), high failure costs (banks) and high resource industries (energy and mining).

Platform opportunities tend to arise when technology enables reduced transaction costs and the elimination of gatekeepers. Look for implicit or underserved networks, build on top of existing networks and behaviors (like Facebook did with already existing college campus networks) and look for large, fragmented and untapped sources of supply.

Some key questions to ask regarding future platform opportunities:

- What's the friction, how big is it and who benefits from solving it?
- Does the platform reduce this friction, balance the interests of all sides and do it better than other entrants?
- How hard is the admission problem and does the entrepreneur have a good plan for achieving critical mass?
- Are the prices for admission and growth high enough for the platform to make money?
- How is the matchmaker going to work with others in the broader ecosystem, does it face related risks and has it dealt with it?
- Is the entrepreneur ready to shift the design and admission quickly to respond to market reactions?
- Who's participating in the platform and how does the platform create value for the users
- How is the platform designed to promote interactions among participants?
- How does the platform use prices to encourage participation? Does it have rules and standards? Is anyone subsidized? How do these affect the ability of the platform to create value?
- How did or will it solve the chicken and egg problem?



# Appendix

## Books

- *Platform Revolution* by Geoffrey Parker, Marshall Van Alstyne, Sangeet Paul Choudary
  - If interested in this space, this is definitely the book to start with
- *Platform Scale* by Sangeet Paul Choudary
- *Modern Monopolies* by Nicholas Johnson and Alex Moazed
- *Matchmakers: The New Economics of Multi-Sided Platforms* by David Evans and Richard Schmalensee
- *Resilience: Why Things Bounce Back* by Andrew Zolli and Ann Marie Healy
- *What Technology Wants* by Kevin Kelly
- *Alibaba: The House That Jack Ma Built* by Duncan Clark
- *The JD.com Story* by Li Zhigang
- *Zillow Talk: The New Rules of Real Estate* by Spencer Rascoff and Stan Humphries

## Other

- Harvard Business Review – [The New Rules for Bringing Innovation to Market, Strategies for Two-Sided Markets](#)
- Wikipedia articles relating to platforms – [Two-Sided Markets](#), [Network Effects](#), [Airbnb](#), [Uber](#), [Microsoft](#), [TripAdvisor](#), [Google](#), [JD.com](#), [Amazon](#), [Netflix](#), [Facebook](#), [GrubHub](#), [eBay](#), [YouTube](#), [Wikipedia](#), [Alibaba](#), [Pinterest](#), [Instagram](#), [WhatsApp](#), [Snap](#), [Priceline](#), [Zillow](#), [PayPal](#)
- [Stratechery](#) – great blog which touches on the power of platforms as well as media, technology and strategy
- Invest Like the Best podcast with [Alex Moazed](#)
- [Deep Learning Class](#)



# *Platform Revolution* by Geoffrey Parker, Marshall Van Alstyne, Sangeet Paul Choudary

## Summary

1. This book seeks to describe how and why platforms are coming to dominate the market today ranging from Google, AirBnb, Uber, Amazon, eBay, Alibaba, PayPal, Kayak, Facebook, YouTube, Wikipedia, Pinterest, Instagram and more

## Key Takeaways

1. The platform business model
  1. One which uses technology to connect people, organizations and resources in an interactive ecosystem in which incredible amounts of value can be created and exchanged.
  2. Network effects are the main source of value creation and competitive advantage in a platform business – It encourages an open, cooperative interaction which removes friction from matching suppliers and consumers, also removing barriers of time and space.
  3. Frictionless entry to the network is key.
  4. Because they create value with resources they don't own or control, they can grow much more rapidly.
  5. Side switching, ability for consumers to easily become producers, is also important
2. Traditional linear businesses, aka pipelines, cannot scale as efficiently as platforms since platforms eliminate gatekeepers which typically slow down flow of information from producers and consumers. Platforms can also "unbundle" services so consumers can get exactly what they want for less. Everyone wins except for the traditional players. Platforms bring new sources of supply online and pits high fixed cost companies against low fixed cost companies (Hyatt vs AirBnb)
3. In platform markets, the nature of supply changes and harnesses feedback from consumers and the community which only used to consume. Platforms use database tools to create community feedback loops in which the users' reputations are always at stake and to determine which projects are most promising
4. Platforms often invert traditional business models by focusing more on functions outside of the business than internal to it
5. Network effects – can be both positive and negative. Positive effects occur when additional value is created for each new member that joins a network. This is the principal competitive advantage of platforms
6. Traditional businesses dominated through supply economies of scale – efficiencies in production from scale. New businesses tend to dominate from demand economies of scale – take advantage of efficiencies from technological advancements on the demand side such as efficiencies in social networks. This is one of the key reasons network effects are so powerful
7. Two sided markets feed the network effects. At Uber, riders attract drivers and drivers attract riders in a powerful positive feedback loop



8. Important to distinguish between network, price and brand effects. Network effects leads to a virtuous cycle that is more sustainable whereas price and brand can be fads or not as sustainable. Most platform failures rely mostly on price or brand effects
9. Virality about attracting people to join network, network effects about delivering more value once on platform. Temporary vs. sustainable
10. Skillful curation helps mitigate negative network effects (OK Cupid and how originally all men flocked to most beautiful women who then left, and then men left because there were no more attractive women)
11. Data driven network effects – the more users and therefore the more data you have, the more effectively you can curate
12. Same side network effects – the effects consumers have on other consumers and producers on producers
13. Cross side network effects – effects consumers have on producers and vice versa
14. 4 broad buckets for different companies – asset providers (Ford), service providers (United Healthcare), technology providers (Microsoft), network organizers (platform businesses and are the most efficient value creators)
15. Every exchange between producers or consumers involves 3 things – information, goods or services and some sort of currency (money, attention / reputation / other forms of social currency)
  1. Value creation for platform directly depends on what kinds of currency are being exchanged and how much of it the platform can capture
16. The why of platform design – core interactions.
  1. The core interaction is the most important form of activity of the platform and has 3 core areas – participants, the value unit (any info which helps users decide if they want to proceed – price and description of item on eBay) and the filter (search query or any other filter which effectively provides users only value units they're interested in). These 3 must be designed very well to make the core interaction as frictionless and value accretive as possible
  2. Platforms don't create value units so platforms are information factories where producers can provide value units
17. The how of platform design – pull, facilitate, match.
  1. Platforms face a chicken and egg problem where consumers won't come if there are no producers and vice versa. Most platforms fail because they don't effectively pull consumers and or producers into the platform. Finding and leveraging feedback loops which drive engagement is vital (FB changed focus from getting new members to helping current members establish new connections)
18. Modularity in a platform is important – structures which are designed independently but can all function together. Subsystems can interact in a way that yields complex adaptive behavior without any one subsystem being too complicated
19. Inevitable that users will use platforms in ways the designers never anticipated. Sometimes the best design is anti-design – allowing space for the bizarre and unanticipated to grow and expand
20. Software eating the world is evolving to platforms eating pipelines. Internet no longer just a distribution channel, a pipeline, but also acts as a creation infrastructure and coordination mechanism. Physical and digital are also rapidly merging. Platforms enjoy two main



advantages – superior marginal economics of production and distribution and network effects allows platforms to scale much more quickly

21. Platforms eliminate barriers to entry, bringing in more supply and therefore competition
22. All platforms struggle early on with quality due to abundance but as the community grows and curation improves, quality typically improves
23. Delinking assets from value allows B2B to move to more profitable B2C
24. Re-intermediation is the process of adding new, nimble, automated, customer rated, value-add middlemen to transactions. Separating ownership from control
25. Nike is one of the most successful pipeline companies turning themselves into a platform. Fuel band, apps, Apple Watch and more helps connect products with platform businesses – fueling growth and keeping customers engaged in a new ecosystem. Eventually allowing them to make better products. Under Armour attempting same thing with purchase of MapMyFitness, MyFitnessPal and Endomondo– all about platforms, data and users, not products.
26. IoT allowing industrial companies like GE potentially create a viable platform
27. Chicken and egg problem with platforms occurs when both sides of the market are equally valuable and PayPal overcame by reducing friction involved in online transactions, making very user friendly, gave new customers money for just signing up (\$10–\$20).
  1. Getting users to sign up is step one, then must realize value and become regular users – user commitment more important than user registration. Multiple positive feedback loops fed at this point and explosive number of customers fueled sellers to promote their acceptance of PayPal. Enabling service on eBay made it even more visible and reduced friction
28. Platforms must rely on pulling in customers rather than push like most pipelines do. Marketing must be built into the platform
29. Knowing value proposition of competitors, even if seemingly similar product or service, can help you structure your own
30. Strategies for beating chicken and egg problem
  1. Follow the rabbit – build on top of already successful pipeline or platform, attracting both consumers and producers (Amazon Marketplace, Intel)
  2. Platform from scratch
    1. Staging value creation – attract initial users who attract more users and so on. Huffington Post started with very high quality content, attracting first consumers to engage more and therefore attracting more users
    2. Designing platform to attract one set of users – critical mass on one side will come to attract other side
    3. Simultaneous onboarding – value for those who first join but increasingly more valuable as more join (Facebook)
  3. Piggyback strategy – connect with a user base from an existing platform and stage the creation of value units to recruit those users
  4. Seeding strategy – create value units for at least one set of users who will then attract other users because they want to interact. Platform owner can be first customer, leading way in showing how to take advantage of value units and what types of rules and interactions are recommended (Google and \$5m prize for best apps when first launched Android; Quora at first would ask and answer their own questions, showing how it's done)



5. The Marquee Strategy – sometimes one side of the market can make or break the platform so targeting them is key (may purchase marquee producer like Microsoft did with Bungee which eventually became Halo)
  6. Single side strategy – develop platform for only one side and then entice other side to join
  7. Producer evangelism strategy – platform helps producers better serve consumers and cross-pollination can then ensue (Kickstarter, Udemy)
  8. Big Bang Adoption Strategy – use one or more push strategies (marketing, etc.) to attract a high volume of interest, creating a nearly fully formed network almost instantaneously. Less effective in today's world with so many ads and distractions
  9. Micro market strategy – target a tiny market which is already engaging in interactions – enables platform to act as a market even in earliest stages of growth
  10. Viral growth (complements all strategies above) – encourages users to spread the word about the platform to other users, network thus becomes the driver of its own growth – positive feedback loop in action
31. Key pillars
1. Sender (love the platform and often get some benefit such as money or notoriety)
  2. Value Unit (spreadable value units' key, can't be secret or hard to spread)
  3. External Network (Instagram leveraging Facebook)
  4. Recipient (responds and spreads word if find enough value)
32. Monetizing platforms – about capturing a portion of excess value created
1. Determine value of platform is step 1 – only way to be sustainable is if it doesn't hamper network effects and even better if it reduces possibility of negative network effects
    1. Consumers – access to value created on the platform
    2. Producers – access to a community or market
    3. Both – access to tools and services which improve interactions
    4. Curation mechanisms – connecting right to consumers with producers through curation is key
  2. Often a good strategy is not to charge either side early on but simply take a small transaction fee. Transaction will occur and feels like only a small tax on the service provided by the platform
  3. Another good tactic is to charge companies for postmortems to help them understand what they did well and where they can improve
  4. Charging for access or enhanced access. Alibaba charges no transaction fees but fueled network effects by paying members who recruited others
  5. Freemium – charge full price to a certain set of customers and give to free or at least subsidized to those who value it less
  6. Charging one side will often drastically reduce volume but drastically improve quality and engagement and discourage second rate participants. Deciding which side to charge and how much is one of the most crucial decisions
  7. Should try to keep as many monetization opportunities open as possible
33. Openness – Determining what users can and cannot do is key
1. No restrictions placed in participation of platform's development, commercialization or use or any restrictions and applied uniformly to all participants





2. Openness encourages innovation but obviously gives up much control
3. Determining how open and which areas to leave open is important – can keep key pillars closed but leave other areas open for others to play with and innovate on. Facebook platform opened up massive innovation of apps
4. As platforms by definition derive value from outside producers and consumers, key to find right level of openness. Defining exactly who should have access to the platform and how they can participate is absolutely vital with huge strategic repercussions and why openness at the top of every platform manager's agenda
5. 3 key decisions about degrees of openness – decisions regarding manager and sponsor participation, developer participation, user participation
  1. Proprietary (Apple), licensing (Google with Android), joint venture (Visa when first started), shared (Linux)
  2. As a platform manager, cannot let an outside developer drive too much of the value creation on the platform – buy the app or the company that created at this point (Apple bought Siri)
  3. Absolute openness is usually not chosen in attempt to provide highest quality but getting a lot of user participation often leads to very engaged and sticky customers – AirBnb customers can also be suppliers
6. Platforms in similar arenas may choose to differentiate themselves through varying levels of openness
34. Data aggregation can be very effective but it must be done appropriately to not feel intrusive or creepy
35. Good governance – set of rules of who gets to participate in an ecosystem, how to divide the value created and how to solve conflicts
  1. Always create value for the consumers you serve, don't use your power to change the rules in your favor, don't take more than your fair share of the wealth (don't make Keurig's mistake of blocking out all competition from coffee making platform)
  2. The scale and scope of today's largest platforms like Facebook and Alibaba often have direct or indirect consequences on tens of millions of people and hundreds of billions of dollars. They can learn much from cities and states – namely, how best to create wealth and distribute it fairly
    1. 1% drop in a state's anti-corruption leads to ~1.7% rise in GDP! Multiplier effect of loyalty, trustworthiness! Singapore is the prime example and has grown GDP at 6.7% for over 50 years. Good governance matters
  3. Absolute openness doesn't work in companies or states because it can't always be relied upon to be fair and satisfactory for all
  4. Governance failures occur because of information asymmetries, externalities, monopoly power and risk
  5. Good governance increases trust and transparency thereby enabling good interactions to occur, allows people on different sides of the market to find each other more easily, minimizes congestion when too many people are involved or quality is too low and minimizes repugnant activity.
  6. 4 tools of good governance (as used by nation states but should be adopted by platforms) – laws, norms, architecture and markets



1. Laws of platforms are its explicit rules which determine behavior by producers and consumers
  2. A dedicated community is one of the most powerful forces a platform can have
  3. Trigger – Action – Reward – Investment is the process platform managers use to entice behavior they want and improve engagement and stickiness
  7. Important to give outside stakeholders as much of a voice as inside stakeholders or else decisions will inevitably be made more for the platform's benefit
  8. Act consistently – commitments to act or not act must be able to be counted upon
  9. Don't surprise people and don't play favorites with news
  10. Don't promise not to change, simply promise early notice
  11. Must have skin in the game
  12. It is alright to provide differentiated access and value but must clarify what qualifies
  13. Promote welfare and health of partners, especially smaller partners
  14. Fairness creates wealth in two main ways – sharing of ideas, wise allocation of resources (less fear of being taken advantage of)
36. Metrics – how to measure what really matters
1. Cash flow, inventory turns, operating income, gross margin, overhead, ROI – the efficiency through which value flows through the pipeline
  2. Must be able to get close to solidly understanding positive network effects and what drives them
  3. Goal is to measure the rate of interaction success and the factors which contribute to it – most powerful metrics quantify the success of the platform in fostering sustainable repetition of desirable interactions
  4. Pipeline more concerned with flow of value through pipeline and platform manager about value creation for whole ecosystem, all users – both on and off platform
  5. Revenues, cash flow, profitability are key to pipelines but largely irrelevant for platforms during startup phase. Once critical mass is attained, conversion of active users to customers can take priority
  6. Crucial to measure extent to which both producers and consumers are interacting on the platform and increasing their participation over time
  7. Metrics during startup phase – core interaction and value it creates for both consumers and producers
    1. Liquidity – first and most important, minimum number of producers and consumer and percentage of successful interactions is high; interaction failure minimized and intent of users to interact is consistently satisfied within a reasonable period of time
      1. Most important metric early on is one that helps determine when liquidity is reached – tracking % of listings which lead to interactions within a given time period
      2. Must also track illiquid situations (such as when an Uber user opens app and sees no cars available)
      3. Most meaningful metrics are comparative ones – either between groups of users or over periods of time
      4. Don't fall into the trap of over-measuring. What matters is having customers who love, rave and repeatedly use your service



2. Matching quality – accuracy of search algorithm and the intuitiveness of search tools to connect with users to start value add interactions
  1. Achieved through product or service curation
  2. Sales conversion rate helpful – % of searches that lead to interactions
3. Trust – degree to which users on a platform feel comfortable with the level of risk associated with interacting on a platform. Achieved through excellent curation of participants on both sides of the platform
4. Actual metrics used to measure these 3 key areas must be relevant to the type of platform, the types of users and producers, forms of value being created and exchanged and so on
  1. Engagement per interaction, time between interaction, % of active users, number of interactions, interaction capture (for platforms taking a stake of every interaction), market access, producer participation
8. Metrics during the growth phase – best metrics will change as company grows and it is important to determine when these inflection points occur
  1. A proxy for interaction success can be measured by the ratio of producers to consumers. The ratio of failed interactions and producer fraud are also important to monitor
  2. Using various metrics, producer and consumer lifetime values can be calculated and various strategies tested to see their effects on these important values
9. Metrics during maturity phase – incremental innovation measured through key metrics must be closely monitored
  1. Studying extensions created by developers is important to keep on top of to see if any changes or adaptations are necessary
  2. Metrics must be actionable, auditable, accessible (comprehensible)
  3. Again, in the end, the most important metric is the number of happy customers on every side of the network who are repeatedly and increasingly involved in positive interactions
  4. Are people happy enough with the ecosystem to continue participating in it actively?
37. Huge advantage of platforms is ability to incorporate products and services of outside partners into activities and capabilities of the platform
38. Believes that sustainable advantages are illusory in today's world with how fast technology is progressing. However, platform businesses tend to expand the pie rather than taking market share of a fixed market (like Amazon was able to do with Kindle and self-publishing) or goes sideways and creates new markets with new supply (like Airbnb did with supply of lodging). However, winner take all situations do lend to longer lasting moats as they encourage users to abandon other platforms – network effects, supply economies of scale, high switching costs and lack of niche specialization
39. Platforms seek exclusive access to essential assets and create the platform to discourage multi-homing (same behavior on different platforms) as this facilitates switching. Apple and not making Flash compatible, Alibaba and not allowing Baidu's bots to crawl their site so that they alone could sell ads to their customers



40. Data is the new oil – fuels growth and aids ecosystem optimization
41. The policy, regulation and tax regimes will need to adapt and evolve to take platforms into account since they provide so much value to both producers and consumers
42. Future trends where platforms can disrupt – industries with non-scalable gatekeepers (publishers), highly fragmented industries, important information close to the source (media and telecom, extreme information asymmetry)
43. Industries likely to fight off platforms – Industries with regulatory control (healthcare), high failure costs (banks), high resource industries (energy and mining)
44. Education, finance, healthcare and renewable energy may be the ripest for disruption by platforms

#### What I got out of it

1. One of my favorite business and technology books of all time – shows the power of platforms and a roadmap to build or analyze them

[Choudary's website](#) is worth checking out and has a [good introductory page](#)



## *Platform Scale* by Sangeet Paul Choudary

### Summary

1. Choudary explains how technology, democratization of connectivity and rise of data-driven decision making systems are enabling a new type of business model – platforms. Platforms are so powerful because they enable efficient interactions, create excess value and are able to scale rapidly

### Key Takeaways

- The Platform Manifesto
  - The ecosystem is the new warehouse
  - The ecosystem is also the new supply chain
  - The network effect is the new driver for scale
    1. Platform scale is achieved by maximizing the repeatability and efficiency of the platform's core interaction. Interactions must be executed smoothly and in a manner which kick-starts the next interaction organically
    2. Achieving platform scale requires the ability to scale value creation to scale value exchange – the ability to scale production and consumption simultaneously – and to repeat the two so that each reinforces the other
    3. 5 drivers of platform scale – minimal marginal costs of production and distribution, network effects powered by positive feedback, behavior design and community culture, learning filters, virality
  - Data is the new dollar
  - Community management is the new human resources management
  - Liquidity management is the new inventory control
  - Curation and reputation are the new quality control
    1. One of the platform's main focus is limiting poor behavior and interaction risks
    2. Quality control (screening, curation) is vital. Can be done through an in-house editor, through algorithms or through social signals (rating, voting)
    3. 3 factors governing platform adoption – network effects (most important), curation of content, curation of participants (through ratings, reputation, incentives – indicating quality and reliability)
  - User journeys are the new sales funnels
  - Distribution is the new destination
    1. New focus on how to distribute its experience into multiple user contexts
  - Behavior design is the new loyalty program
    1. 3 core principles to platform design
      1. Start with defining the value that is created or consumed, the core value unit
      2. The core interaction – the set of actions that enable the creation and consumption of that value – should be laid out around the core value unit



### 3. The design of the platform's features, functionalities and management should stem from the design of the core interaction

- Data science is the new business process optimization
- Social feedback is the new sales commission
  1. Platforms often create new behaviors and reward/reinforce the most beneficial
- Algorithms are the new decision makers
- Real-time customization is the new market research
- Plug-and-play is the new business development
  1. Platform as an enabler of interactions – plug-and-play business design, balancing value creation for both producers and consumers, strategic choice of what is "free", pull/facilitate/match, layering on new interactions, enabling end-to-end interactions, creation of persistent value beyond the interaction
  2. At their core, platforms enable a plug-and-play business model. Other businesses can easily connect their business with the platform, build products and services on top of it, and co-create value. Platforms primarily benefit not from internal production but from a wider source of open co-creation and open market interactions. This ability to drive interactions through a plug-and-play infrastructure is a defining characteristic of platform scale
- The invisible hand is the new iron fist
- Business model transition from pipes to platforms
  - Choudary calls traditional companies like manufacturing, "pipes." Pipes build products or craft services, push them out, and sell them to customers. Value is produced upstream and consumed downstream, creating a linear flow of value, much like water flowing through a pipe. In effect, pipes were designed to enable the flow of value in a straight line
  - Three forces today are driving a whole new design for business, platforms – increasing connectedness, decentralized production and the rise of AI. These businesses create a plug-and-play infrastructure that enables producers and consumers of value to connect and interact with each other in a manner that wasn't possible in the past
  - In this new design of business where the firm is no longer the producer of value, platforms perform two specific roles
    1. They provide an open, participative, plug-and-play infrastructure for producers and consumers to plug and interact with each other
    2. They curate participants on the platforms and govern the social and economic interactions that ensue
  - Shift in markets from consumers to producers (both can and do add value on platforms whereas only one side typically did in the past)
  - Shift in competitive advantage from resources to ecosystems
  - Shift in value creation from processes to interactions
- The Broad Goal of Platforms
  - Goal of platforms is to enable interactions between producers and consumers repeatedly and efficiently
    1. Build platforms with an interaction-first, not a technology-first mindset! Technology should be built only after understanding the interaction that needs to be enabled. Without this in mind, one often ends up with a platform that nobody wants to use.



- The movement from pipe-based, user-first view to the platform-based, interaction-first view is best captured through the following shift: We are not in the business of building software. We are not in the business of selling products and services. We are in the business of mediating and enabling interactions
  1. The importance of an interaction-first approach to building platforms cannot be emphasized enough. Focusing on the actions involved in an interaction helps us design the tools and services as well as the rules required to facilitate the interaction. Understanding the players participating in the interaction and their motivations helps us design the actions and rewards that create pull on the platform. Finally, only by focusing on the core interaction can a platform know what data it needs to capture
- The Core Value Unit
  - The core value unit is the minimum standalone unit of value that is created on top of the platform. It represents supply or inventory created on top of the platform and without this, the platform has very little value in and of itself
    1. For network/marketplace/community-dominated – goods, standardized services, non-standardized services
    2. Infrastructure dominated – apps
    3. Data dominated – data helps the platform become more efficient overtime, data itself is the source of value
    4. To increase platform scale, focus on increasing the quality and quantity of core value units on the platform. However, platforms are unique in that they don't control this inventory as this is produced outside the platform
    5. All actions in the core interaction fall into one of the following buckets – creation, curation, customization, consumption. The keys to platform scale lie in simplifying each constituent action in the core interaction
    6. Information exchange has 3 components – The producer creates a core value unit, the consumer sets up a filter of some combination of overlap and data, the value unit that best passes through the filter is served to the consumer (based on good data and filters). Filter can be point in time (search) or cumulative (taking account of past history or behavior) or some combination
- 6 elements of execution
  - Choice of the overall interaction space – connection, content, clout, coordination, competition, culture and code
  - Production incentives – tools/access/both, simplify production process, great curation, clear, democratic and equal access path to the top, great conversion rates, good feedback mechanisms, removal of skill, time/effort/investment, resource, access barriers (removal of frictions)
    1. Frictions can sometimes be useful when trying to discourage the repeatability of undesirable interactions and can indicate quality, superior signaling or a barrier of some sort
  - Building long-term cumulative value – reputation, influence, collections, learning filters
  - Strong curation mechanisms and trust
    1. 7 Cs of Trust – confirmed identity, centralized moderation, community feedback, codified behavior, culture, completeness, cover



- Strong filters and relevance
- Ownable interactions – more difficult for platforms offering nonstandardized services (TaskRabbit) but in order to own the interaction, all platforms must create more value than they capture
- The Chicken and the Egg Problem
  - All platforms must overcome the chicken and egg problem until they reach critical mass, the minimum network size at which there are enough producers and consumers of value on the platform to ensure that interactions spark off reliably
  - Solutions to the chicken and egg problems have a few defining characteristics:
    1. Breaking the vicious cycle – platform should have standalone value, users to derive value even without other users
      1. The standalone mode, for producers, should encourage the creation of value units on the platform, which can then be used to pull in the consumption side
      2. Faking initial supply may often help kick start network effects (YouTube had pirated content early on) – seeding and weeding, seeding demand, seeding supply
      3. Identifying a group of power producers and providing them with tools and incentives to better "harvest" their following can solve the chicken and egg problem very effectively
      4. Get more difficult side on board through curation and incentives
      5. Often, the solution to finding adoption lies in providing backward compatibility with existing solutions
      6. Focus on value-creating interactions and then scaling those interactions instead of focusing entirely on scaling the user base. Small user bases with thriving interactions trump large user bases with low activity
        1. Solve a pain point for a niche segment, target a micro-market where small is good, leverage existing interactions in the micro-market, find a micro-market that encourages spread, find a micro-market that is representative of the final market, a micro-market may be a thin-sliced use case, make a two-sided market one-sided
        2. A platform can scale well only if it encourages interactions within a small user base before attracting a large number of users
    2. Positive feedback
    3. Maximizing overlap between consumers and producers
    4. Getting the harder side in first (through incentives)
    5. On-boarding of two distinct markets
  - Five design principles for solving chicken and egg problems
    1. Finding a compelling bait to start the loop
    2. Ensuring there is no friction in the feedback loop
    3. Minimizing the time it takes for the startup to reach critical mass
    4. Incentivizing the role that is more difficult to attract
    5. Staging the creation of two-sided markets
- Scaling & Virality
  - Scaling strategies





1. Bump – non-sustainable exposure such as PR, advertising and events; important for initial traction
  2. Engines – an internal engine of growth and designed to grow as a consequence of usage
  3. Also needs to create the hooks and motivations that will enable and incentive users to expose the offering to others, every time they use it
- Misconceptions about virality
    1. Virality and word of mouth are two names for the same phenomenon – virality a consequence of users using the platform, not loving the offering. Virality does not need fans, it merely needs users who are encouraged to bring in other users
    2. Virality and network effects are the same and lead to rapid growth – open platforms like email do not benefit from network effects whereas closed ones do (but both can have virality)
    3. Virality is all one needs for a growth strategy – should be complemented with other user-acquisition models
    4. Virality involves manipulating users to send out invites to other potential users
  - Networks spread like diseases do
    1. The sender – a user on the platform sends out a message about the platform
      1. Sender incentives – why will the sender send units out of the platform?
    2. The core unit – message is typically the core value unit
      1. Spreadable unit – what is the minimum transferable unit on the platform that one can move on an external network?
    3. The external network – units spread on an external network, connecting people
      1. External network – Where will the unit from the platform meet current non-users
    4. The recipient – recipient on the external network interact with the unit and is brought back to the original platform
      1. Recipient incentives – why will a non-user on an external network convert to a user on the platform?
      2. The recipient, if interested, then joins and becomes a sender and starts the process over
  - Virality is a design problem, not an optimization problem. Take into account:
    1. Sender incentives, low friction in creating core value units, high percentage of producers, spreadable core value units (triggers an interaction on an external network), plays on the producer-as-sender dynamic, the spread of the unit helps to complete an incomplete interaction)
    2. External network – choice of network which takes into account relevant interactions, relevant connections, relevant look and feel, add value to users on this external network, create an unfair advantage and make integration as easy as possible
    3. Recipient incentives – unit should serve as a compelling pitch to the platform and a call to action embedded within the unit
    4. 4 key optimization priorities for achieving sustainable viral growth
      1. Send: maximize outflow of units from the platform
      2. Spread: ensure that units spread on the external network
      3. Click: maximize clicks on an external network



#### 4. Convert: minimize cycle time

- Producers never spread the word about the platform, they merely spread the word about their creations
- Platforms that succeed with viral growth reward users with accelerating social feedback
- Network effects can work against platforms if higher adoption gets in the way of interaction efficiency and repeatability, reducing interaction quality. To achieve sustainable scale, a platform needs to scale both the quantity and the quality of interactions that it enables
  1. A scaling strategy for platforms should involve scaling of production, scaling of consumption, strengthening of filters through ongoing data acquisition, scaling social curation, scaling community culture, minimizing interaction risk
  2. Lack of curation scaling is very common when platforms fail. Platforms need to ensure that access and creative control, as well as curation and customization, scale well as the platform scales
  3. Platforms must encourage cross-cluster interactions as well as cross-cluster incentives
- Other
  - Platforms aren't truly software but they are eating the world – efficient social and business interactions, mediated by software
  - Value creation still dependent on aggregation, but not of labor or resources. Rather, the ecosystem is the new warehouse, supply chain and scale through network effects. Shift from culture of absorption to data absorption. Manage community incentives and governance
  - Must ensure there is never unfilled demand
  - While platforms can be incredibly different, the following three distinct layers tend to emerge repeatedly: data, infrastructure, network–marketplace community. These 3 can play varyingly large or small roles depending on what the platform wants to achieve, how to differentiate itself and what the key drivers of value are
  - The single most important decision in testing is the choice of the hypothesis to be tested. Without clarity on this, one can waste a lot of time testing irrelevant hypotheses and optimizing poor design. Laying out the overall architecture of the platform helps us understand the key points of failure for the ensuing platform business and shows us what needs to be tested. All design decisions should ensure the repeatability and sustainability of the core interaction that the platform enables
  - The platform canvas is a framework for makers to build interaction–first platform businesses and includes the value–creating interaction, the platform that enables the interaction, a mechanism for value capture, enablement of a plug–and–play business model through channels (websites and apps) and access control for producers and filter creation for consumers. The platform must provide tools and services of creation, curation, customization and consumption.
    1. Value is derived from charging one side to access the other, charging a third party for advertising, charging producers and consumers for premium tools and services, charging consumers for access to high quality, curated producers and charging producers for an ability to signal high quality
  - The TRIE Framework – tools and rules, interaction, experience



1. Platforms allow the users to shape their own experience and not just accept the maker's ideas
2. Platforms must allow for emergent behavior to arise, some of which may redefine the architecture and lead the platform in entirely new directions
  - Everything old is new again! The answers lie in using the old to interpret the new
  - Platform strategy involves 3 primary priorities, aligned with the three layers of the platform stack – pull, facilitate, match
  - Two critical factors will determine the success of a company in the on-demand economy: multihoming costs (ease of switching between platforms) and interaction failures
  - Best way to launch a platform business at a conference is to ensure that the core interaction on the platform is organically embedded into the conference experience and that it fits in with the activity at the event

#### What I got out of it

1. A dense and extremely insightful book on how to design, think about, build and spread successful platform companies. At the core of it, platforms must make sure they enable their core value unit to foster interactions which are as frictionless as possible in a repeatable, efficient and effective manner



## *Modern Monopolies* by Nicholas Johnson and Alex Moazed

### Summary

1. Platform companies generate value by using technology to facilitate exchanges between groups which benefits all sides and helps create new markets and expand old ones. Moazed and Johnson walk through how to build, spot and optimize platform companies in this new exciting technological era

### Key Takeaways

1. Platforms are a business model – a holistic description of the way a company creates, delivers, and captures value rather than simply a piece of technology. Platform business models often use modular modification and this leads to incorrect use of "platform" – computing platform, product platforms, industry platforms and platform as a services are all examples
  1. They don't own the means of production but rather create the means of connection
  2. Reduce transaction costs – search and information, bargaining, enforcement costs
  3. Encourage both sides to innovate into complementary services and consumers can also be producers
    1. Exchange vs. Maker platforms – eBay vs YouTube
  4. The complexity of the core transaction should be extremely low
  5. Commoditized industries have consistent and transparent pricing and a focus on increasing transactions
  6. Platforms do not equal technology; they have been around for thousands of years (bazaars)
  7. Platforms don't even try to guess what customers want, they simply facilitate interactions
  8. Platforms allow groups to exchange value amongst themselves and therefore what a company owns is less important than the resources it can connect to. They create communities and markets that allow users to interact and transact. These characteristics allow platforms to expand at a pace unprecedented in human history, able to grow exponentially rather than linearly
  9. Platforms are partly so powerful because they bring hidden demand and supply into the market, therefore expanding the overall pie. Many more people use Uber than ever used taxis because it has become cheaper, more convenient and faster
  10. Most important aspect to get right is the core transaction – the set of actions producers and consumers must complete in order to exchange value. Facilitating the core transaction is the way that platforms create value
    1. At a high level, the core transaction has the same basic set of four actions
      1. Create – a producer creates value or makes it available to be consumed through the platform
      2. Connect – in every transaction, one user takes an action that sparks the exchange by connecting with the other party
      3. Consume – once consumers find the right match, they can consume the value created by the producer



4. Compensate – consumers create value for the producer in exchange for what they consumed
  1. There is more than money to compensate – likes, reviews, ratings, shares, comments, follows, etc.
11. 4 Core Functions – like the core transaction, the four functions evolve as a platform expands
  1. Audience building – build a liquid marketplace by attracting a critical mass of consumers and producers
  2. Matchmaking – connect the right consumers with the right producers in order to facilitate transactions and interactions. As the network grows, the task becomes exponentially more complex
  3. Providing core tools and services – build tools and services that support the core transaction by lowering transaction costs, removing barriers to entry and making the platform more valuable over time through data
  4. Creating rules and standards – set guidelines that govern which behaviors are allowed and encouraged and which are forbidden or discourage
2. Risks
  1. It is incredibly hard to overcome the chicken and the egg network problem to reach critical mass. Until critical mass is reached, it is very hard to convince consumers to join and therefore producers in a negative cycle.
  2. Platforms don't control the inventory
  3. Platforms don't own their most valuable asset – their users
  3. Network Effect – present when the behavior of one user has a direct impact on the value that other users will get out of the same service. Networks are much harder to duplicate than features and many believe are the strongest economic moat of all
  4. Linear business – value flows linearly through the supply chain to the customer
  5. Battle of devices has become a war of ecosystems – generally winner take all
  6. When information processing and storage costs decline, the size of firms can increase as they can now manage much more information and make better decisions and further reduce transaction costs
  7. Connected Revolution – Four key changes flipped the world of business strategy in the late 2000s – the democratization of processing power, the declining cost of communication, the rise of ubiquitous connectivity and sensors and growing returns to scale on data analysis
  8. Loosely organized individuals can substitute entire organizations (i.e., Wikipedia)
  9. Today, often the most important resources are external to the organization, the ecosystem. Value has moved from creating products and services to facilitating connections between external producers and consumers, becoming the center of exchange. Key value add is the curation and management of the network. The firm no longer invests in production but rather in building the infrastructure and tools to support and grow a networked marketplace or community
  10. In essence, platforms are correcting market failures by more efficiently allocating resources
    1. Local knowledge is local no more and this leads to the improved possibility and efficiency of central planning
  11. Software alone is a commodity but the moat comes from a network of users, transactions or data



12. Platforms tend to be more richly valued as they have faster growth, higher margins and higher returns on capital
13. Platforms remove high fixed costs and bring zero marginal cost to the supply side. They become exponentially more efficient the larger they become as expenses don't grow as fast as revenue does
14. Finding the right market is even more important for platforms than for linear businesses because they need large markets to dominate
15. Mostly winner-take-all but if users can switch easily the network effects weaken and the market can therefore support more than one platform
16. Monopolistic because of usage and participation, not ownership like in the past. Platforms are natural monopolies as many platforms would lead to higher costs (of some sort) to users
17. Regulation – it is important for government regulation to not limit the market power of these platform businesses – a move that would likely diminish overall consumer welfare – but rather to address the behavior of these businesses in specific areas of concern
18. Biggest mistake for new platforms is trying to build multiple core transactions at once
19. The importance of user-led innovation for platform businesses means that the traditional software company approach of building a complex, fully featured product before going to market doesn't make much sense. Platforms should start with the simplest possible system and build from there
20. Dynamic pricing can help create balanced, manageable growth
21. Focus more on producers as they are more limited than consumers in a large market
22. Find established networks to tap into
23. Twitter is not a social platform like Facebook but a content platform
  1. Will have to solve for spam and harassment with better rules and policies in order to thrive
  2. All platforms must solve for the tendency for diminished quality as the network grows through ratings, rules, policies
24. Important to replace individual trust with trust in the platform
25. Tools and Services
  1. The distinction between tools and services has to do with what a platform chooses to centralize. Tools are self-service and decentralized. Anyone can use them and they don't require ongoing involvement or assistance from the platform. Tools typically include much of the technology and software products that will help users create value connect with each other
  2. Services are centralized, and require continued involvement from the platform. Customer support is the most common example and it's a service most platforms have to offer
  3. Tools or services that don't line up with one of the four steps in the core transaction are often unnecessary and platform entrepreneurs often make the common mistake of trying from the start to add every tool that they think users might want
26. Designing a platform is mostly about sociological insight and continuous behavior design
27. Adding secondary transactions is a key way platforms scale
28. Law of Chatroulette – when left unchecked, a network of sufficient size will naturally deteriorate in its quality of users and usage



29. Facebook surround strategy – if a competitor had established a foothold in a certain school, Facebook would open not only at that school but on as many nearby campuses as possible
30. A big mistake is to think that any new user is as good as any other but this is not true and means that not all growth is equally valuable and at times each new user can have a negative effect on other users. Not every potential connection in a network is relevant and some users are more valuable than you think. In other words, most network effects are local, not global
31. A large network isn't a moat if it is polluted with bad actors and largely removes first-mover advantages. While important, growth is not an end in itself and while incumbents have advantages over newer, smaller entrants, it only matters if it is sustainable
32. Platforms are path dependent, the types of users your network will attract in the future depends on the composition and behavior of your network's existing users. This path-dependent nature of networks makes platform design especially crucial early on. Who uses a platform at the start can have a big effect on its growth trajectory. You have the most leverage to shape your community and its culture when your network is still forming. A common way for new platforms to accomplish this is to limit participation to a high-value subset of users at the start. Quality begets quality
33. Network effects ladder – the five steps on the ladder dictate the quality of a platform's network: connection, communication, collaboration, curation and community
34. Coordination problem – it is impossible to get everyone on each side of the network to all agree to join the network at the same time to benefit everyone. This problem is solved by incentivizing users to join via monetary subsidies, product feature subsidies and/or user sequencing (prioritizing the acquisition of certain user groups that others will want to interact with)
35. 7 ways to solve the chicken and the egg problem
  1. Monetary Subsidies
    1. Provide security through a large, up-front investment
    2. Cooperate with industry incumbents
  2. Product Features
    1. Act as a producer – early on, platform produces own content
    2. Tap into an existing network – digital or otherwise (sororities, clubs, etc.)
  3. Monetary Subsidies and Product Features
    1. Attract high-value or celebrity users
    2. Target a user group to fill both sides
    3. Provide single-user utility – attractive enough for one side to join even if other side never does
36. Trying to emulate the success of these types of businesses today without understanding the competitive landscape is a recipe for failure
37. How to spot platform opportunities
  1. Look for technology that reduces transaction costs and removes gatekeepers
  2. Look for implicit or underserved networks – build on top of existing networks and behaviors; untapped sources of supply
  3. Look for large, fragmented sources of supply
38. Potential industries where platforms will move next – healthcare (wearables especially), finance, Internet of Things



What I got out of it

1. Great overview of what the platform business model is, how to solve the inherent chicken and egg problem and why platforms are so powerful and world-changing





## *Matchmakers: The New Economics of Multi-Sided Platforms* by David Evans and Richard Schmalensee

### Summary

1. Matchmakers create and release value by connecting different groups and reducing transactional and other friction costs. Matchmakers are also known as multi-sided platforms and are becoming increasingly popular and profitable due to advances in technology

### Key Takeaways

1. Matchmakers operate under a different set of economic rules as their raw materials aren't commodities but the different groups they bring together and the access they give to other groups
2. OpenTable pursued a faulty strategy early on by getting a handful of restaurants in many cities. They soon shifted to a more critical mass strategy by focusing on getting as many restaurants as possible in four cities. This soon fueled the flywheel for both restaurants and customers. Charge restaurants a monthly fee, a cut of each reservation, make it free for diners and even incentivize with small rewards. This free usage for diners is strange according to traditional rules of economics but works because this solves the chicken and the egg problem – restaurants will be compelled to join if there are enough diners on the platform. The new business model takes into account that demand from producers and consumers are interdependent.
3. The economic key lies in attracting at least two or more different types of customers and facilitating valuable interactions. This business model has existed for centuries but was only recently noticed – night clubs facilitate interactions between men and women via a physical space, music and lighting; shopping malls connect shoppers and retailers. A telltale sign is if something seems too good to be true for one side of the market is when a great service is free – the business is monetizing your attention, data or something else so you can access their content or other customers/producers
4. The great network effects mistake was that it assumed multi sided platforms followed the same rules as one sided network effect companies where there was only one type of customer when in fact there are many. Multi sided platforms have indirect network effects where an additional diner benefits restaurants rather than other diners. Build share first and fast doesn't apply as much to multi sided platforms and in fact most of the times the first movers die
5. The same person can play different roles at different times like when someone uploads a video to YouTube and then watches videos
6. Important to recognize that indirect network effects also work negatively and therefore dominance can dissolve relatively quickly. Important to not only have a lot of customers on both sides but also the right customers whom the other side wants to interact with (a lot of restaurants and also the *right* restaurants)
7. Multi sided platforms also can charge below cost where traditional businesses can't because must balance interests of all sides and demand for each group depends on the demand from



the other side. It may or not make sense to subsidize one side like OpenTable does with diners. It often does if the platform removes so much friction that one side is willing to pay more to get the other side on board

8. Matchmakers have taken off recently because the cost of connecting customers has decreased significantly and the reach is larger than ever. This trend will only continue meaning matchmakers will likely play an increasingly important role
9. YouTube gained critical mass by encouraging uploads which encouraged views which encouraged further uploads. It took them only a little over a year to have more than 100m videos and people spent more time on their site than any other. They made it free for both publishers and viewers with the hope that if they did reach critical mass, they could begin charging advertisers
10. Platforms have to take into account the relative pricing on all sides of the platform, how much to charge and how much to earn on each side relative to the other side. One side tends to be subsidized and figuring out the price structure is crucial. They can often make more overall profit by actually losing money on one side. Price sensitivity, whether to charge access or usage fees or both are important to consider. Charge those who are least price sensitive
11. Key questions
  1. What's the friction, how big is it and who benefits from solving it?
  2. Does the platform reduce this friction, balance the interests of all sides and do it better than other entrants?
  3. How hard is the admission problem and does the entrepreneur have a good plan for achieving critical mass?
  4. Are the prices for admission and growth high enough for the platform to make money?
  5. How is the matchmaker going to work with others in the broader ecosystem, does it face related risks and has it dealt with it?
  6. Is the entrepreneur ready to shift the design and admission quickly to respond to market reactions?
  7. Who's participating in the platform and how does the platform create value for the users
  8. How is the platform designed to promote interactions among participants?
  9. How does the platform use prices to encourage participation? Does it have rules and standards? Is anyone subsidized? How do these affect the ability of the platform to create value?
  10. How did or will it solve the chicken and egg problem?
12. New, turbo charged matchmakers
  1. Matchmakers have been around for hundreds if not thousands of years
  2. A lot of what the new market darlings do is old but use technology to improve in things matchmakers have done in prior years
  3. What is pioneering is that modern technologies have turbocharged the multi sided platform model
  4. History of matchmakers suggests that today's sharing economy matchmakers will get disrupted at some point
  5. Turbocharged matchmakers will transform industries. Will change it over decades but in dense, clustered periods of time



## What I got out of it

1. The rationale behind who to subsidize and who to charge and how that can help unlock and create even more supply and demand. Turning linear pipelines into platforms means that people who used to be only consumers can now be consumers and producers (people can stay in an Airbnb and also rent out their own apartment – consumer and producer).



## *Resilience: Why Things Bounce Back* by Andrew Zolli and Ann Marie Healy

### Summary

1. A resilient structure or system is one which can bounce back to its original form after some stimulus. This book describes how to make more resilient systems and businesses in order to better deal with our increasingly volatile world. Resilience is a common characteristic of dynamic systems which persist over time which is why most organisms embody characteristics of resilience to varying degrees

### Key Takeaways

1. Volatility is increasing and here to stay. The details are different but they share certain common characteristics and are always the result of many complex interactions. Can't control this type of disruption but we can build better systems by making them more resilient, having the ability to rebound and adapt. Continuity and recovery in the face of change
2. To improve your resilience is to increase the effort it takes for a stimulus to force you off your baseline while also increasing your ability to adapt and bounce back once it happens. Preserving adaptive capacity. Truly resilient systems change dynamically to achieve its purpose as well as the scale at which it operates. Diversifying the resources in which the system operates makes it more resilient to change as it allows for modularity. Diverse at their edges but simple at their core – modularity, simplicity and interoperability vital
3. The ways to adapt and the stimuli which force change are both nearly infinite
4. Resilience is not robustness – robustness typically entails hardening the assets of a business. Redundancy is keeping a backup but is not resiliency either. Resilience is also not the recovery of a system to its initial state.
  1. Think of a tree which is strong but has no give. It can withstand a lot until it snaps. This is robust but not resilient
  2. Now, imagine bamboo. It is thin, flexible and can return to its original state given pretty much any wind. This is resilience
5. Failures are often helpful to release resources and reset and trying to stop these small failures make systems more fragile and will eventually lead to a massive failure. A seemingly perfect system is often the most fragile and the one which fails often but in small ways may be the most resilient
6. Psychic resilience comes from habits of mind and is able to be learned and improved upon over time.
  1. Optimism and confidence are some of the best traits to deal with depression and to become more resilient
  2. People exhibiting ego-resilience and ego-control are best at delaying gratification, being resilient and overcoming obstacles
  3. Hardiness – believe can find a meaningful purpose in life, one can influence one's surrounding and events, both positive and negative events will have lessons one can learn from. People of faith tend to be more resilient partially due to their "hardiness"
  4. Mindfulness meditation is a great tool to improve our resilience as it helps us create a space between our events, thoughts, emotions – an external "witness observer"



7. Strong social resilience is found in societies with a lot of trust, a translational leader at its core promoting adaptive governance
8. Holism – bolstering the resilience of only one part of the system sometimes adds fragility to another area. To improve resilience, you often need to work in more than one mode and one scale and one silo at a time. Take the granular and the global into account simultaneously
9. 4 stages of adaptive growth – Fast growth (resources coming together), conservation (efficiency of resources used but less resilience), release (fall of system), reorganization (process starting over)
10. Robust yet fragile – systems which are resilient to anticipated danger or change but not to the unanticipated. It is often thousands of small decisions which aggregate rather than one massive event which brings down a system
11. Must be able to measure health of a system as a whole and not just its pieces to know if fragility is sneaking in
12. In risk management, risks tend to be modeled as additive but in reality they are multiplicative. One failure makes future failures multiples more likely
13. Signs of a system flip – becomes unstable near its threshold, too much synchrony or agents acting in union (over correlation and people must make similar choices to survive)
14. The timing of force, change and its effects is often more important than its scope
15. Real time data, better monitoring and isolation upon any sign of cascading failure are three important design features
16. Protocols are the lingua Franca of systems
17. There are universal scaling laws for biological organisms so that the larger the organism the slower the metabolism and the longer the average life span. The power of clustering comes from a similar phenomenon but in the case of cities, the larger they get, the "faster" they become and the average income increases but certain quality of life markers decrease – there are increasing returns to scale, super linear scaling. However, as this part of life increases, the pace of innovation needs to speed up too or else the city may spiral downwards. The increasing diversity helps with this
18. Respect is the cheapest concession you can give in relationships and negotiation. It is also a positive sum trait where your dispersal of respect only increases the total
19. Improving resilience is not about removing every possible disturbance. In fact, facing challenges which test you or your organization are vital. They show where improvements need to be made and can clear the path for creative destruction

#### What I got out of it

1. A thorough overview of what resilience entails and many examples of both fragile and antifragile people, ecosystems, institutions, organizations and more



## *What Technology Wants* by Kevin Kelly

### Summary

1. Kelly takes the unusual view of describing technology as a natural system, much like biology. Technology, like living organisms, has "wants" and can transform and evolve in ways to help it achieve its goals.

### Key Takeaways

1. Kevin Kelly has long lived a very minimal and simplistic lifestyle, choosing to have very few possessions and as little technology as possible but has become known as one of the biggest proponents of certain technology. He has no cell phone, laptop and mostly bikes rather than drives. He is the founder of Wired magazine and has spent a lot of time living with the Amish
2. As technology advances, it begins mimicking organism systems and goes through a process of disembodiment and these two are only speeding up as technology is getting more advanced. This leads Kelly to believe that technology is an extension of life and perhaps even culture. However, culture may even be limiting as the inventions of tools spurs new tools, creating a self-perpetuating system.
3. Kelly has invented a new word which is not as limiting – the technium. Technium includes art, social institutions, culture and intellectual creations of all types as well as the self-perpetuating and advancing nature of technology. Kelly believes that after thousands of years, technology may be getting to the point of becoming like an autonomous organism that we don't fully control. Like any deeply interconnected and complex system, it will self-organize and self-perpetuate, following many of the same rules our minds do
4. Argues that human evolution was sped up by tools. The better the tools, the more food we could get which made us stronger, healthier, live longer and better self-perpetuate. Our genes co-evolve with our inventions and in many ways we have domesticated ourselves. Shelter and technology should be thought of as extensions of the organism. We shape our environment and then our environment shapes us
5. Technology differs from biology in that it rarely if ever truly goes extinct. Innovations and breakthroughs tend to live on and evolve into new technology. Technology can be thought of as the 7th kingdom of life
6. Coined "exatropy" to be negative entropy or an increase in order. It resembles information and self-organization. Information is a signal which makes a difference to how we think, act or behave
7. Science and progress require a certain minimal threshold of leisure and a growing population. As more people buy the new technology it provides the funds to push even further
8. Convergence causes technological innovations to happen simultaneously or at least nearly so. The same is found in biology with animals who have evolved similar functions but have done so independently (echolocation, bipedalism, eyes)
9. The technium faces many of the same constraints as biological evolution, such as limited matter and energy



10. Argues against the traditionally believed random path of evolution and for the convergent, directional nature of evolution. The universe seems to be geared towards life and complicated constructs like our minds are "improbable inevitabilities." Homo sapiens is a tendency, not an entity. Humanity is a process, always was and always will be. Similarly, the technium is a tendency, not an entity and in continuous flux and evolution. Much like biology, the technium converges towards certain innovations and over time becomes self-organizing and gains a certain level of autonomy and even some wants
11. Technological inevitability is seen in the seemingly endless parallel timing of inventions
12. Entire new economy is built on technologies which require little energy and scale down well – photons, bits, frequencies. As the technology keeps getting smaller, they get increasingly closer to immaterial. Like Moore's Law, many of these improve at around 50% per year
13. The technium is shaped by what technology wants, by historical inventions and by people's choices and free will
14. When we reject technology, we reject a part of ourselves. We trust nature but hope in technology. By following what technology wants, we can better anticipate and capture its full potential
15. Technological choices which begin as optional can slowly over time become mandatory as our reliance on the technology increases
16. The Amish tend to be about 50 years behind technologically. They don't want to stop progress, simply slow it down and do so by being very selective when deciding what to adopt. This time lag gives them the ability to carefully weigh the pros and cons of the new tech
17. Selective poverty, minimalism and as little electricity as possible is an experiment everyone should undertake at least once in their life. It simplifies so much and leaves more time for leisure, building relationships and pursuing endeavors you enjoy
18. Very few great technologies start out great or have a clear path to greatness. Technology does not know what it wants to be once it has "grown up"
19. All technology wants to be ubiquitous but total saturation is not healthy or wanted as it leads to excessive traffic, too much pollution, etc
20. The power of the technium lies in creating new objects which give us new choices and ultimately more freedom
21. Some estimate that nearly 50% of the world's organisms are parasitic and Kelly argues that this type of mutualistic relationship is increasingly the case between humans and technology. However, technology doesn't want to simply be utilitarian, it wants to be beautiful, to become art
22. Technology's job is to create billions of "minds" to compute anything and everything we might need from it. Information is the fastest growing portion of the technium
23. The technium will continue being selfish in its desire for self perpetuation but it also desires to help people understand, compute and compile information to make life easier. There are some games you play to win and some where you play to keep on playing, an infinite game. The best tactic here is to make choices which open up more choices in the future
24. Technium's wants are that of life and it helps amplify the thoughts of union and connection and to see reality– an infinite game worth playing. That is what technology wants



## What I got out of it

1. Better understanding what Kelly means by "technium" and how technology is coming to resemble biological, natural systems. The parallel timing of inventions across history and geographies was fascinating to learn more about – perhaps indicating the inevitability of certain technological innovations





## *Alibaba: The House that Jack Ma Built* by Duncan Clark

### Summary

1. Duncan Clark describes the history of Jack Ma, his personality, how and why he founded Alibaba (after a couple failed start-up attempts), his vision for the future and more

### Key Takeaways

1. Jack founded Alibaba in Hangzhou in 1999
2. Alibaba looks to exploit the inefficiencies created by a government who exerts as much control as China does without pissing them off
3. Alibaba's strengths lie in ecommerce, logistics and finance
4. Consumer discretionary spending is only about one third of GDP versus close to two thirds of GDP in the US. Latent spending power and high savings rates and lack of things to spend money on are the main causes for this discrepancy
5. Alibaba is even China's largest retailer
6. Taobao is like a bazaar with 9m merchants and Alibaba has no inventory and TMall is like a glitzy shopping mall. Major brands like Amazon Costco apple Zara and Moore are all on T-Mall
7. About 10% of retail spending in China is done online compared to 7% in the US. China has been able to leap frog the brick-and-mortar retail business model which is much less efficient and expensive than e-commerce
8. Nature abhors a vacuum and in China the Internet is filling in for eight created by an official state owned enterprises and government regulations
9. Alibaba accounts for 40% of grocery sales in China and even does next day delivery of refrigerated items. It stands at only 10% in the US
10. The rate of e-commerce packages is growing like crazy and has years of high-growth ahead with less than one package per customer per month being delivered on average today
11. JD.com is taking a different approach than Alibaba in that it is investing directly in logistics and becoming acid heavy versus acid light. JD wants to control the process from order to delivery end to end and I think a good analogy is Apple and other closed and companies that want to control quality throughout
12. Alibaba's finance edge comes from Ali pay which is Alibaba's equivalent of PayPal. Ali pay handles more than \$750 billion every year. Always pay is no longer own by Alibaba but is controlled by jack and has become the defect of method of transactions for an increasingly digital China. Alibaba can also serve as a savings account and often gives better rates than the banks. Because Alibaba had so much data on its customers it can better underwrite the credit risk of people who invest and pay through their platforms
13. Jack is it your typical corporate titan and is quite humble and talks his intellect and ability down often. He said that the most influential role model in his life was Forrest Gump
14. Jack's presentation and oratorical skills are superb mainly because he focuses on messages he is deeply fluid in and suddenly changes his emphasis or message depending on the



- crowd and their expectations. Jack is quite funny and empathetic and the nature of his speeches tend to reach a broader audience due to his fluent English and Mandarin
15. Jack's mantra his customers first employee second and shareholders third. Another popular "often heard from Jack is 102 years with the point of trying to survive throughout three different centuries
  16. Corruption and counterfeit goods are some of Alibaba's major obstacles but they are taking certain precautions to begin limiting the amount
  17. When Jack was a boy he would relish the opportunity to practice his English often waking up before dawn riding his bike for 40 minutes to the nearest big hotel just to talk to English speaking tourists. Jack for friended on Australian family who he visited one day and on this visit he saw that what he had been taught that China was the richest country on earth was in fact falls and this taught him that he had to think for himself make his own decisions and use his brain to truly determine what was true and what he believed in
  18. Jack twice failed the college entrance exam and eventually on his third time got a good enough score to go to a fourth grade university in his hometown. Today he speaks of these failures as a badge of honor
  19. After university Jack became an English teacher but soon started his first company called hope which helped local companies find foreign customers. Jack has the uncanny ability to sell his vision and get people excited and to buy in completely
  20. Wong Joe were Alibaba is headquarterd has been a prime an important trading hub for over 1000 years connecting the northern and southern China
  21. Jack was first exposed to computers and the Internet in the mid-90s when he traveled to the US. From this exposure he started china pages which was the Chinese equivalent of yellow pages. China pages failed after a couple years and from the adventure Jack went on to work for the government for some time before founding Alibaba
  22. Alibaba was chosen as the name of his company because it is a universal name that everyone can pronounce and most people know the story behind Ali Baba and the 40 thieves. This has saved a lot of money on marketing and advertising as the image of open Sesame and everything else that comes with the name is tied in to most people's memories already
  23. Jack decided to distance himself from other Chinese portals such as Sina so who and that is by focusing on shrimp or small businesses
  24. Alibaba got first major investment from Goldman Sachs – \$5m for 50%. A few weeks later soft bank invested \$20m for 30%
  25. Jack decided to start hiring people who were a notch below the top of the class because he found they were better at handling adversity than the people at the very top of the class
  26. Today is brutal. Tomorrow is more brutal. But the day after that is beautiful. However, most people die tomorrow night
  27. The bursting of the Internet bubble was actually good for Alibaba as this meant their competitors would not be receiving money and they had a lot in the bank from soft bank
  28. Author makes an interesting connection between the 2002 SARS outbreak and a massive ramp up in broadband usage, texting and increased investor appetite in china tech
  29. Taobao was Alibaba's response to eBay and was able to fend off the global powerhouse by better understanding the local market – free registration, busier home pages, free listings, ability to negotiate, online payment with AliPay, complacency and arrogance



30. If you simply use money to solve problems, there'd be no need for businessmen. Businessmen are able to solve problems with few resources and leverage them to great benefit. eBay simply tried throwing money at china to regain their dominance and at this point Jack knew he had them. They first didn't treat them like a rival at all and then took them too seriously. They showed their hand and didn't change strategies at all
31. There is a lot of controversy over the transfer of and financial to Jack's personal account where he had total control of the company. Defenders say that without doing this day would never have gained financial approval from the Chinese government but other say this is not the case
32. Shortly after the IPO Alibaba I got into some controversy what the government over baked goods which still is lingering over the company today
33. Alibaba is beginning to expand into cloud computing, healthcare, entertainment and other markets where retail is inefficient and ecommerce under-penetrated

#### What I got out of it

1. Does an excellent job providing some history of Jack and the company as well as some of the cultural differences between Chinese and American entrepreneurs and their relationship with their respective governments. Jack's vision, persistence and charm were all really interesting and inspiring to read about



## *The JD.com Story* by Li Zhigang

### Summary

1. The story of Richard Liu and his founding of one of the world's largest ecommerce sites, JD.com

### Key Takeaways

1. Richard Liu Qiangdong is a "philosopher CEO" and has instilled many of his values and beliefs into the core of JD. He has been extremely transparent and high-integrity in all business dealings from day one, is super ambitious, always operates in good faith, seeks to be a mentor. Low profits with high turnover and focus on scale with a steady and ever-growing stream of customers. JD's concept has always been simple – provide better services to customers at lower prices and they'll return. Over the years, one of JD's biggest contributions has been to build confidence and trust in ecommerce. His tracking of every sale in order to ensure quality and authenticity also means he has been paying his fair share of taxes too, which was quite unusual in China at the time
  1. Easier to know others than to know oneself
  2. Liu was always obsessive about two things – user experience and integrity. The core value of JD is putting the customer first
    1. His fight against corruption and for integrity borders on paranoid
  3. "If the founder of a company is always right and never wrong, then the company is doomed. I am not God. It's impossible for me to be right all the time on everything. I have to subject myself to the collective intelligence."
  4. Ultimate goal for JD is to offer a wider selection than anyone, at cheaper prices, delivering it faster, with transparent pricing and authentic, quality goods (no fakes!). Looking to become Amazon + UPS
  5. Liu worries about smooth running of systems, rigorous organization, great customer service
  6. Liu is energized and focused by the vision he has for JD – bringing transparent prices to every part of China and later, the world. Many people in rural cities currently have no means of knowing they are getting ripped off but JD's ever-expanding reach and selection will change this. JD has helped move China to high-efficiency retailing and improve information and price transparency. Rural farmers across China have been getting screwed for some time because they had no access to see the price asymmetries and on top of that often got fake or low quality seeds, fertilizer and other goods
  7. Liu has the rare ability to make difficult decisions he believes in even if his investors and employees doubt him – carrying a full catalog of goods, moving into books, building out the logistics system. The logistics system was a \$1b in 2007 which, if it hadn't worked out, would have bankrupted the company but Liu believed it was necessary in order to solve the problem of slow, late, damaged shipment of goods and to win over customers for the long-term



1. Logistics is the life–blood of retail. This and the most efficient supply chain are JD's core advantage – nationwide reach and intercity delivery made online to offline (O2O) another growth path for the company. JD's advantage is in the back end – its organization of the supply of goods, supply chain management, logistics and delivery
8. Liu decided to cater to his deliverymen by paying higher than average wages and treating them very well. These deliverymen are blue collar workers who are often mistreated but Liu realized they were the largest source of face to face interactions with customers and could make or break the business depending on how they interacted with customers. Liu spends one day per year doing deliveries to get a firsthand feel for the process, to get the deliverymen's feedback and show he's willing to get his hands dirty
9. Has the rare ability of being very visionary, stubborn, focused and hard on people but also willing to change his mind if wrong and reward people for their hard work. The fact that he shares wins and responsibility engenders amazing trust and loyalty amongst his employees
10. Liu sees next steps to be made in Brazil, India and then developed markets. International expansion by 2023
11. All about the team – the team always comes first. Culture (goal, vision, values), capacity and integrity above all
12. Only 2 KPIs that really matter –cost and efficiency – not pursuit of profits but of lower costs and increased operating efficiency
  1. Product (availability/quality), price, service (pre–sale, sale and post–sale)
13. Team spirit – willing to sacrifice self to adapt to others
14. Can't reduce waste by treating employees poorly
15. True core competitiveness is simultaneous speed and price
16. Liu believes the next 10 years will be the golden age of retail and consumption in China
17. Dream to create the national enterprise of China
2. 3 major decisions in JD's history so far – transition to ecommerce from a physical store front, deciding to start carrying a full category catalog rather than just 3C, building out its own logistics system
3. "Liu realized that "all innovation modes of the last ten or 20 years are related to transaction cost reduction and efficiency improvement. Only by lowering transaction costs or by making transactions more efficient can the new mode survive and develop. If the innovation mode fails to do so, then the innovation is meaningless."
4. The crux of an efficient retail business comes down to understanding what the consumer needs and reducing inventory costs by making good predictions of future sales.
5. Focus and desire is to take JD.com out of just China and go global – they are already expanding into Russia and Indonesia
6. The outbreak of SARS in China forced JD to go from offline to online and the trust and reputation Liu had built up in his business gave customers the confidence to shop from him online without seeing the physical goods before buying
7. JD is an outcome of Liu's philosophy: First, business was made up of chains. One could not rely on intuition but had to use sophisticated analyses to make business judgments. Every chain was linked with another. Second, the most basic tenet of doing business was



quite simple: create value and gain profits. Profit was the curve, but value was the baseline, and it was constant. JD's logistics expansion was based on value. Providing shopping platforms, improving logistics to ensure better consumer experiences, reducing costs, and improving turnover rates all created value."

8. Early on in JD's life, there was a big drinking culture which Liu facilitated. It was a typical work hard, play hard mentality. "You had to have guts to drink like a fish with the others even if a glass of beer was enough to knock you out. Second, it was about speaking up."
9. Liu didn't care how things got done. he focused on imparting the details, and genuinely wanted to cultivate saplings into big trees
10. Richly rewarded those who performed but satisfaction and meaning must come from a deeper motivation
11. Early on Liu was blown away by multi-generation European businesses and this helped drive home the long-term horizon and mindset he has today. In this quest to be a century old enterprise, one can't simply look to maximize profits but must provide value by lowering costs and improving efficiencies.
12. JD's first outside capital was from Today Capital (Xu Xin). They invested \$10m and gave Liu the space to pursue scale over profits
13. Advertising is simply about earning tomorrow's money
14. Looking to solve ecommerce's 3 problems – price, convenience, guaranteed quality
15. It is unsustainable to acquire sales – aim to win customer's over with greater value proposition
16. Lei Zhang of Hillhouse Capital said he would only invest if the founders maintained control
17. Liu always believed in operating with the highest transparency so early on, before he ever had to, he hired PwC to conduct an audit on his business
18. JD's slogan during the early days was "Fighting! Fighting!"
19. Don't skimp on training! 70% of promotions are internal due in large part to great internal training through JD University
20. Corporate culture is the root of every company – the result of cultivation and not regulation. Endeavor, values, desire, integrity, gratitude and persistence are some cornerstone values of JD
21. Liu always built his ideas into the system and passed down ideas through it. Less reliance on management and more on aligning incentives
22. "Three Knives" – cut prices, cut costs, cut ideas that wouldn't improve customer experience
23. Likes being in competition and trying to overthrow the leader – "the team would wither without a fight"
24. Lei Zhang said Liu has the magical ability to absorb knowledge, ideas and talents
25. In a fast growing company, the ability to learn quickly is far more valuable than experience
26. Liu decided to go to Columbia business school and step away from the business for a little bit in order to see how his "machine" would work without his complete focus. This gave others the chance to grow, learn and prove themselves and forced Liu to delegate and see if any cracks would appear
  1. Managing JD by relying on the system rather than micromanaging.
  2. "Deal with problems from a systemic, generalized point of view. Don't tell me about the solution to an individual incident. What I want is the broad, systemic solution."



27. Began incorporating collaboration and big picture thinking into people's bonuses in order to incentivize that kind of behavior and thinking
28. Learned to wait to express his opinion until all others had spoken. This was difficult for a man who is so ambitious and has so many ideas but he knew that he would smother many great ideas if he didn't learn to do this
29. The dangers of large organizations – "What threatens a company's ability to grow is not necessarily the competition, but the organization itself. Could the factors that contributed to past success be carried forward? Could tens of thousands of people continue to identify with the original organizing principles? If a company failed, it was most often because of internal factors rather than external ones."
30. Alibaba's philosophy is to make business easier whereas JD's is to make life easier
31. An organization's value is reflected in the things it can do that others can't
32. 4 pearls of the Internet – search engine, social network, combination of hardware and software, enterprise B2C retail platform which directly connected production and consumption
33. The essence of a market economy lies not in control but in making the rules (systems thinking!)
34. Bought Tencent's ecommerce platform in 2014 for 15% of JD. This gives JD some of the most precious online real estate in the world within Tencent's WeChat and QQ platforms. "This is a rare win-win in the history of the Internet in China." – deal facilitated by Lei Zhang of Hillhouse
  1. Massive audience, mobile, targeted ads, new users
35. 3 priority areas in 2014 – fresh food, cross border ecommerce and O2O
36. JD Finance launched in 2013 to provide loans to suppliers and later was a platform for crowd-funding

#### What I got out of it

1. Richard's story is inspiring as his honesty and desire to do good for the poor by extending the availability of basic goods to rural areas



## *Zillow Talk: The New Rules of Real Estate* by Spencer Rascoff and Stan Humphries

### Summary

1. Spencer Rascoff, CEO of Zillow, and Stan Humphries, Chief Economist, detail their findings based on the immense amount of data they have been able to aggregate and analyze through Zillow's platform. Zillow is aiming to improve and promote transparency to help consumers make choices based on information, not superstitions or hunches

### Key Takeaways

1. Unlike what most people think, when a home is for sale is not black and white. Many people are willing to sell their home even if it is not on the market if the price is right
2. Spencer Rascoff started off wanting to disintermediate the travel industry and built his first company, Hotwire to do so. After Hotwire was acquired by IAC InterActiveCorp, his next dream was to bring transparency to the real estate market. Today, Zillow is the largest real estate site on the Web and on mobile, with 90m unique users visiting every month, has 110m homes, including Zestimates and hundreds of thousands of real estate agent reviews. Besides massive amounts of data and users, Zillow adds value by analyzing this data and making it available to all people at all times to be able to make more informed decisions. Zillow can estimate a home's value instantaneously, using tools more familiar in genomics image compression and biochemistry – moving from a 13.6% margin of error to a less than 7% margin, while increasing Zestimate coverage from 43m homes to more than 100m. Uses simple models, hyper-local information, continuous iteration and refinement to keep improving the Zestimates
3. The American real estate market is one of the largest in the world at over \$25.7T and for the most part of our history, they argue that real estate has been a great long-term investment with less volatility than stocks
4. The concept of the Breakeven Horizon is important to know – how long you must live in your current home to make buying worth it
5. Real estate mantra of location, location, location should be changed to future location, future location, future location
  1. Easiest way to find a hot spot is to look at a neighborhood that has already taken off and trying to spot patterns and similarities
  2. Adjacent areas to city center grow quickly in value due to what they term a halo effect
  3. Better real estate strategy is to buy home outside of the premier neighborhoods
  4. Gentrification (new wealth kicking out current, less wealthy residents) is more powerful than the halo effect. Neighborhoods that are likely to gentrify if they have older homes, low home ownership rates and some access to more popular neighborhoods
  5. Starbucks is a great leading indicator of rising home appreciation
6. The greatest indicator for a neighborhood that would one day strongly appreciate in value was the age of its housing stock. The older the average home is, the more likely a given neighborhood will see strong appreciation





7. The conventional wisdom of "buying the worst house in the best neighborhood" is actually bad advice. Instead, buy the worst house in the hottest neighborhood
  1. Buy a house not in the bottom 10% of the nicest neighborhood you can afford
8. Great school districts boost property values and high property values boosts school quality – creating a virtuous circle
9. Do your homework to see if Fixed Rate Mortgage or Adjustable Risk Mortgage is best for you – steady or falling interest rates makes ARM more likely the better choice
10. Foreclosure discount is tricky because it doesn't take worse condition of these homes into account and they are often smaller too. True discount, when comparing apples to apples, is really only about 7.7%
11. Inspectors – reviews are a major differentiator, try before you buy (ask to see old homes they've bought or sold), first impressions matter and attend the inspection in person
12. Renovating bathroom, mid–range windows adds the most value to homes where kitchen and basement renovations tend to lose money
13. Adjectives in listing is very important – potential, quaint and unique detract a lot of value but words like granite, landscaped, remodel, stainless add value
  1. Be honest, flaunt the house's attributes and add enough color and descriptions to the listing
14. Homes listed during the last 2 weeks of March tend to sell faster and for more money. However, always list after the first major influx of new listings of the year (bringing your listing to the top when people start searching more in early summer)
15. Listing at too high a premium actually lowers the eventual sale price, on average
  1. If overprice, better to quickly revert price down to market value
16. Pricing using the "magical number 9" can lead to a higher sale price. \$149,000 or \$149,900 for example tend to sell for more than homes listed at \$150,000
17. Infrequent, emotional expensive decisions tend to make people nervous and therefore rely on experts. This is especially true for home decisions which is why real estate agents are likely to thrive even though service providers in different sectors are disappearing
18. Right agent – experienced (10+ years), women tend to be slightly better, rely on their Zillow rating
19. Street maxims – a street with a name sells for more on average than numbered streets, Lake St. is better than Main St. (less common), suffixes matter (Dr. vs. Pl. vs. Ct.)
20. The "sand states" (California, Arizona, Utah and Florida) tend to be more volatile because of the highly flexible work force found in those states
21. More walkable areas offer higher returns on average and are more resilient to economic downturns – see Walk Score ratings
22. Richer neighborhoods have 60% higher returns on average than poorer ones
23. Mortgage Interest Deduction is essentially a \$100b subsidy which mainly benefits the wealthy
24. Government housing subsidies tend to hurt low–income tenants in the long–run more than help them
25. Coastal areas always command a premium and appreciate faster although they can be devastated by hurricanes and the like. The risk tends not to be accounted for in the price because the government has shown that it will bail people out after disasters
26. More than half of America's homes (50m) have been updated on Zillow but what makes Zillow's database unique however is more the frequency with which it's accessed and



updated than its sheer size. The differentiating factor is that Zillow has a database not just of all homes, but of all home values – going back for decades. By adding the dimension of time, Zillow can analyze the data for developments that have powerful implications about how the housing market is performing today and how it is likely to perform in the future.

### What I got out of it

1. The age of organizing data to bring transparency of pricing, trends and decision making has come to real estate and it'll be fascinating to see how their platform and forecasts perform moving forward

