"A compelling framework for building platforms, networks and marketplaces. Essential reading for every entrepreneur and innovator."

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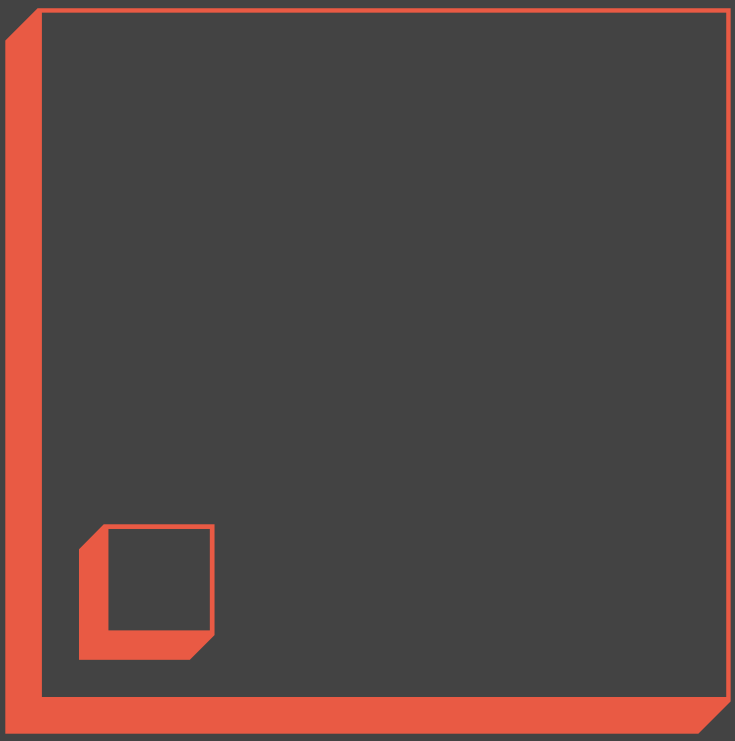

PLATFORM SCALE

How a new breed of startups is building large empires with minimum investment

Sangeet Paul Choudary

Platform Scale explains the design of a family of emerging digital business models that enables today's startups to achieve rapid scale: the platform business model. The many manifestations of the platform business model - social media, the peer economy, cryptocurrencies, APIs and developer ecosystems, the Internet of things, crowdsourcing models, and many others - are becoming increasingly relevant. Yet, most new platform ideas fail because the business design and growth strategies involved in building platforms are not well understood.

Platform Scale is a builder's manual for anyone building a platform business today. It lays out a structured approach to designing and growing a platform business model and addresses the key factors that lead to the success and failure of these businesses.

"*The leading resource for understanding business models for the networked age.*"
– Patrick Vlaskovits, New York Times Bestselling Author of The Lean Entrepreneur

"*Many understand the power of platforms. Few understand how they work. Only Sangeet tells you how to build them.*"
– Nir Eyal, Wall Street Journal Bestselling author of Hooked

"*Sangeet's work brings science and structure to a host of emerging digital business models.*"
– Michael Karnjanaprakorn, Founder and CEO, SkillShare

"*The go-to person when it comes to understanding digital economics.*"
– ABC Mornings Radio Talk Show, at the G20 World Summit 2014

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PLATFORM SCALE

How an emerging business model helps startups
build large empires with minimum investment

Sangeet Paul Choudary

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Sangeet Paul Choudary is a widely published researcher and advisor to C-level executives globally, best known for his work on platform business models and multi-sided network effects. He is the co-chair of the MIT Platform Strategy Summit, held annually at the MIT Media Labs in Boston. Sangeet also acts as an industry advisor to the Global Platform Data Project at Stanford University and is an advisor at 500Startups in Silicon Valley. He is an Entrepreneur-in-Residence at INSEAD Business School and a Global Fellow at the Centre for Global Enterprise in New York.

Sangeet is an advisor to C-level executives globally and has advised CXOs and board members in multiple industries across Europe, North & South America, Asia and Australia, on the design and implementation of platform business models and network effects.

Sangeet is a regular keynote speaker at leading industry conferences globally (represented by Celebrity Speakers Ltd.) and was invited to speak at the G20 World Summit 2014 events in Brisbane. He has lectured at leading universities in the US, including Harvard Business School, Carnegie Mellon University and the MIT Media Labs. He is a board member (advisory) of CoFounders Lab, the world's largest community of technology entrepreneurs.

At the G20 World Summit 2014 in Brisbane, he was hailed by the Australian media as 'a forefront researcher into how businesses can use metadata and technology' and 'the go-to person when it comes to understanding digital economics'.

Sangeet's work has been featured and recommended on leading publications, including the Wall Street Journal, Harvard Business Review, MarketWatch, Forbes, WIRED Magazine and Fast Company. In the April 2015 issue of Thinkers magazine on 'Redefining Capitalism', he was featured alongside globally leading thinkers like Michael Porter and Don Tapscott. Sangeet is also a contributing author to the book *Managing Startups* (O'Reilly Media, Inc) and the co-author of the upcoming book *Platform Revolution* (W.W. Norton & Company, Inc).

For more details, please visit
http://platformthinkinglabs.com/about/sangeet-choudary

PRAISE

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Television Host of Australian Idol, The Bachelor,
Live To Dance, The Hot Hits Live from LA

"*The go-to person when it comes to understanding digital economics.*"

– ABC MORNINGS RADIO TALK SHOW,
Australian Radio, at the G20 World Summit 2014

"*An excellent source for managers to develop platform thinking and stay up-to-date on the dynamics of platform-based markets.*"

– PROF. FENG ZHU, PROFESSOR,
Harvard Business School

"*A forefront researcher into how businesses can better use metadata and current technology.*"

– 4BC 1116 NEWS TALK,
Australian Radio, G20 World Summit 2014

"*Sangeet is one of the deepest thinkers I know. He has helped countless startups understand and unlock their core value as platform businesses. His work sits next to Clayton Christensen and Geoffrey Moore.*"

– MENG WONG,
Co-founder, JFDI

"*One of the best innovation strategists in the world and an expert on building platforms. His work is a must-read for entrepreneurs, investors, and innovators worldwide.*"

– KEVIN DEWALT,
Former EIR at NSF and Founder, SoHelpful.Me

"*Sangeet's work provides amazing insight into the success and failure of todays business models, a resource that entrepreneurs and innovators cannot afford to ignore.*"

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"*Sangeet's platform analysis covers the topic with a depth that's unique and desperately needed. It's forced me to rethink how I would structure digital business models to leverage the gains from being a platform v product.*"

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Founder of Rypple, acquired by Salesforce

"*Sangeet's insights reflect his wisdom across not only platform economics but wider digital disruption issues.*"

– CAT MATSON,
Panel Moderator, G20 Summit Global Cafe, Chief Digital Officer, City of Brisbane

"*Should be part of the curriculum of every business school throughout the world.*"

– KJETIL OLSEN,
Vice President - International, UpWork

"*I've assigned this as mandatory reading for my C-team.*"

– GARY FORNI,
CEO, TuffWerx and former Global Director of Marketing, Intel

"A *must-read for anyone in the 'platform' business.*

– AVROM GILBERT,
COO of Seeking Alpha

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Platform Scale *(n)*: Business scale powered by the ability to leverage and orchestrate a global connected ecosystem of producers and consumers toward efficient value creation and exchange.

PREFACE

Eating The World

In the late summer of 2011, Marc Andreessen, co-founder of Netscape and the venture capital firm Andreessen-Horowitz, opined in a *Wall Street Journal* op-ed that "software is eating the world." Andreessen was referring to firms like Amazon and Google that displace traditional industry leaders with new business models. Ever since, the phrase has become a rallying cry for every new startup hoping to build the next big thing.

Software has been around for several decades now, but its ability to "eat" the world – to disrupt and reorganize traditional industries – has become most apparent over the last decade and a half. During this period, software has "eaten" media, telecom, professional services, and retail and is increasingly "eating" banking, healthcare, education, energy, transportation – practically everything imaginable.

Yet it isn't software itself that is eating the world. It is the ability of software to orchestrate people and resources, make intelligent decisions, and enable a connected global workforce to create value that is the real force driving disruption today. Uber orchestrates the physical movement of cars and

travelers connected to the Internet, with its algorithms making intelligent decisions. Facebook intelligently identifies the content that is most relevant to a particular user, while Reddit organizes users around the world toward an editorial function. Airbnb isn't merely an app or a website; it is a central market-making mechanism that allows the creation of an alternate market for accommodations. Likewise, Amazon has done much to change power structures in the publishing and retail industries. The Nest thermostat demonstrates software's ability to add a brain to physical objects. Nest's thermostats make intelligent decisions, constantly learning from their surroundings and from the collective behavior of other connected thermostats.

Observed closely, the nature of software hasn't changed. However, its ability to organize labor and resources and make intelligent managerial decisions has changed significantly over the last decade and more. The democratization of connectivity and the rise of data-driven decision-making systems are leading to the emergence of a new range of business models. These new software-enabled business models are "eating" the world.

We are no longer in the business of building software. We are increasingly moving into the business of enabling efficient social and business interactions, mediated by software.

The systems mediating these interactions follow the platform business model: a plug-and-play business model that allows connected users and things to plug in and orchestrates them toward efficient interactions. Some of us continue to believe, erroneously, that building superior technology will determine business success in the future. Instead, as this book illustrates, leveraging technology – often commoditized – to orchestrate connected users toward new and efficient value-creating interactions holds the key to the business models of the future.

This book explains the inner workings of these new business models and their ability to scale rapidly. The platform business model is powered by a new set of factors that determine value creation and competitive advantage. These factors are rapidly changing how entire industries operate. Upstarts

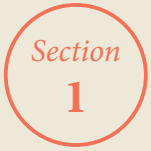
are disrupting deeply rooted traditional industries by leveraging platforms. The decline of Nokia and Blackberry and the challenge of Uber and Lyft to the taxi industry worldwide bear testament to this shift. Meanwhile, individuals and niche brands are gaining rapid market access by leveraging platforms for global reach. Teenagers are building highly monetizable media empires on YouTube, while many freelancers make a better living on Upwork than they ever did or could at a traditional firm.

My fascination with platforms emerged from a desire to understand business success and failure in the context of emerging digital business models. *Platform Scale* is an outcome of this growing fascination to unpack the inner workings of business models in a networked world.

The ideas in this book aim to illustrate the importance of these models, the forces that power their rapid scale, and the factors that will make them the dominant business models in a networked world. While the effects throughout society are self-evident, the causes are deeply contested and only superficially understood. *Platform Scale* serves to create a lens to analyze these changes and apply them to future platform-scale businesses.

This book is structured into six sections covering various aspects of platform scale. Section one introduces the concept of platform scale – the mechanism by which these new business models scale rapidly – and explains the shift in business thinking needed to manage businesses with platform scale. Section two lays out a stepwise framework for the business design of platform business models. Section three examines the core managerial decisions involved in managing platform scale businesses. Section four explores solutions to a problem specific to getting started with platform scale: the chicken and egg problem. Section five lays out the science of viral growth in a world of networks. Section six takes the counter view on platform scale and identifies conditions where scale can work against platform businesses. Finally, the epilogue proposes a framework for applying these principles in large, traditional, incumbent business organizations.

As the world becomes more connected, the systems that best harness these connected users and objects toward efficient social and business interactions will win. To successfully do so, these systems will need to understand and leverage platform scale.



AN INTRODUCTION TO INTERACTION-FIRST BUSINESSES

We are not in the business of building software,
We are in the business of enabling interactions.

1.1

THE REVOLUTION WILL BE PLATFORMED

An emerging family of business models has gained rapid traction over the past decade. Businesses like Uber, Airbnb, and Twitter that were founded less than a decade ago have rapidly grown to gain global adoption and built multi-billion dollar business empires. Over the same period, companies like Google, Facebook, Apple, and Amazon have demonstrated rapid valuation gains, becoming some of the highest-valued companies in the world. These businesses seem to follow a different playbook to achieve scale. The traditional principles of scaling a business no longer seem to apply, something that leaves incumbents confused. This introductory chapter explains how the mechanics that drive business scale are changing and how the new rules of scale create tremendous opportunities for businesses to innovate and transform themselves.

PIPES TO PLATFORMS: A SHIFT IN BUSINESS DESIGN

The Internet restructures the mechanics by which businesses create and deliver value. This has important implications across industries and gives

rise to a whole new design for business. We are in the midst of transformative shift in business design as business models move from *pipes* to *platforms*.
Pipes have long served as the dominant business design for the industrial economy. Firms 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.
Pipes appear in nearly every area of modern industry. The traditional manufacturing supply chain runs on a pipe model. Every consumer good that finds its way into our hands comes down a pipe that constantly adds value to the product. Our service organizations work like pipes; they aggregate the resources for service provision and deliver those services to clients. Traditional media – television, radio, and newspapers – are pipes pushing content to us. Our education system often works like a pipe where teachers push "knowledge" to receptive students. There is a linear movement of value from a producer to one or many consumers in all examples of pipe businesses.
Early digital business models also followed the pipe design. The first media companies on the Internet worked like pipes. Amazon's e-commerce store started as a pipe. Single-user software-as-a-service runs like a pipe, where the software is created by the business and delivered to the consumer. Even today, many businesses continue to see the Internet as a pipe, one of many delivery channels.
However, three forces today – increasing connectedness, decentralized production, and the rise of artificial intelligence – are driving a whole new design for business. The emerging design of business is that of a platform. Some of the fastest-scaling businesses of the last decade – Google, Facebook, Apple, Uber, and Airbnb – leverage the platform business model. 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. Facebook provides an infrastructure for users to connect with each other and enables interactions between them. Uber coordinates drivers and passengers toward economic exchanges. Many businesses today act as platforms enabling interactions

among their participants.

Platforms allow participants to co-create and exchange value with each other. External developers can extend platform functionality using its APIs and contribute back to the very infrastructure of the business. Platform users who act as producers can create value on the platform for other users to consume.

This changes the very design of the business model. While pipes created and pushed value out to consumers, platforms allow external producers and consumers to exchange value with each other. 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 into and interact with each other.
2. They curate participants on the platform and govern the social and economic interactions that ensue.

Today, social platforms like Facebook, YouTube, and Twitter allow users to create content and interact with each other. Marketplaces like eBay and Etsy facilitate remote interactions. Some platforms, like Tinder and Airbnb, facilitate in-person interactions. Others, like Uber and Munchery, manage the coordination and movement of real-world resources in real time. All these platforms perform the two key roles mentioned above. They provide an open, plug-and-play infrastructure and govern the interactions that ensue once participants come onboard the platform.

The enablement of interactions between external participants is a core aspect of the platform business model. *Enabling interactions on a plug-and-play infrastructure requires a multi-directional flow of value between different participants.* This is different from pipes, which solely create and push value out to consumers in a linear flow of value. The rise of platforms demonstrates that we are in the midst of a fundamental change in the very design of business.

As we note above, the mechanism of value creation on a platform is very different from that in a pipe business. To understand this better and the implications that this has on business scalability, it is helpful to understand

the three key shifts that are brought about by a shift from pipe to platform business models.

PIPES TO PLATFORMS – THREE PRIMARY SHIFTS

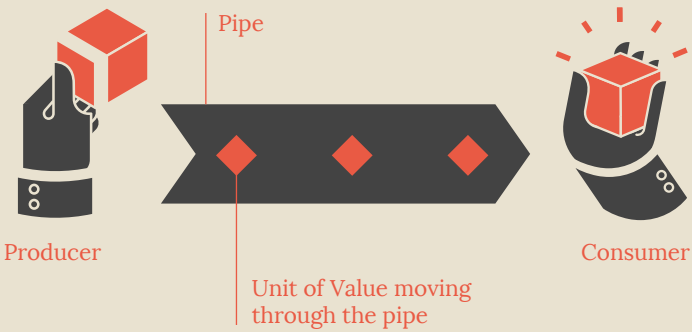
The movement from pipes to platforms is manifested through three key shifts in the way that a business works.

a. *Shift in Markets: From Consumers to Producers*
In the traditional view of the market, the consumer was located at the end of the pipe. The pipe would deliver products and services to the consumer. The consumer's relationship with the business was straightforward. The business built what the consumer wanted, and the consumer paid for the good or service, often with money but also with attention and engagement. The functions of production and consumption were clearly demarcated.
On platforms, the business does not create the end value; rather, the business only enables value creation. As a result, participants on the platform take on production as well as consumption roles. Sellers on eBay, drivers on Uber, and video creators on YouTube act as producers and create value on the platform. While pipes could focus solely on their consuming users, platforms need to focus on producers as well as consumers. If the platform cannot entice a group of producers to act and engage consistently, it is unlikely to be successful at creating value.

b. Shift in Competitive Advantage: From Resources to Ecosystems
Pipes competed through resource ownership and control. This led to the rise in popularity of the vertically integrated business as well as the idea of scaling through mergers and acquisitions. In a world of pipes, firms compete based on the control and ownership of internal resources and intellectual property.
This traditional view of competitive advantage – that bigger is better and the more you own, the more you win – has broken down. Domination through the possession of vast monetary or physical resources – a hallmark of the pipe world – does not apply to the world of platforms. Airbnb and

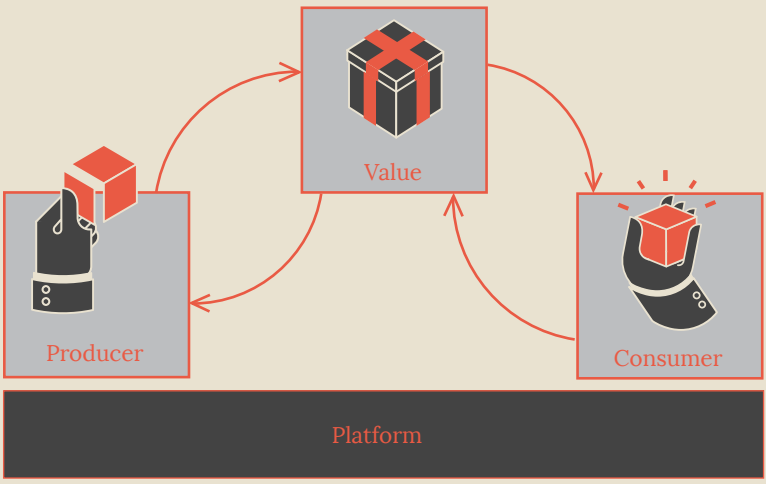
Pipe

Figure 1



Platform

Figure 2



Uber aren't multi-billion dollar businesses because of the employees and resources they control in-house but because of the ecosystem of producers and consumers that they succeed in attracting, curating, and cultivating. Platforms successfully orchestrate value-exchanging interactions in this ecosystem using data about the various ecosystem participants. Ecosystems are the key enablers of value creation on platforms and a new source of competitive advantage. *Platform giants will create massive value, not through their access to physical resources but through leveraging data to orchestrate physical and digital resources across their ecosystem.*

c. Shift in Value Creation: From Processes to Interactions

Media companies have historically relied on the process of sourcing and disseminating media. This has been partially replaced by interactions between users on various social networks, such as Twitter and Facebook. These platforms focus on matching the right content with the right consumer based on certain parameters that the platform determines in real time.

In linear pipes, value creation is centered on an end-to-end process that shifts value down the pipe, from the producer to the consumer. On platforms, the interaction between producers and consumers, facilitated by the platform, determines value creation and exchange.

Lack of resource ownership, as previously mentioned, works in tandem with the movement from processes to ecosystem interactions. On Airbnb, resources are owned by hosts; on Uber, resources are owned by drivers. Platforms enable value creation and exchange by matching the most relevant resources from producers in the ecosystem with the consumers on the platform that need those resources.

Value is no longer created and scaled merely through processes that organize internal labor and resources. Instead, value is created and scaled through interactions that orchestrate users and resources in the ecosystem. While inventory-intensive companies like hotels have focused on maximizing capacity utilization (process focus), emerging platforms like Airbnb and Uber focus on improving the algorithmic matching of supply and demand (interaction focus).

The three shifts detailed above change the mechanics by which firms create value, interact with markets, and build competitive advantage. Eventually, the shift from pipes to platforms changes how a business creates and scales value.

As we move from a world of pipes to one of platforms, the rules of business scale – the guiding principles of how a business grows over time to create greater value – change. To better understand these new models of growth, it is important first to explore the history of business scale in the context of the shift from pipes to platforms.

A BRIEF HISTORY OF SCALE

The ability of a business to scale is determined by its ability to *aggregate* the inputs to business – labor and resources – and coordinate them *efficiently* toward value creation and delivery.

Pipe Scale

In a world of pipes, businesses achieved scale by aggregating labor and resources internally and used value-creating business processes to transform these inputs into functioning products and deliverable services. As these organizations grew larger, they increased process efficiency and managed value creation through command-and-control hierarchies.

In a world of pipes, aggregation also helped firms exchange created value for commercial gain. The pipe world aggregated attention around specific mass media channels. The purchase of goods and services was aggregated at retail stores. Value would flow down the pipe to consumers aggregated at these end points.

The aggregation of value creation inside factories and service organizations, coupled with the aggregation of demand at specific points of sale, serve as a hallmark of pipe design.

Pipe scale (n): *Business scale powered by the ability to coordinate internal labor and resources toward efficient value creation and toward delivery of the created value to an aggregated consumer base.*

The management of pipe scale involves the design and optimization of this linear flow of value from the business to the consumer.

Over the past hundred years, large organizations have mastered the art of building and scaling pipes in this manner. As a result, these companies have consistently succeeded in creating massive business value that has stood the test of time, until now.

Platform Scale
The mechanics of achieving aggregation and efficiency are undergoing a radical transformation. As we move to a world of platforms, we see a more decentralized form of aggregation emerge. Inputs to business – labor and resources – no longer need to be aggregated internally; pervasive connectivity allows the aggregation of labor and resources even when they exist externally. This ability to aggregate resources without the need for physical concentration and centralized control leads to a new design for platform business models.
As the world becomes more connected, we're seeing the rise of **platform scale**. The fastest-scaling businesses today build and manage platforms that allow external producers and consumers to plug in and create and exchange value with each other directly.

Platform scale (n): *Business scale powered by the ability to leverage and orchestrate a global connected ecosystem of producers and consumers toward efficient value creation and exchange.*
The management of platform scale involves the design and optimization of value-exchange interactions between producers and consumers.

Pipe scale leveraged internal processes and resources to create value and defined mass media and retail as the two points at which "big business" would talk to consumers. Platform scale leverages a global ecosystem of interacting producers and consumers who are always on, ever producing and consuming, and collectively have the potential to power transformative business models. As businesses move from pipe scale to platform scale,

they will reduce focus on the ownership of resources, which formed the basis of traditional competition, and will instead compete on their ability to facilitate interactions between producers and consumers in their ecosystem. Below, we explore the many manifestations of platform scale that we see around us today.

MANIFESTATIONS OF PLATFORM SCALE

The implications of platform scale aren't restricted to specific industries. Much of the disruption that we see around us today may be accounted for by a universal shift from linear to networked business models, from pipe scale to platform scale. As we note below, this shift is already playing itself out across multiple industries.

a. Social media – Pipes give way to social participation

The vast majority of traditional media – TV, radio, newspapers – work like pipes, pushing content to consumers. YouTube, podcasts, and Medium use the platform model. These platforms constantly encourage producers and consumers of content to interact with each other.

The democratization of content production tools and the shift in media distribution power from journalists to user-producers led to the shift from traditional to social media. As with other shifts to platform scale, emerging media platforms rely less on the ownership of resources (content) and more on their ability to orchestrate interactions between producers and consumers of content.

b. The on-demand economy – Service delivery on platforms

A hotel leverages pipe scale. It invests in acquiring and owning more rooms and optimizing its business to maximize occupancy.

Airbnb solves the same needs, leveraging platform scale. It doesn't own any rooms, nor does it need to create more rooms physically to scale. Airbnb demonstrates that value lies not in owning resources but in managing the exchange of services in the ecosystem. Airbnb scales an ecosystem of service providers, most or all of which are distributed and autonomous.

Unlike hotels, which invest in resource creation, platforms like Airbnb invest in creating better trust mechanisms that identify and differentiate good behavior from poor behavior and minimize interaction risks. This shift in service delivery, from process-driven pipes to interaction-enabling platforms, is visible across several services verticals. Platforms like Uber, Upwork, LendingClub, and Munchery leverage ecosystem interactions to scale while relinquishing resource ownership.

c. The app economy – Leveraging platforms for innovation

Platforms are changing how firms innovate today. Handset manufacturers like Nokia and BlackBerry would build new handsets leveraging pipe control. They would curate and source apps contractually and pre-load them on handsets. Apple and Android changed the rules in much the same way that Airbnb and YouTube did, by using a networked platform to disrupt a controlled pipe. External developers plug in to the platform and create apps on top of it. Consumers moved to platform phones whose functionality could easily be extended using apps created by external developers. *The disruption of Nokia and BlackBerry demonstrates that firms must leverage platforms for innovation.* Today, banks, retailers, and businesses across diverse industries are following the Android playbook to use platforms for innovation.

d. The intelligent Internet of Things

Nest's thermostats constantly create data, as do GE's machines and Nike's shoes. These products aren't merely physical products anymore; they plug in to platforms. These objects feed data into central platforms, and every individual object connected to the platform learns from the community of other objects connected to the platform. As *we move from pipes to platforms, the business model of consumer goods will also move from one centered on product sales to one centered on platform-enabled connected services, where products work as part of an ecosystem.* Understanding platforms is critical to unlocking these new business models.

Nike's FuelBand and connected shoe have transformed it from a company that only sells shoes to a company working on unlocking new engagement

and monetization using a data platform. In a similar manner, GE is transforming its business model by digitizing its machines and managing their behavior over platforms.

e. Products and services as platform-powered communities
This new scale isn't merely restricted to large platforms disrupting traditional industries. We see platform scale powering specific single-purpose applications. Instagram aggregates the world's photography while also aggregating the community's attention for commerce. CrossFit isn't merely a service franchise; its rapid growth may well be attributed to the connected community that has emerged around its services. Nest, unlike every other physical thermostat, aggregates data about energy consumption across all thermostats in an area and provides consolidated analytics and insights to utilities. *Today's products and services benefit from platform-powered communities.* A traditional camera, gymnasium, or thermostat would never have employed such business models, but in a constantly connected world, they provide enormous value to all connected parties.

f. 3D printing – The distributed factory
With the rise of the Internet, manufacturing firms have increasingly relied on external innovators for sourcing industrial design. However, there has never been a concerted shift toward distributed manufacturing because the costs of manufacturing at these individual distributed locations would be too high compared to manufacturing centrally. *With the rise of the 3D printer, there are an increasing number of indicators that some forms of manufacturing will move from pipes to platforms, leading to the creation of entirely new markets.* Industrial designers will sell directly to consumers in much the same way that graphic designers currently do on platforms like Threadless and 99Designs. Collaboration models in industrial design and assembly will become networked as well.

g. Crowdsourcing and the Wikipedia of everything
The coordination of production has traditionally required a supply chain of integrated, top-down processes and controls. Wikipedia reconfigured

this linear process and allowed it to be managed cyclically on a network. Wikipedia allows anyone to contribute content to a self-policing/semi-autonomous editorial base that works together to create a constantly changing document on the platform. Similarly, Waze, an Israeli traffic prediction app, crowdsources driving information from multiple drivers while simultaneously using algorithms to determine authenticity before distributing traffic conditions to the wider community.

Wikipedia and Waze reimagine the organization of the traditional production function, away from supply chains and onto platforms. They provide an early glimpse into a future where value creation may not need a supply chain, instead being orchestrated via a network of connected users on a platform.

h. Cryptocurrencies

Platform theory helps to explain the workings of cryptocurrencies, like Bitcoin. Decentralized management – through mechanisms like the blockchain – has the potential to change governance structures for the next generation of platforms, much like social feedback tools power curation on many of the current generation of platforms. While we do not explore Bitcoin in detail in this book, the principles laid out apply equally well to understanding all emerging platforms that the book may not explicitly cover.

PLATFORM SCALE IMPERATIVE

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.

We are still in the early innings of exploring the platforms made possible by new forms of aggregation and efficiency. There may be numerous ways in which the old conflicts with the new. While additional rules and regu-

lations that ensure safety and efficiency in the new model are necessary, they are likely only to regulate and channel the transformation, not stop it from happening.

As the world becomes more connected, the platforms that harness these connections and the ensuing interactions into effective business models will win.

1.2

THE PLATFORM MANIFESTO

A Shift In Thinking For An Age Of Platforms

As the design of business transitions from pipes to platforms, we realize that business principles that applied in a world of pipes no longer apply in a world of platforms. The mechanisms by which value creation is achieved through aggregation change in a world of platforms. Value creation still requires the aggregation of resources and labor, but the design and methods of achieving this aggregation change. As a consequence, business principles that governed decision-making in a world of pipes may no longer apply in a world of platforms.

The platform manifesto, presented in this chapter, lays out the shift in mindset needed to manage this new world. The manifesto explains the shift in business principles while acknowledging that value creation and delivery are still centered on a business's ability to aggregate.

THE ECOSYSTEM IS THE NEW WAREHOUSE

Businesses have traditionally relied on internal labor and owned resources to scale value creation. As the world becomes more networked, businesses can leverage a new source of scale: *an external ecosystem of users and partners connected to the business over the Internet.*

Amazon started out as a traditional online store but aggregated additional supply-side scalability as it moved toward an online marketplace model. This marketplace model leveraged warehouses and inventory, distributed across an ecosystem of partner merchants, to serve consumers. More recently, many e-commerce shops in India have also realized the need to shift from stores to marketplaces, from pipes to platforms. The ecosystem stores the inventory while the platform manages the matching of this distributed inventory with demand. The platform may even manage or orchestrate the physical delivery of goods from the warehouses, but it doesn't own significant portions of the inventory that it sells. When Amazon enabled the liquidation of inventory owned by its partner merchants, it started leveraging the ecosystem as a distributed warehouse.

Hotels own inventory, but Airbnb works as a virtual accommodation provider, leveraging rooms in its ecosystem. This enables Airbnb to expand fast and operate without fixed costs. Traditionally, media houses have prided themselves on owning content or sourcing the best content contractually. YouTube and Soundcloud have unlocked an entire ecosystem of content creators who participate on the platform. These thriving ecosystems of creators enable the platforms to compete credibly with traditional media houses for consumer attention.

The evolution of online news and publishing is no different. Huffington Post started out with a traditional media model, creating most of the content in-house, but it scaled by building out an ecosystem of contributing writers. Later, Forbes, WIRED, and a host of other traditional media companies took a similar path. *The ecosystem-based view of value creation is in stark contrast to the traditional resource-based view of value creation, where control of resources was an important source of competitive advantage.*

THE ECOSYSTEM IS ALSO THE NEW SUPPLY CHAIN

Resources and labor have traditionally been organized around internal processes to power value creation. Pipes organized processes as supply chains that would move value from the producer to the consumer. With the rise of platforms, the ecosystem is the new supply chain.

The costs of coordinating labor and resources toward value creation are declining rapidly as new coordination tools enable a distributed ecosystem to work together to create value. We saw this first in the creation of open-source software, where an external ecosystem of contributors worked together to improve the software as a large, globally distributed team. Wikipedia brought this ethos to publishing and media by organizing a distributed network of content creators and content editors, toward the common goal of creating credible and citation-rich content.

Viki is a Singapore-based company that leverages an ecosystem for a task that has normally been performed using internal processes or contractual arrangements. Viki sources soap operas and movies in Asian languages and orchestrates a global ecosystem of translators to create subtitles for the content. Viki's software powers the subtitle creation, editing, and confirmation process and is reminiscent of the open-source tools used by Wikipedia. The process of adding subtitles has historically relied upon internal management but is now achieved by orchestrating a complex ecosystem of creators and editors via a software platform.

Quirky, A New York based "invention company," is trying to re-imagine manufacturing on an open platform. The entire manufacturing supply chain, from design to production, packaging to distribution, is managed via a platform across a multitude of different parties.

As noted in Chapter 1 of this section, we've always used aggregation to enable the coordination of value-creating processes. However, the precipitous drop in the costs of coordination and distributed production enables platforms to achieve aggregation across many types of activities more effectively and efficiently than a command and control hierarchy ever could.

THE NETWORK EFFECT IS THE NEW DRIVER FOR SCALE

The notion of the ecosystem as the new source of supply and value creation demonstrates an important shift in a networked world. Scale is no longer achieved purely through accumulation of labor and resources within a business or through non-scalable contractual relationships outside the business. Instead, *scale is achieved by leveraging interactions in the ecosystem.* A new breed of startups is building large empires with minimum investments, leveraging value created and exchanged in the ecosystem.

Platform businesses scale through network effects. Network effects make the platform more valuable as more value is created and exchanged by the users of the platform. This, in turn, attracts even more users, scaling the value creation further. Greater value creation attracts greater value consumption, and vice versa. The network effect creates positive feedback that enables systems to scale faster as they grow. These concepts are explored in detail in subsequent chapters in this section.

DATA IS THE NEW DOLLAR

In the quest to maximize shareholder value, organizations have traditionally been optimized to absorb revenue. Sales professionals are measured and incentivized based on the revenue they help the organization absorb. *In the quest to transform into platforms, organizations must shift from a culture of dollar absorption to a culture of data absorption.* Business units should be measured not just in terms of dollars absorbed but also in terms of monetizable data absorbed. As companies like LinkedIn demonstrate, more data absorbed from users yield more ways of making money. LinkedIn absorbs more data from its users than Monster ever did, and this helped it create a larger job market than Monster's.

Ecosystem interactions are orchestrated using data. Supply is matched with demand using data. Platform users are served in a highly personalized manner by leveraging data. Toyota, GM, and Ford are transforming themselves to become data-acquiring companies, as they move toward re-imagining cars as platforms. Their cars constantly stream data about usage, which helps these brands better predict after-sales service. Data

captured from cars also help insurance companies personalize their premiums better.

COMMUNITY MANAGEMENT IS THE NEW HUMAN RESOURCES MANAGEMENT

Community management is often viewed as an extension of marketing. If a linear world demanded marketing and customer relationships to manage and influence an audience, popular thinking would have us believe that a networked, participatory world should shift the focus of marketing to community management. But a community isn't simply a more participative audience. *A community must be scaled in a platform business, in much the same way that a workforce of employees is scaled within an organization.* Community management requires structuring and managing incentives for participants, enabling the learning and development of producers, and creating a host of other support infrastructure that the human resources department would traditionally provide to an organization internally. Managing community incentives and governance is as important as managing internal employee conduct and compliance.

The first non-founding employee at Instagram was neither an engineer nor a designer, nor even a marketer. The Instagram founders understood the importance of managing ecosystems and communities. Employee #1, Josh Riedel, was a community manager, tasked solely with managing the growing community of content creators on Instagram.

Community management is all the more important when one considers the fact that service marketplaces, like Airbnb, compete with traditional service providers, like hotels. Traditional service providers invest heavily in training and managing incentives for their staff. To provide a service quality at par with traditional service providers, today's service marketplaces must ensure that they invest in community management and development, much the same way that hotels invest in employee training. Most on-demand labor platforms today must redesign community management as a human resources management function for an age of open platforms.

LIQUIDITY MANAGEMENT IS THE NEW INVENTORY CONTROL

Inventory-intensive businesses constantly monitor metrics like inventory turnover. They balance the risks of carrying idle inventory with the goal of offering a minimum guarantee to satisfy demand. In an ideal business, supply should consistently match demand. Both idle supply and unfulfilled demand are undesirable scenarios.

Platforms do not hold inventory, but they must work similarly toward avoiding idle supply and unfulfilled demand. Producers will abandon the platform in the absence of relevant demand. Consumers searching for items become discouraged unless they are matched with relevant supply. Matching supply and demand isn't merely an exercise in efficiency; it is the only way that a platform can hold the two sides together.

Platforms must focus on liquidity management to ensure that both producers and consumers find value in using the platform. High liquidity ensures that the demand on the platform is reliably served with supply and that the supply created on the platform is liquidated with demand efficiently. A platform must ensure that there is enough supply available to meet the demand on the platform. *At all points in its life cycle, the platform must ensure that there is enough overlap between supply and demand to ensure that demand doesn't go unfulfilled.*

Platforms achieve this through a range of mechanisms. In its initial days, Facebook focused on creating a social network within closed college campuses because of the high overlap of users who already knew each other within a campus. Facebook expanded by creating closed but highly liquid networks of users. Despite all its criticism, Uber's surge pricing is the platform's effort at real-time liquidity management. As demand outstrips supply, the ride pricing changes to attract more drivers onto the road. This, in turn, increases supply. Surge pricing is an example of how liquidity management works in today's world. Uber, though, has much to learn about communicating the mechanics of surge pricing effectively to consumers, who often view it as a price-gouging tactic.

CURATION AND REPUTATION ARE THE NEW QUALITY CONTROL

Platforms cannot control quality as pipes did. Pipes relied on hierarchical control and strict quality control mechanisms. Gatekeepers would determine what would be accepted and what would be rejected. When platforms relinquish control to the ecosystem, they lose control of the value-creation process. *A world of platforms needs new mechanisms for quality control that separate the good from the bad while encouraging active participation by an ecosystem of producers.* The rigidity of the traditional quality control process often discourages external producers from participating.

The importance of quality control on an open-access system cannot be overstated. Open systems encourage unrestricted production, leading to abundance, which can lead to a dip in quality and higher search efforts for consumers. Hence, quality control is critical to separate the best from the rest and serve consumers the most relevant content. Some platforms require initial screening of producers to ensure a minimum quality threshold; for example, Uber conducts background checks on drivers. Many platforms determine producers' (or consumers') reputation and quality by aggregating social signals from the community. When hosts and guests rate each other on Airbnb, both sides create signals of quality. On Yelp, consumers rate restaurants, and those that are rated the highest end up getting more business. Amazon has replaced the traditional editorial gatekeeping with a mix of screening and social curation. The platform prevents books from being hosted unless they fulfill certain criteria. However, the books that are hosted are exposed to the market based on social signals (ratings) and customer decisions (purchases). Voting mechanisms on YouTube and Quora work similarly. Quality is controlled through a combination of editorial and social inputs, aggregated by algorithms.

USER JOURNEYS ARE THE NEW SALES FUNNELS

In a linear world, customers are led through sales funnels. Frameworks representing the customer purchase path – such as the AARRR (acquisition-activation-retention-revenue-referral) framework that tracks usage metrics – are often designed as funnels.

In a networked world, purchase paths are no longer linear. Instead, users interact with a business across multiple experiences and channels before making a purchase. Even industries like retail, which have lived by the funnel and tracked footfalls religiously, are moving to measure engagement across multiple touch points.

In a world of multi-device, multi-channel journeys, the browse and buy experiences are decoupled. It is important to ensure that actions taken by users at various points on this journey are leveraged to personalize their experience at every other point. Businesses must invest in integrating these user touch points together. A platform serves as an integration layer that connects multiple touch points with the user.

Every business that wants to benefit from multi-channel integration and serve the user across this journey must integrate its touch points with users using a platform. Once integrated, there should be a continuous flow of data across these touch-points to deliver highly personalized experiences. The platform acts as a sink that constantly absorbs data from the user and consequently delivers highly personalized experiences. Connectivity by data serves as the binding agent between the users' immediate experience and their journey with the business.

DISTRIBUTION IS THE NEW DESTINATION

Pipes have always worked by defining destinations. In a world of pipes, consumers would meet businesses at specific destinations. Consumers had to visit a retail outlet to purchase a product or sit in front of a television to consume an advertising message. However, in an age of always-on connectivity, users are always connected to businesses, sometimes on multiple channels simultaneously. Viewers use additional screens while watching television.

In such a world, businesses must stop thinking in terms of destinations and start thinking in terms of distribution. The business should no longer focus simply on drawing users to a destination. Instead, *a business should work on identifying new ways to distribute its experience into the context of the user.*

BEHAVIOR DESIGN IS THE NEW LOYALTY PROGRAM

In a world of pipes, businesses achieved customer retention and stickiness through a combination of loyalty programs and lock-ins. Lock-ins lured customers into long-term relationships with the business that were rarely beneficial for customers. In a world of open-access platforms, we move from lock-ins to opt-ins. Platforms are self-serve systems and can ill-afford to lock users in. *To ensure that producers and consumers participate regularly and often, platforms must invest in behavior design.* By creating a new habit, Facebook, Instagram, and Pinterest ensure that users stick around of their own accord. To create new behaviors, the platform should constantly reward desirable actions and discourage undesirable ones. Today's leading platforms – Pinterest, Airbnb, Uber, Twitter – created new behaviors that had never existed in the past.

In addition to behavior design, network effects also create stickiness. As the value of the platform increases with greater participation, consumers and producers are organically incentivized to stay engaged on the platform because the platform provides increasing amounts of value to both parties.

DATA SCIENCE IS THE NEW BUSINESS PROCESS OPTIMIZATION

Pipes achieve scale by improving the repeatability and efficiency of value-creation processes. The world of pipes required process engineering and optimization. Process engineers and managers helped improve internal processes and make them more efficient.

In a platformed world, value is created in interactions between users, powered by data. *Data science improves the platform's ability to orchestrate interactions in the ecosystem.* As value creation moves from organizational processes to ecosystem interactions, the focus of efficiency shifts from the enhancement of controlled processes to the improvement of the platform's ability to orchestrate interactions in the ecosystem.

SOCIAL FEEDBACK IS THE NEW SALES COMMISSION

In a world of pipes, employees are incentivized to help the business achieve its goals. Organizations design inorganic incentives like sales commissions

and employee bonuses to encourage employees toward specific actions. In a world of platforms, where users start performing the roles traditionally performed by employees, new types of incentives must be architected. In addition to traditional inorganic incentives, *social feedback is a key source of user incentivization on platforms.* Producers on a platform may participate more often when explicit social feedback from consumers is communicated back to them. Readers share Buzzfeed and Upworthy articles because of the social feedback that results from such an action. Instagram users share their creations for social feedback. All these actions are designed to help the platform achieve its goals.

ALGORITHMS ARE THE NEW DECISION-MAKERS

Algorithms are increasingly taking over managerial functions of resource allocation and decision-making. *On platforms, algorithms are the arbiters of both resource allocation and reputation assignment.* For example, Uber's algorithms dispatch vehicles to travelers while maintaining a driver/passenger rating system. A traditional taxi service would have leveraged a layer of middle managers to perform a similar function. *Algorithms also replace traditional gatekeepers.* In the traditional publishing industry, an editor would have made decisions on which books were taken to market. In a traditional funding model, a credit scoring agent would have made a decision on what should be funded. On Amazon or Kickstarter, the book that should go to market or the project that should be funded is increasingly decided by algorithms that leverage a complex set of social inputs. Self-policing communities and the algorithms that nudge them along are the new decision-makers.

REAL-TIME CUSTOMIZATION IS THE NEW MARKET RESEARCH

The Facebook newsfeed is a highly customized gossip column that rearranges itself in real time based on user preferences and actions. Pipe businesses have traditionally been slow to respond to consumer demand, but in a world where data flows constantly from users to business, we are increasingly seeing the real-time personalization of experiences. *Platforms*

rely on real-time customization to serve the most relevant content from producers to interested consumers. Producers also benefit from real-time customization as the platform gradually opens or closes access for producers based on their past actions and performance on the platform.
Conversely, excessive customization may also pose a challenge by constantly showing more of what a user has enjoyed in the past to the detriment of the overall experience. Platforms must ensure that they balance relevance with serendipity.

PLUG-AND-PLAY IS THE NEW BUSINESS DEVELOPMENT

In the world of pipes, business development was based on contractual integration. All business eventually required the integration of information and resource flows, but this was achieved through intensive integration operations. In the world of platforms, APIs, and self-serve interfaces, the very nature of business development has fundamentally changed. Increasingly, *APIs are enabling a new form of business development.* Prospective partners can plug and play, obviating the need for complex integration and, in some cases, complex contractual agreements. The API is the contract and the integration interface. Depending on how open the business is, anyone can use its APIs and create value for the business.
Many technology companies prioritize acquisition targets based on how well they are integrated with their existing API. Large companies encourage startups to participate in their developer partner networks and often acquire the most successful startups for those networks. Acquiring a company that has already built on one's API reduces the cost of post-acquisition integration.
The iPhone's app store introduced business development on steroids. Nokia, BlackBerry, and traditional carriers sourced their apps contractually, whereas the iPhone created an open platform, allowing anyone to create apps for it. Increasingly, many industries that have traditionally been considered non-tech, including retail, transportation, and consumer goods, are opening up APIs to encourage innovation by coalescing an external ecosystem of developer-partners.

THE INVISIBLE HAND IS THE NEW IRON FIST

The business processes that enabled pipe scale have historically been managed via hierarchies. As value creation in a platformed world moves to networks, we need a new form of management and culture, both inside and outside the organization. Hierarchies are based on rules and compliance, which require a unidirectional flow of information from the top down. This iron fist is giving way to the invisible hand. This is most evident in the rise of on-demand labor platforms where the invisible hand of algorithms and APIs dispatches supply to meet demand. *The invisible hand – typically taking the form of algorithmic decisions – nudges producers to continue creating value on the platform.* In a networked age, we are moving from a world of command and control to a self-serve world where user participation is encouraged through an invisible hand powered by data, APIs, and algorithms.

PLATFORM SCALE IMPERATIVE

A world of pipes creates value through linear processes managed through command-and-control mechanisms, contractual integration, and internal labor and resource allocation. Platforms move away from closed, controlled processes to open, enabled interactions. The management of platforms must be designed around the goal of enabling interactions between producers and consumers in a platform's ecosystem. The platform manifesto lays out the changes in business principles that are occurring as we move from a world of managing processes to a world of enabling interactions on plug-and-play platforms.

The Platform Manifesto

1. *The ecosystem is the new warehouse*

2. *The ecosystem is also the new supply chain*

3. *The network effect is the new driver for scale*

4. *Data is the new dollar*

5. *Community management is the new human resources management*

6. *Liquidity management is the new inventory control*

7. *Curation and reputation are the new quality control*

8. *User journeys are the new sales funnels*

9. *Distribution is the new destination*

10. *Behavior design is the new loyalty program*

11. *Data science is the new business process optimization*

12. *Social feedback is the new sales commission*

13. *Algorithms are the new decision makers*

14. *Real-time customization is the new market research*

15. *Plug-and-play is the new business development*

16. *The invisible hand is the new iron fist*

1.3

THE RISE OF THE INTERACTION-FIRST BUSINESS

A Fundamental Redesign Of Business Logic

Platforms compete with each other on the basis of their ability to enable interactions sustainably. Platforms do not compete merely on the strength of better features or larger user bases. They build sustainable businesses when producers and consumers participate regularly in interactions. Uber repeatedly enables interactions between drivers and travelers, resulting in rides being exchanged for money. Facebook and Twitter repeatedly enable interactions between content creators and content consumers. Amazon scales by enabling economic interactions amongst its ecosystem of merchants and buyers.

The importance of understanding the platform business, as an *enabler* of interactions, cannot be overstated. In a connected world, businesses will increasingly focus on enabling interactions between users.

The goal of the platform is to enable these interactions between producers and consumers – repeatedly and efficiently.

This chapter explains how interaction-first thinking will increasingly drive business design and lays a foundation for the key ideas explored throughout the book.

UNDERSTANDING INTERACTIONS

An interaction involves an exchange of value for some form of social or economic currency. A producer of value may create and deliver value to a consumer who is willing to offer the relevant social or economic currency in exchange.

Producers and Consumers

Every interaction involves two participating roles.

The **producer** creates supply or responds to demand on the platform. The video creator is a producer on YouTube. A freelancer is a producer on Upwork. The **consumer** generates demand or consumes supply on the platform. The video viewer on YouTube and the client requesting work on Upwork perform the consumer roles on each platform, respectively.

These terms refer to *roles*, not user segments. On eBay, the same user may perform the buyer and seller roles in different interactions. Every user tweeting on Twitter acts as a producer, while the same user performs the consumption role while reading a tweet stream.

Understanding the producer and consumer roles separately informs the design of incentives and the creation of tools that encourage active participation on the platform for the respective roles.

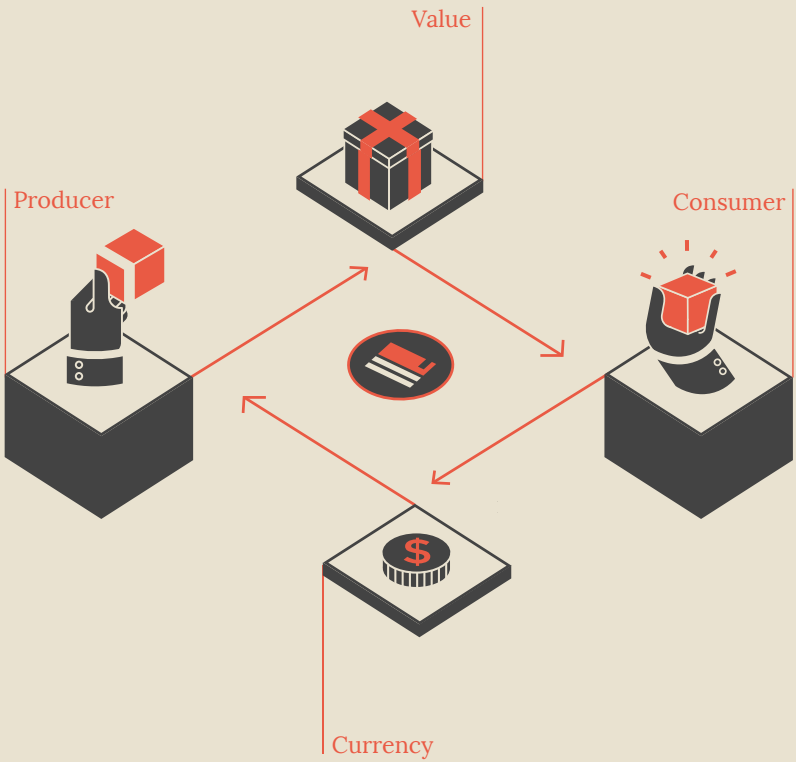
Value and currency

The concepts of value and currency apply to all social and economic interactions. Producers create value in the form of goods or services. The exchange of value may involve the exchange of physical goods (e.g., eBay and Etsy), virtual goods (e.g., Medium, YouTube, and Facebook), standardized services (e.g., Uber and Airbnb), non-standardized services (e.g., TaskRabbit and Upwork), or data (e.g., Waze and Nest).

Consumers may offer economic currencies like money or some other

Interactions

Figure 3



tradable item in exchange. In social interactions, consumers may offer social currencies like attention, reputation, influence, or goodwill.

The platform as an enabler of interactions

Platforms enable interactions when they enable the exchange of value and currency between producers and consumers.

A platform offers an underlying infrastructure on top of which producers may create value. Google's Android platform allows app developers to build apps on top of it. Medium allows the creation of value in the form of articles. Airbnb allows anyone with a spare home to publicize its availability. Uber allows drivers to signal that they are available to offer a ride. Every platform allows producers to create and/or signal value in a much more efficient manner than they would have in the past. In this manner, platforms aggregate supply.

Platforms also aggregate demand and allow consumers to "pay" for value through some form of currency. This may involve the exchange of money in some cases. In others, the platform works on communicating the exchange of social currency in one or more forms back to the producer. Medium helps writers gain exposure to an audience, while Yelp helps restaurants build a reputation. Twitter allows users to build a following and gain influence, while Facebook enables users to connect and strengthen relationships with every status update or shared content. These platforms transfer social currency from consumers to producers, which encourages producers to participate further and create value repeatedly.

THE DESIGN OF PLATFORMS AS INTERACTION ENGINES

The interaction-first view posits that the interaction between producers and consumers is the core mechanism of value creation and exchange on platforms.

Linear pipe businesses are built around a core value-creation process. These businesses scale by increasing the repeatability and efficiency of

this value-creation and delivery process. Pipes focus on optimizing process flow.

In contrast, platforms must focus on optimizing the flow of value and currency in the ecosystem of producers and consumers. Platforms are interaction engines that scale when they optimize the interaction flow. A platform's goal is to maximize the repeatability and efficiency of the core interaction. Implementing strategic choices that improve a platform's ability to enable interactions is an imperative priority. Every choice that reduces its ability to enable the core interaction must be avoided.

The interaction-first view has important implications for the design and management of platforms. Below, we explore seven specific principles that guide the design of interaction-first businesses.

1. Plug-and-play business design

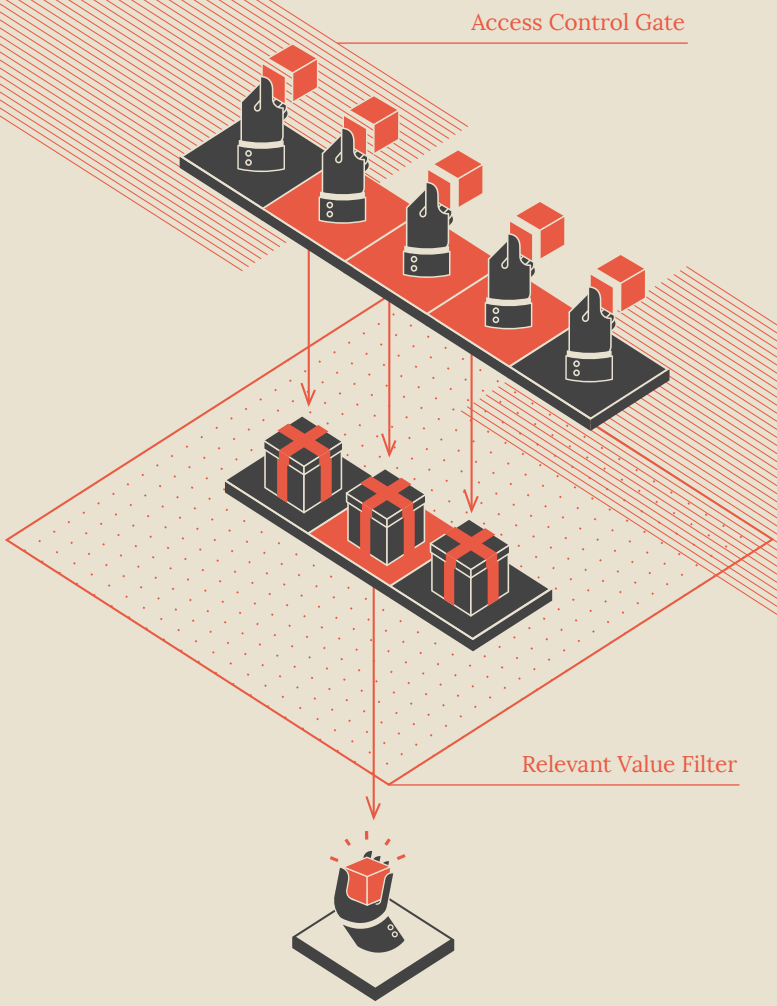
Platforms must create a plug-and-play infrastructure to encourage interactions. Producers and consumers should be able to plug in to the infrastructure and interact with each other.

Platforms should be built to encourage open participation. Removing barriers to production and consumption helps the platform to scale interactions. To enable open participation, platforms need to remove friction in access and usage. Incentives must be architected into the platform to attract producers and consumers repeatedly. Platforms must also invest in behavior design to create new habits that repeatedly bring producers and consumers back to the platform.

However, open participation leads to the creation of noise. This makes the platform ineffective at enabling interactions. First, open participation may encourage undesirable behaviors by allowing access to all kinds of users. Hence, platforms must architect some form of access control, especially for producers who create value on the platform. Second, open participation leads to an abundance of content, which could increase the efforts required by consumers to find the most relevant items. Hence, platforms need to implement and strengthen consumption filters that determine which items should be served to which consumers. *The design of access control and consumption filters helps with the governance of interactions.*

Access Control Filter

Figure 4



The two conflicting priorities of open participation and governance introduce unique challenges for a platform business. Platforms must be carefully architected. Building a plug-and-play business model that orchestrates an external ecosystem requires careful design considerations. This cannot be achieved through tactical tricks and hacks.

2. *Balancing value creation for both producers and consumers*
Pipe businesses can scale well by optimizing the experience for their customers or users. Focusing on the user or customer at the end of the pipe helps to increase the repeatability and efficiency of the value-creation process and successfully scales a pipe. In contrast, platforms must focus on value creation for *both* producers and consumers. Optimizing the experience for a producer may lead to a poor experience for a consumer. For instance, removing barriers to production may help producers but lead to the creation of noise for consumers. In the same way, optimizing the experience of consumers may discourage producers. Consumers in a marketplace may benefit from competitive bidding among producers, but producers may not find it beneficial.

3. *Strategic choice of "free"*
On the Internet, "free" is often the refuge of those who haven't figured out their revenue model. But "free" is not a strategy by itself; it can only be part of a larger strategy that involves some form of monetization made possible by offering some value for free. For example, brands have always provided free samples to encourage trial before purchase.
Most large platforms today – Facebook, Google, Twitter, WhatsApp – started out free, and many remain free. This often serves as license for emerging startups to claim that their choice of "free" offerings is strategic. On platforms, "free" is strategic only if it follows at least one of the following two principles:

a. *It increases the repeatability of interactions.* If the provision of free services to consumers, producers, or both increases the repeatability of interactions, the choice of "free" is strategic.
b. *It involves the capture of monetizable data.* Facebook and Google offer

free services but capture monetizable data: user interests and search keywords, respectively. Advertisements are served in real-time based on this captured data. Platforms that offer services for free must capture data and user engagement in a manner that can be monetized. On most platforms, at least one role is subsidized to participate on the platform. Producer participation may be subsidized, and producers may get free access to the production tools to encourage value creation on the platform. Likewise, consumers may be allowed free access to the platform. This helps the platform build a base of consumers that subsequently attracts producers onto the platform. A systems view is required to balance subsidies and prices to ensure that interactions ensue.

4. *Pull, facilitate, and match*

Pipes focus on enabling repeatable processes. Platforms focus on enabling repeatable interactions. Pipe businesses build a business engine that works on the following three-pronged model:

a. *Source.* The pipe sources inputs into the business.
b. *Assemble.* The pipe leverages value-creating processes to create value from inputs.
c. *Deliver.* The pipe delivers value to the user and/or customer.

These three activities – source, assemble, and deliver – are increasingly made more efficient, leading to higher repeatability of the core process. Platform businesses do not focus on any of these activities. With the goal of enabling interactions, platform businesses have three rather different priorities:

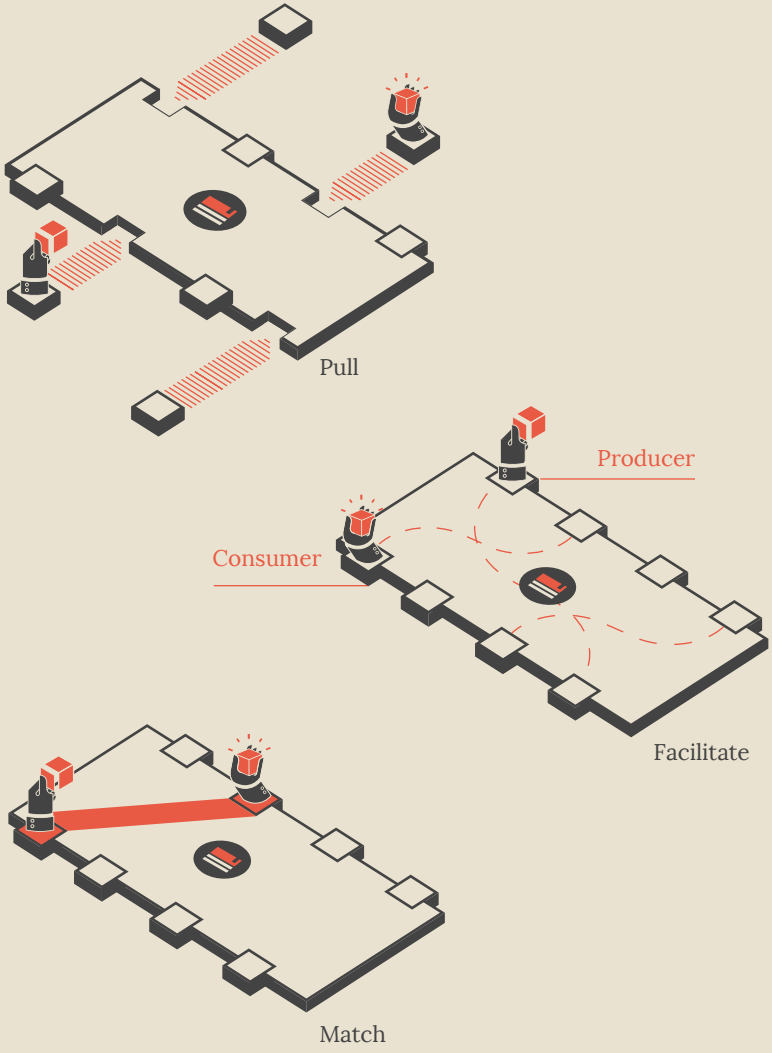
a. *Pull.* The platform must pull producers and consumers to participate on the platform.
b. *Facilitate.* It must facilitate interactions between them.
c. *Match.* It must match demand with supply to ensure that the right producers and consumers interact with each other.

The platform achieves this by:

1. Architecting incentives that repeatedly pull these participants to the platform.

Pull, Facilitate, Match

Figure 5



2. Providing a central infrastructure that facilitates the creation and exchange of value.
3. Matching participants with each other and with content/goods/services created on the platform.

5. *Layering on new interactions*
Platforms scale by adding more interactions and layering on edge interactions around a core interaction. All platforms are centered on a core interaction that enables every other (edge) interaction. LinkedIn, for example, has multiple interactions, such as recruiters serving jobs to candidates and thought leaders publishing posts for readers. However, the central purpose of LinkedIn continues to be centered on enabling professionals to connect with each other. LinkedIn's failure to power this core interaction would lead to the failure of all edge interactions that the platform enables.

6. *Enabling end-to-end interactions*
Platforms create efficiencies in interactions by aggregating demand and supply and ensuring that the most relevant users are matched with each other. Most platforms create significant value by performing this matching function.
Increasingly, platforms are expanding beyond the matching function to enable the end-to-end interaction. Uber doesn't merely match the driver to the passenger. It also tracks the duration of the ride and uses that information to charge the passenger accurately and transfer the money back to the driver. Finally, it allows the two sides to rate each other – the exchange of social currencies – to determine signals of quality that it can leverage in subsequent interactions. Efficiencies created in the interaction extend beyond the matching of supply and demand.

7. *Creation of persistent value beyond the interaction*
On many platforms, interactions also enable the creation of lasting and persistent value beyond the single exchange. Airbnb hosts and guests rate and review each other during every interaction, creating *reputation* that enables future transactions. Twitter followers may choose a new account

to follow based on a tweet they read, thereby building that particular account's *influence*. Reddit enables the development of crowd opinion on news articles by aggregating reader inputs and creating *authority* and *visibility* for articles. TripAdvisor brings reviewers and travelers reading reviews together to determine the *reputation* and *quality* of an establishment. In all these examples, value created during individual interactions persists to create cumulative value. This is explored in further detail in subsequent sections.

PLATFORM SCALE IMPERATIVE

A business that goes about building a platform the way it would build a pipe is setting itself up for failure. Many business leaders erroneously apply the pipe execution model to building platforms. The media industry is struggling to come to terms with the fact that the model has shifted. Traditional retail, a pipe by most measures, is being disrupted by the rise of marketplaces and in-store technology. Platforms require completely different mental models to succeed. They need interaction-first thinking. Pipes rely on user-first thinking, not interaction-first thinking. In user-first thinking, the single user's perspective rules all business decisions. This perspective works well when value flows linearly from the business to its users.

As businesses move toward enabling interactions between producers and consumers of value, they must adopt interaction-first thinking.

In interaction-first thinking, the focus on users does not cease but becomes subservient to the focus on interactions. Single user benefits may be overruled if the interaction between users suffers. However, an interaction is truly desirable when it creates value for all participating users while maximizing the efficiency of the interaction. A business that enables desirable interactions will ensure a desirable user experience as well.
For example, a user-first business focuses on the activation and engagement of users. In an interaction-first business, these are consequences of the

main goal rather than the goal itself. User engagement is an outcome of the platform's ability to enable interactions sustainably and efficiently. The movement from the 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!

GET THE BOOK NOW

If you enjoyed reading this preview of Platform Scale, get your copy of the book now on Amazon

The book covers six key concepts, with accompanying case studies and decision making frameworks for anyone building or managing a platform business.

1. *Reimagine your business for platform scale*
We are not in the business of building software. We are in the business of enabling interactions.
2. *Leverage interaction-first design*
Focus upon design of the producer-consumer core interaction and an infrastructure that will enable and govern this interaction.
3. *Build cumulative value & minimize interaction failure*
Scale is achieved knowing the key decisions for maximizing the repeatability and efficiency of a platform's core interaction.
4. *Solve chicken & egg scaling problems*
Overcome the vicious cycle of no activity by designing the conditions for sparking interactions.
5. *Design viral growth engines*
The viral canvas. Virality is a business design problem, not a marketing or engineering effort. It requires design before optimization.
6. *Account for reverse network effects*
The counter view. Lookout for conditions where scaling interaction quantity and quality can be detrimental to a platform business.

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ABOUT PLATFORM THINKING LABS

Platform Thinking Labs is a C-level advisory and research firm focused on the application of platform strategies across industries. It engages in CXO-level advisory with Global 2000 firms as well as with high growth startups on network effects and platform strategies. Advisory work ranges across diverse industries, with clients in Europe, USA, Australia , South America and Asia.

The services offered by Platform Thinking Labs include the following:

1. C-level executive education on management of platform business models and network effect businesses
2. Platform business design workshops and masterclasses
3. Strategic advisory on platform business design and execution strategy
4. Commissioned research
5. Keynote speaking

All advisory at Platform Thinking Labs is backed by proprietary research, conducted in collaboration with leading thinkers globally, including educators and economists from MIT, Stanford, INSEAD and HBS. Workshops and executive education material have been tested across multiple client engagements, industry workshops, accelerators and business schools globally.

For more details, visit www.platformthinkinglabs.com/advisory

To discuss an engagement with Platform Thinking Labs, please contact sangeet@platformthinkinglabs.com

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