

Business Modeling – Pipes & Platforms



Start Up in ICT /10

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Start Up in ICT - UniPD

May 8th, 2024

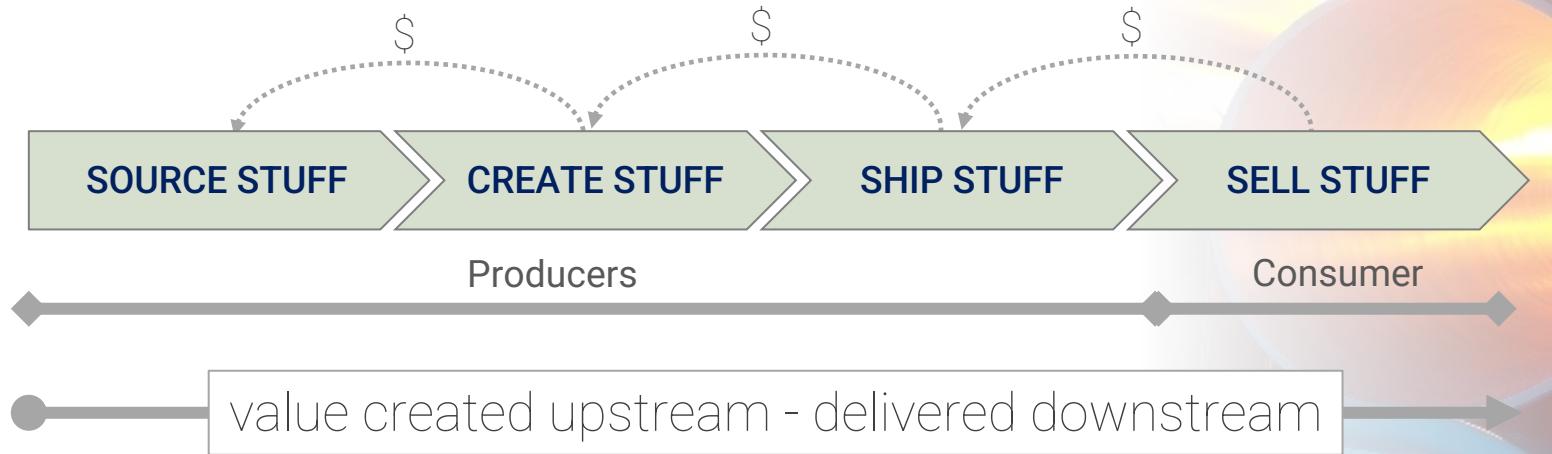
How to sell stuff and make profit

Manufacturer (Fiat)	Nickel & Dime (RyanAir)	SaaS
Distributor (Car Dealer)	Freemium (Dropbox)	IaaS
Retailer (Amazon)	Subscription (Netflix)	PaaS
Franchise (McDonalds)	Advertisement (Youtube)	"High Touch" (e.g. Hair Saloon)
eCommerce	Agencies (non core stuff)	"Low Touch" (Ikea)
Data Selling	Marketing	...

Linear Business Models



The **Pipe** Model



foster traditional
LINEAR VALUE CHAIN

Kelly's Lemonade Booth

PROBLEM

List your top 1-3 problems.

People willing to kill their thirst in a quick and easy way, directly on the beach. As easy as Click and Go. Here. Now.

SOLUTION

Outline a possible solution for each problem.

Providing a refreshing drink directly on the beach , fast, good , genuine, in a memorable way!

UNIQUE VALUE PROPOSITION

Single, clear, compelling message that states why you are different and worth paying attention.

The best lemonade you can dream of, here, now, 100% organic, 100% fresh and Guaranteed icy in your hands without making a move!

UNFAIR ADVANTAGE

Something that cannot easily be bought or copied.

- + only license for this spot in town.
- + Sicilian grandma secret recipe with exotic non obvious spices..

CUSTOMER SEGMENTS

List your target customers and users.

- + Thirsty people on Venice Beach not willing to move away from the beach in order to get a refreshing drink..
- + Groups of friends willing to continue staying at the beach, possibly partying.

EXISTING ALTERNATIVES

List how these problems are solved today.

Hand Refrigerator: too clumsy
Supermarket: far away
Bottle of Water: Warm

KEY METRICS

List the key numbers that tell you how your business is doing.

- # of sold lemonades
- # clicks on socials
- # returning customers
- # new customers with "bring a friend" coupon (referral)

HIGH-LEVEL CONCEPT

List your X for Y analogy e.g. YouTube = Flickr for videos.

AmazonPrime of fresh lemonade!

CHANNELS

List your path to customers (inbound or outbound).

- = giant lemon booth on the beach visible from light years away
- = TikTok/BeReal influencers
- = Word of Mouth
- = Sudden Parties and colorful events
- = The "Squeeze your own lemon" party.

EARLY ADOPTERS

List the characteristics of your ideal customers.

- + Members of the new musclegym club right across the street
- + Free drinks for selected residents.

COST STRUCTURE

List your fixed and variable costs.

Non Recurrent:

- Giant yellow Booth
- T-Shirts / Gadgets
- Machinery for squeezing
- Ice Machine

Recurrent:

- Prime Materials – lemons, spices, ice, etc.
- Staff
- Influencers
- Material for Parties – deejays, etc.
- Licensing for physical spot

REVENUE STREAMS

List your sources of revenue.

Recurrent:

- Lemonades
- «Squeeze Me» merchandising material
- Advertising and parties on our booth to promote/advertise other companies



A photograph of a dense, crowded street in a city, possibly New Delhi, India. The scene is filled with people walking, small shops, and signs. The sky is filled with a tangle of electrical wires crisscrossing between buildings. The overall atmosphere is one of a bustling, interconnected urban environment.

Understanding **Platforms**

Why Instagram, AirBnB, Uber, ... create **non linear** shareholder value in ways traditional companies do not?

Are the Silicon Valley VCs wrong Or is the traditional
Enterprise Valuation methodology falling short?

2013 Best Global Brands

Parker, Van Alstyne, Choudary

1		2		3		4		5		6
+28% \$98,316 \$m		+34% \$93,291 \$m		+2% \$79,213 \$m	+4% \$78,808 \$m	+3% \$59,546 \$m	+7% \$46,947 \$m			
11		12		13		14		15		16
+6% \$31,904 \$m	+10% \$31,839 \$m	+7% \$29,053 \$m	+3% \$28,147 \$m	-1% \$25,843 \$m	+1% \$25,105 \$m	+6% \$24,893 \$m	+9% \$24,088 \$m	17		18
19		20		21		22		23		24
+27% \$23,620 \$m		+7% \$18,490 \$m	+10% \$18,168 \$m	+8% \$17,892 \$m	+12% \$17,646 \$m	+13% \$17,085 \$m	+7% \$16,676 \$m	25		
26		27		28		29		30		31
+8% \$13,818 \$m		+5% \$13,763 \$m		+20% \$13,162 \$m	+15% \$13,035 \$m	+8% \$12,987 \$m	+6% \$12,614 \$m			

These are Platforms!

2013, Parker, Van Alstyne, Choudary



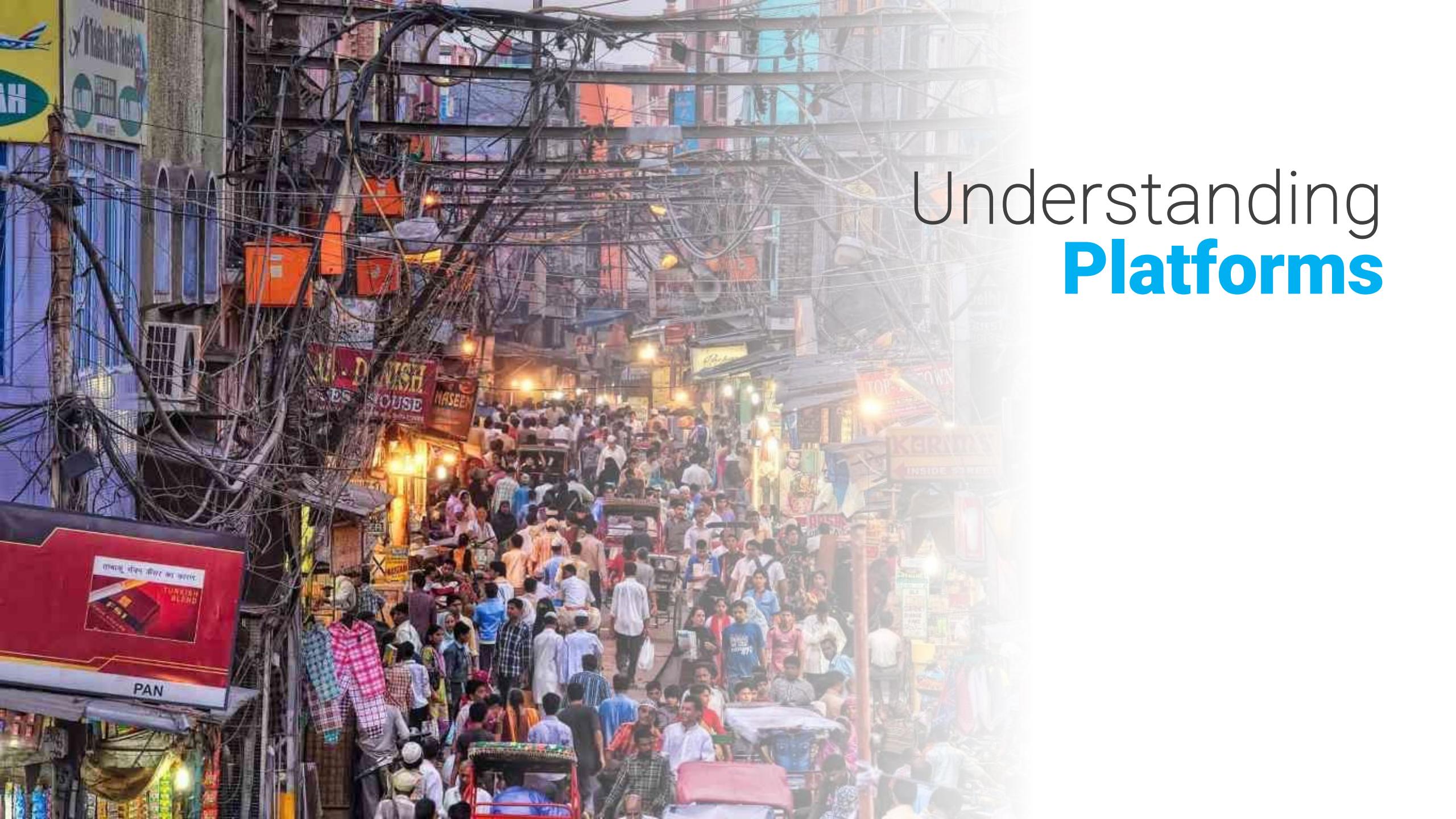
Some manifestations of the Platform business model

1. **Social Networks/Media:** FB, Instagram, Snapchat, LinkedIn, Twitter, Quora
2. **Cryptocurrencies/Payment systems** PayPal, BitCoin, Apple, Visa, AMEX
3. **APIs and developer ecosystems**
4. **Internet of things/Wearables**
5. **Sharing economies**, based on spare, unused-available resources
 - **Apartment/ Renting** and **Couching**: AirBnB, Lyft, Sail, Openplane
 - **Ridesharing** and **carsharing**: Blablacar, Car2Go
 - **Peer economy**: lending, selling: eBay
 - **Crowdfunding**: kickstarter
 - **Gig economy**, short term contracts: Uber, Food delivery services...
6. **Web Search**: Google, Baidu
7. **Operating Systems**: Mac, Windows, iOS, Android
8. **Game Consoles**
9. **Enterprise systems**: SAP, IBM, AWS
10. **App economy**: Memrise,

Platform (def):

“ A plug-and-play business model that allows multiple participants (producers & consumers) to connect to it, interact with each other and create and exchange value ”

Sangeet P. Choudary
“Platform Scale”, 2016

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Lean Canvas Example

A Platform has a
multi-sided

Lean Canvas

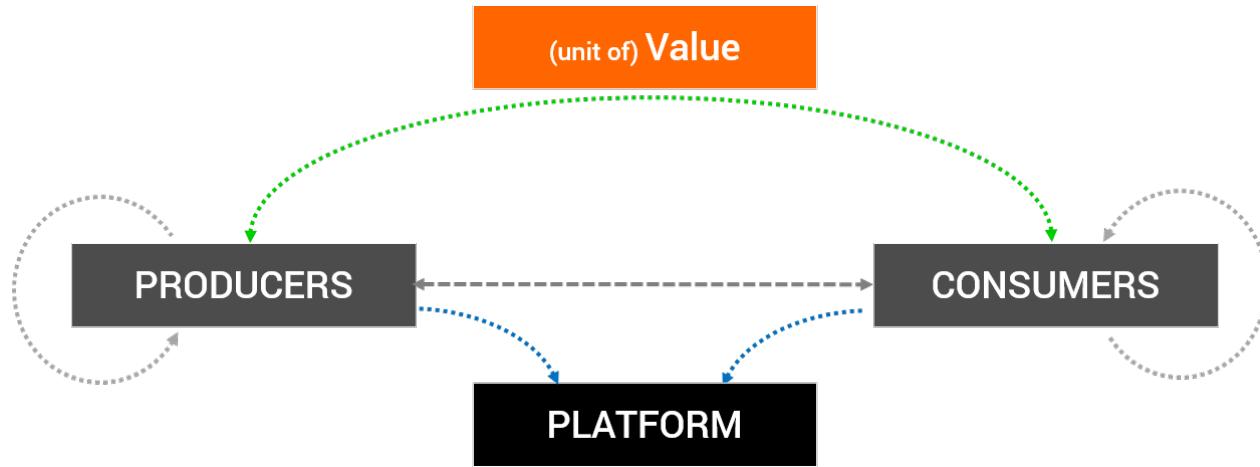


PROBLEM	SOLUTION	UNIQUE VALUE PROPOSITION	UNFAIR ADVANTAGE	CUSTOMER SEGMENTS
<ul style="list-style-type: none"> - Hard to find cheap/affordable accomodation options when travelling - Staying in hotels travellers cannot get authentic experiences of a location - It's not easy for a homeowner to monetize vacant areas on a day-by-day basis - Uncultivated home sharing culture 	<ul style="list-style-type: none"> - An online service where travelers can rent an affordable local apartment, and homeowners can earn extra money by renting out vacant areas on a day-by-day basis 	<ul style="list-style-type: none"> - Travelers can get authentic experience of local area - Extra monetization of vacant areas for homeowners 	<ul style="list-style-type: none"> - Any homeowner can rent out space - Trust building: bi-directional rating system of hosts and visitors - Insurance by default for hosts 	<ul style="list-style-type: none"> - Travellers looking for an adequate accommodation experience for a low price - People having some accomodation options to become a host
EXISTING ALTERNATIVES	KEY METRICS	HIGH-LEVEL CONCEPT	CHANNELS	EARLY ADOPTERS
Booking.com Hotels.com	<ul style="list-style-type: none"> - Number of views-to-bookings per host - Number of hosts applied - NPS - DAU/MAU 	Everyone can become a host Sharing economy	<ul style="list-style-type: none"> - Referrals - Recommendations - Advertising (both online and offline) 	People ready to share their residence and earn money as hosts
COST STRUCTURE		REVENUE STREAMS		
Development Hosting Marketing Payroll Insurance Photography		Fees for travellers		

Some manifestations of the Platform business model

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the Platform as **Interaction Catalyst**



Platforms with two (or more) user groups provide each other with **beneficial Network Effects**.

the **stronger** the **more** the platform increases/efficients the Interactions.

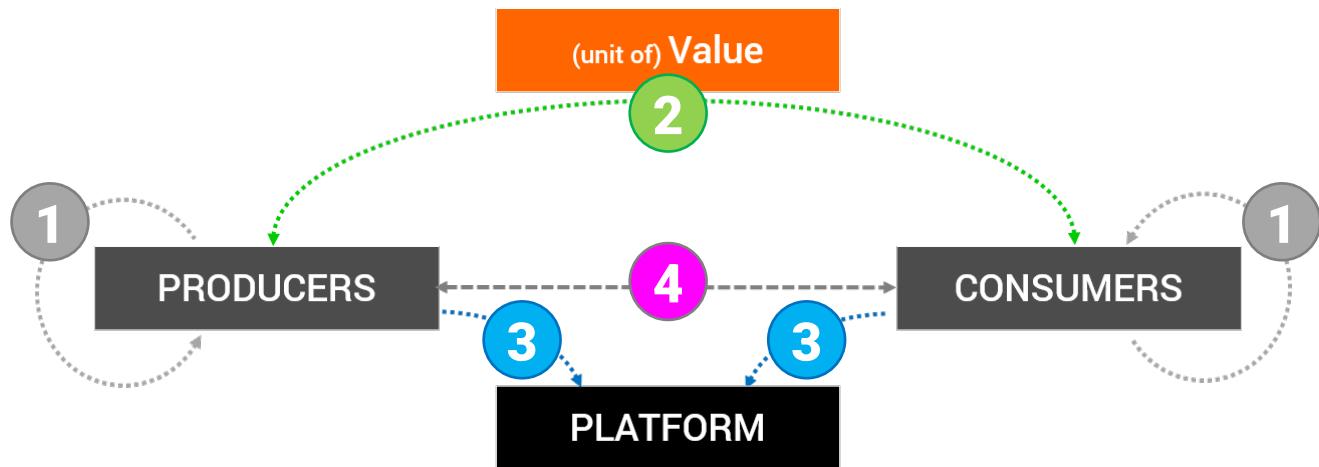
“ Allows multiple parties (“market sides”) to **transact** across the platform ”

“ Value of the platform may increase non-linearly with more users – depends on **strength of network effects**. ”

Geoffrey Parker
Freeman School of Business, Tulane
Marshall Van Alstyne
MIT, Boston

two side market

Interactions



a **two sided network** has
four network effects

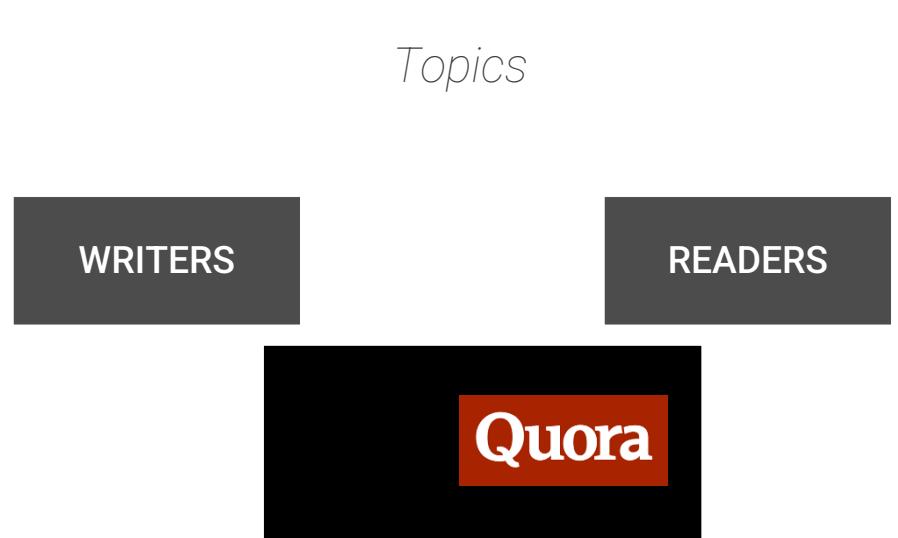
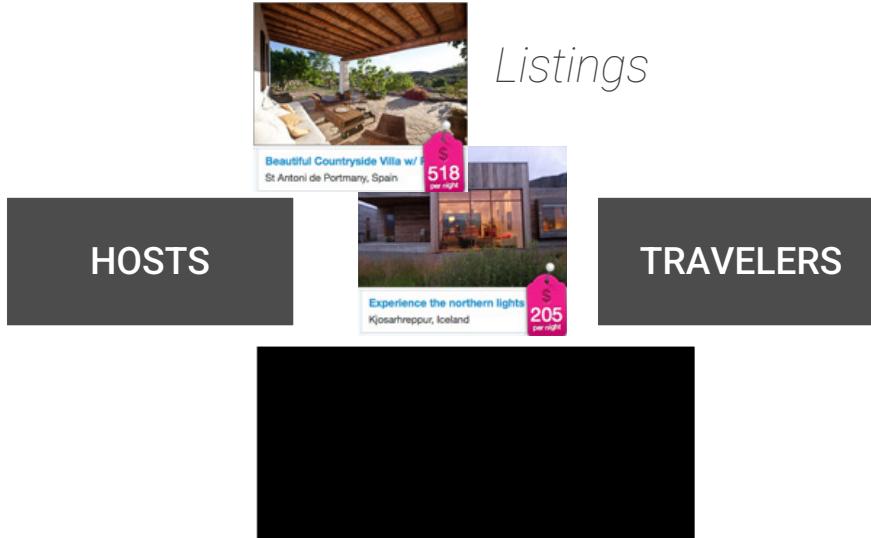
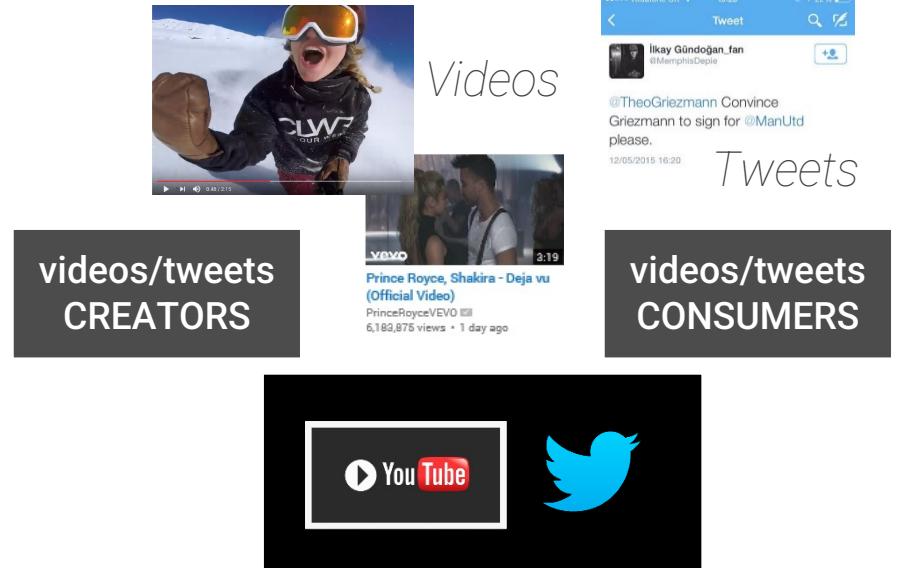
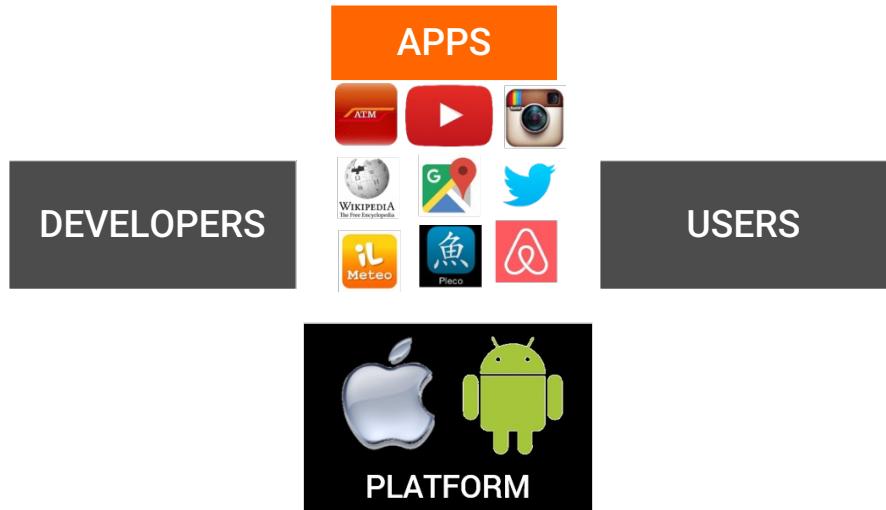
1 Same side effect: number of users on own side
+ more players → more interactions
- more sellers → more competition

2 Cross side Network Effects
+ more options to Consumers
- more adv

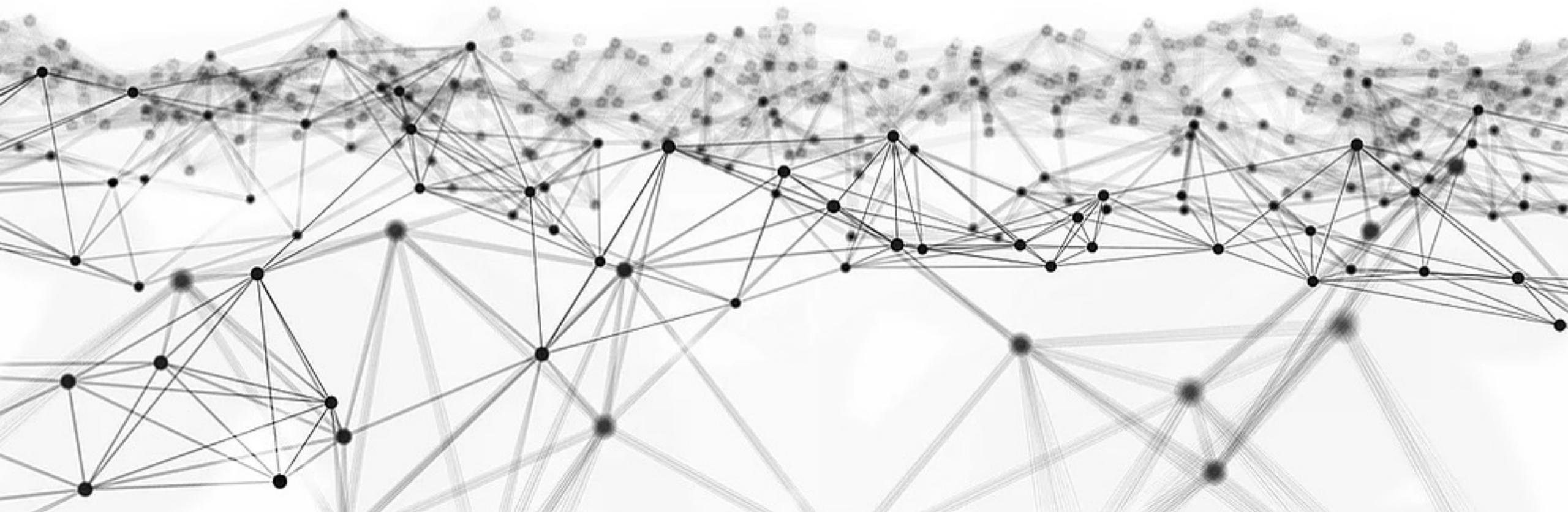
3 Tools to maximize interactions among sides, through the Platform

4 Traditional Pipe

Platforms examples



The **Network Effect**

A complex network graph composed of numerous small, semi-transparent gray dots representing nodes, connected by a dense web of thin black lines representing edges. The graph is highly interconnected, forming several large, irregular clusters that span the width of the frame. Some clusters are more compact and central, while others are more spread out along the horizontal axis. The overall effect is one of a vast, dynamic, and interconnected system, such as a social network or a computer network.

Externality (def):

“ The cost or benefit that affects a party who did not choose to incur that cost or benefit ”

Wikipedia

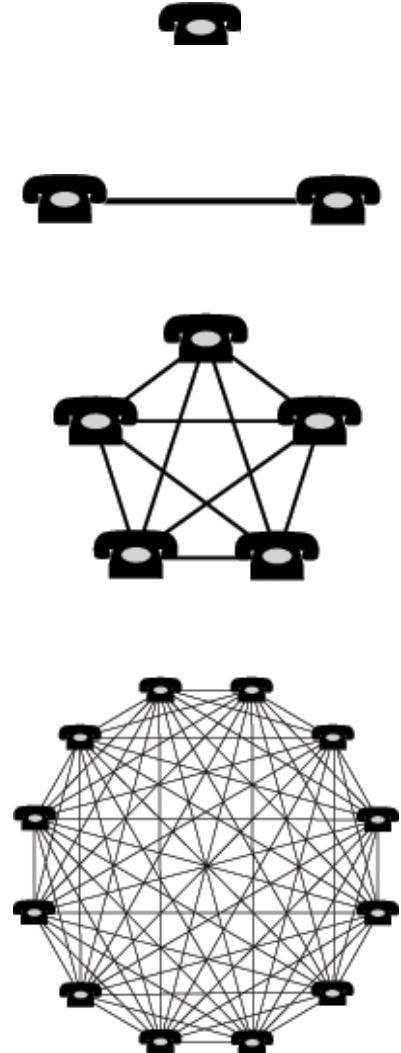
Network Effect

(def):

a.k.a. network externality or
demand-side economies of scale

“ a phenomenon whereby a good or service **value rises as more people use the platform.** ”

Wikipedia



*Metcalfe's Law
 $V=n^2-n$

*Robert Metcalfe: uno dei padri di ethernet e fondatore di 3Com

platforms develop
positive network
effects to **each** of the
interactions sides.

each side **Attracts More** of the other

the goal of a platforms is
to **enable interactions**
between **Producers** and
Consumers

Products have **Features**, **Platforms** have **Communities**

Platform: an **open architecture** together with a
governance model

Platform must provide a **useful function or service** and
should **provide 3rd party access**

Platform Purpose: to **consummate the match** – more &
better! Subgoals are **seed creation** & **consumption**

Product to Platforms **why now?**

“**any** enterprise **that grows in value by adding information / community** can be **transformed** ”

“**the greater the proportion of value**, the **sooner it will transform** ”

“**platforms draw value from Communities & Network Effects** ”

“ in any market with network effects,
the focus of attention must
shift from inside to outside the firm. , ,

Reason:

“ You **can't scale network effects inside as
easily as outside.** , ,

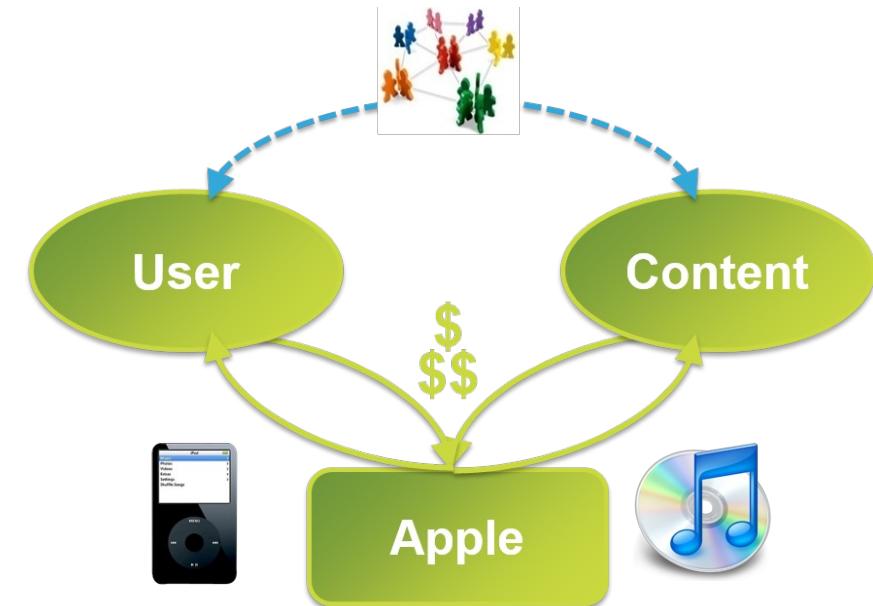
Marshall Van Alstyne, MIT

Apple iPod – platform example

Product First Thinking



Platform (iPod + iTunes)



1. Standard linear value chain
2. user bought music retail (or P2P)
3. minimal network effects

1. Remove supply chain inefficiency
2. Triangular *platform* supply network
3. Apple owns financial chokepoint
4. Apple helps users find content
5. Stronger network effects

what changes: Marketing & Prices

monetizing Platforms **Free Pricing is Profitable**

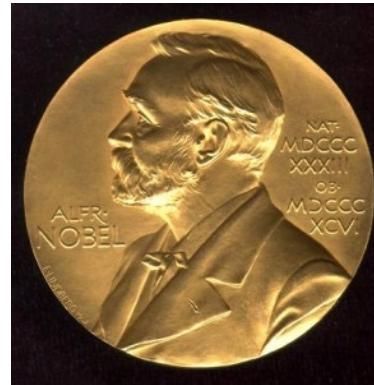


Nobel Prize in Economics 2014



Jean Tirole

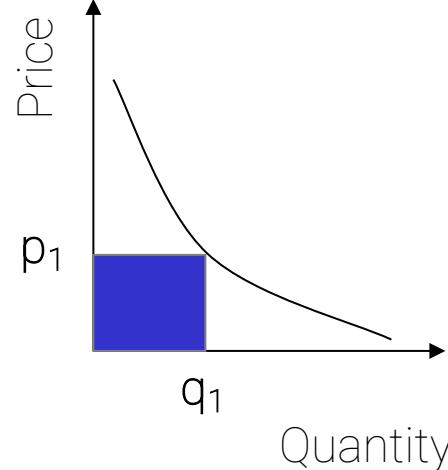
Nobel Laureate in Economics 2014



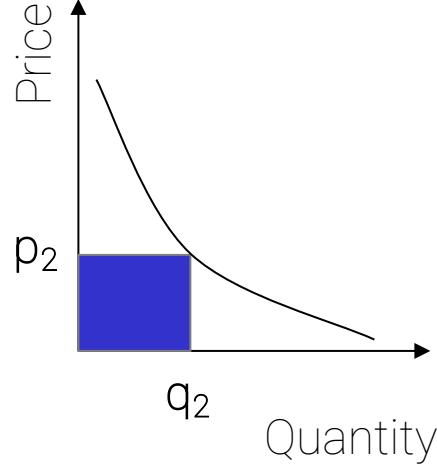
“for work on antitrust regulation, market power & two-sided platforms”

when **Free Pricing** is **Profitable**

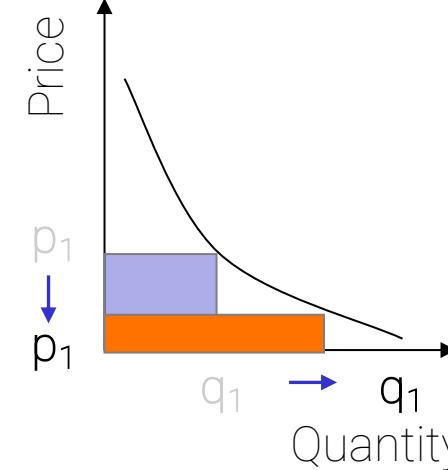
Market One



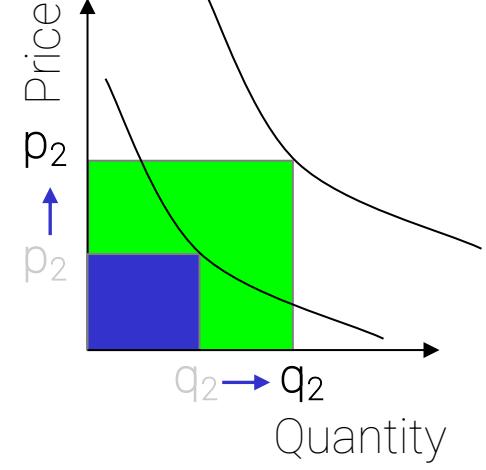
Market Two



Market One



Market Two



if markets are independent,
collect profits in both

but if markets are coupled,
discounting one might build
demand in the other

$$\left(\begin{array}{|c|} \hline \text{Blue Box} \\ \hline \end{array} + \begin{array}{|c|} \hline \text{Blue Box} \\ \hline \end{array} \right) ? < \left(\begin{array}{|c|} \hline \text{Orange Box} \\ \hline \end{array} + \begin{array}{|c|} \hline \text{Green Box} \\ \hline \end{array} \right)$$

what changes: Finance

Corporate valuation models that underestimate market expansion due to network effects **fail to invest**



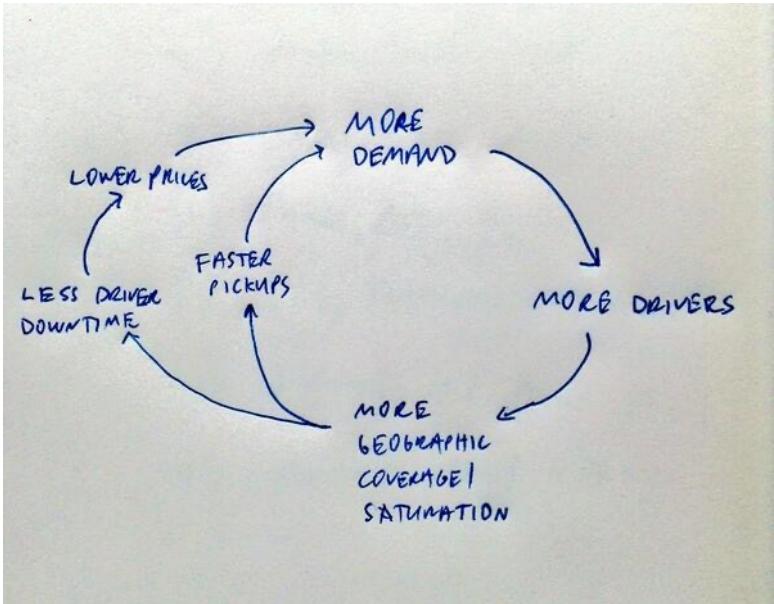
value: **\$5.9 Bi**
june 9, 2014

- Estimate global taxi market
- Estimate market share
- Est. risk adjusted cash flow
- Consider proprietary methods, barriers to competition

Aswath Damodaran

NYU Finance professor, Corporate Valuation author,
Herb Simon Prize.

- All true but overlooking network effects.
- Prices decline expanding to rental car market and car replacement market and delivery market.
- Oh, BTW, already 3x size in 2009 when Uber started.



Source: David Sacks, COO PayPal, CEO Yammer



value: **\$17 Bi**
july 11, 2014



Bill Gurley

Venture Capitalist, OpenTable, Zillow, Uber A-Series and BoD member



Aswath Damodaran

NYU Finance professor, Corporate Valuation author,
Herb Simon Prize.

- Professor concedes!
- Based on Narrative from Gurley and data provided, revises Value
- material enters in Class material for postgraduate programs
- open source project kick-off

Uber Technologies Inc

48.82 USD

-0.47 (0.95%) ↓

NYSE: UBER

+ Follow

Closed: May 21, 19:59 EDT · Disclaimer

After hours 49.20 +0.38 (0.78%)

1D | 5D | 1M | 6M | YTD | 1Y | 5Y | Max

50.0

49.5

49.0

48.5

May 23rd, 2021.

49.52 USD 13:25

Previous
close
49.29



Open

49.57

Mkt cap

91.38B

Prev close

49.29

High

49.95

P/E ratio

52-wk high

64.05

Low

48.76

Div yield

52-wk low

28.39

what changes: Supply Chains

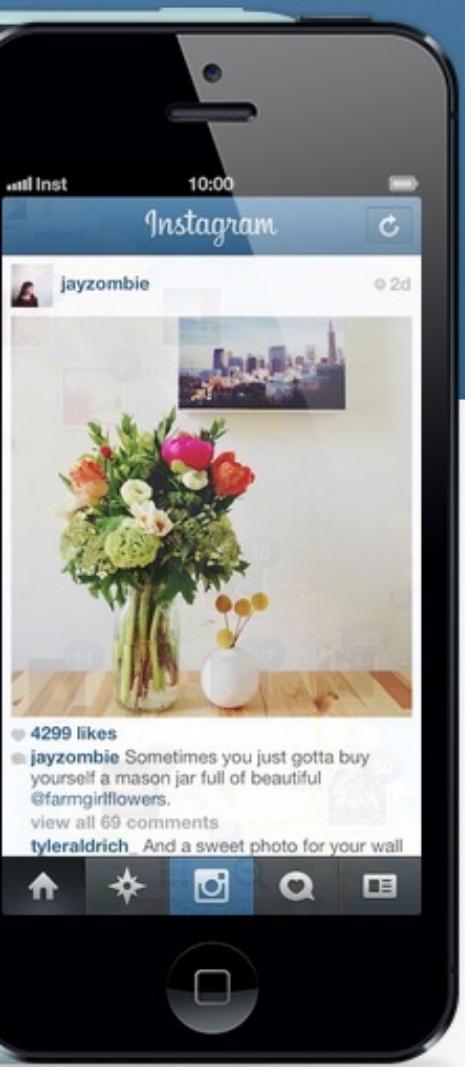
platforms **unlock** new
Value from Spare Resources and
User Generated Content

The screenshot shows the Airbnb homepage. At the top, there's a search bar with the placeholder "Where are you going?", a "BROWSE" dropdown, and a large image of a wooden cabin with a snowy mountain in the background. Below the search bar, the text "Find a place to stay. Rent from people in over 34,000 cities and 192 countries." is displayed. A search form includes fields for "Where do you want to go?", "Check in" and "Check out" dates, "1 Guest", and a "Search" button. Underneath, there's a section titled "Neighborhood Guides" with three images: New York (people sitting on a bench), London (a street scene), and Paris (a building with blue shutters). Below these are three blurred images representing other neighborhoods.

AirBnb sells users' spare rooms, competing with hotels that must own them

The screenshot shows the RelayRides homepage. At the top, there's a header with the RelayRides logo, "Log In", "Sign Up", "List your car", and "How It Works". Below the header is a large banner with the text "Rent your perfect car" and "Unbeatable selection from our nationwide community". A search bar shows "Nis, 00" and a "Find cars" button. A large image of a white van is shown against a backdrop of water and mountains. A green callout box on the left says "FREE PARKING at SFO" with a "LEARN MORE" link. Below the main image are three car listings: "Tommy's Tacoma 2009 \$75/day \$400/week San Francisco, CA", "Dennis's Silverado 1500 2010 \$48/day \$240/week Custer, SD", and "Justin's Frontier 2008 \$42/day \$220/week Honolulu, HI". At the bottom, there are three more blurred car listings.

RelayRides sells users' spare cars, competing with rental firms that must own them



Instagram

Log in

Capture and Share the World's Moments

Instagram is a **fast, beautiful** and **fun** way to share your life with friends and family.

Take a picture or video, choose a filter to transform its look and feel, then post to Instagram — it's that easy. You can even share to Facebook, Twitter, Tumblr and more. It's a new way to see the world.

Oh yeah, did we mention it's free?

Download on the App Store

GET IT ON Google play

ABOUT US SUPPORT BLOG PRESS API JOBS PRIVACY TERMS © 2013 INSTAGRAM

Instagram sold for \$1B not because of contributions from 13 employees but from 30 million users



2005



2013

WENT TO THE MOON



TOOK 5 PHOTOS

WENT TO THE BATHROOM



TOOK 37 PHOTOS

“

In 2015,

the world's largest

taxi company owns no vehicles (Uber)

the most popular

media owner creates no content (Facebook)

the most valuable

retailer has no inventory (Alibaba)

the world's largest

hotelier owns no real estate (Airbnb) ”

what changes: Internal Organization

employees must **see the world across the platform**, which must **support a Shared Data Layer**

Bezos Platform mandate

- All teams will expose their data.
- Teams must communicate through interfaces.
- ... no other form of interprocess communication allowed.
- Interfaces, without exception, must be externalizable.
- Anyone who doesn't do this will be fired.

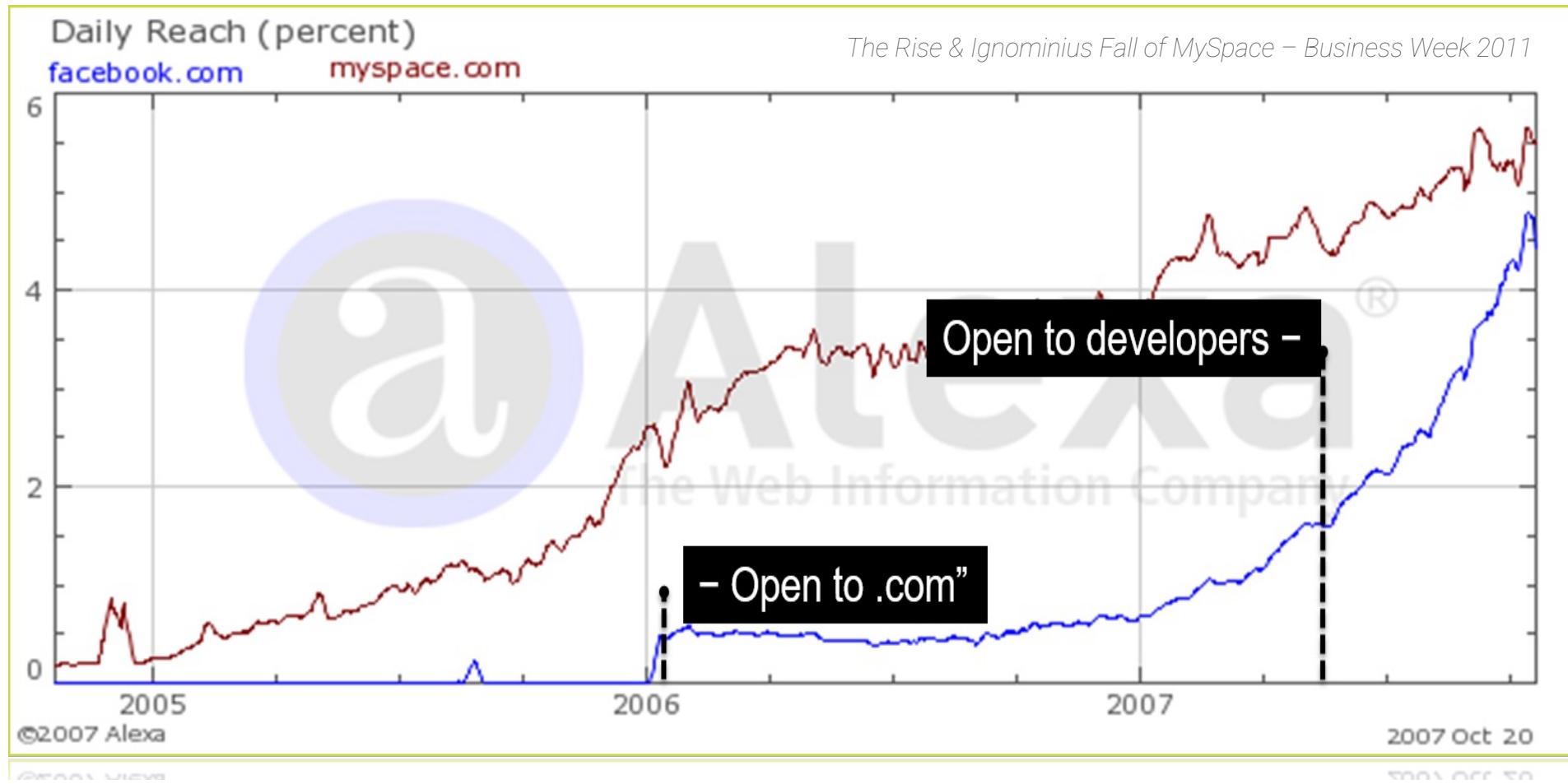


Source: Yegge Rant

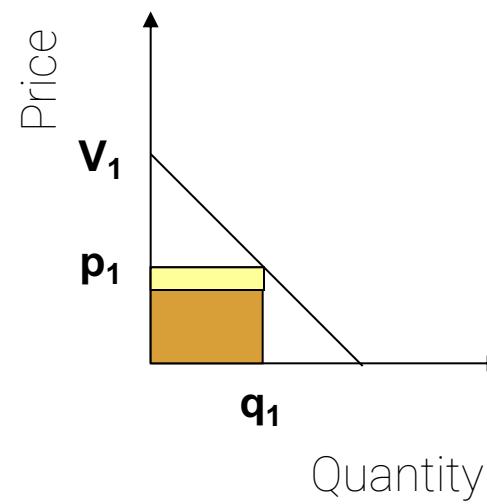
what changes: **Innovation**

platforms **Open** themselves to
Third Party Contributions

does Openness work?



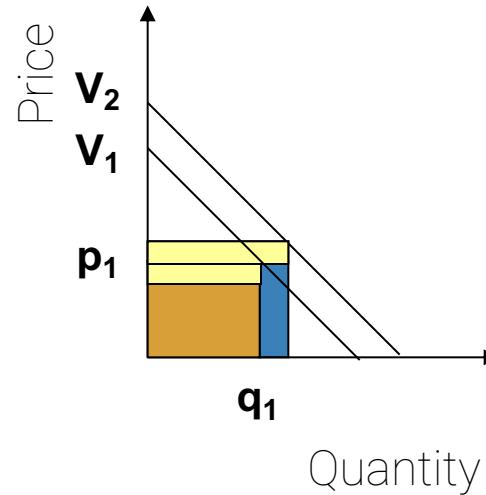
why does Openness work?



Platform sponsor gives away (yellow) platform value

Downstream enhancements add value

why does Openness work?



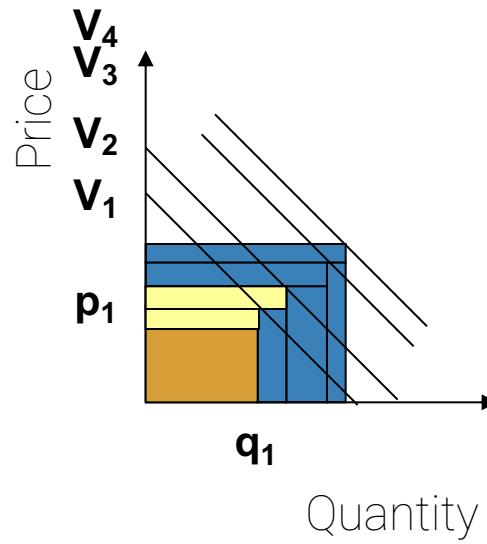
Platform sponsor gives away (yellow) platform value

Developers build apps for installed base, adding new layers of value.

Benefits:
Sponsor from increased sales, and downstream royalties.
Developer from cost savings and installed base.

Downstream enhancements add value

why does Openness work?



Platform sponsor gives away (yellow) platform value

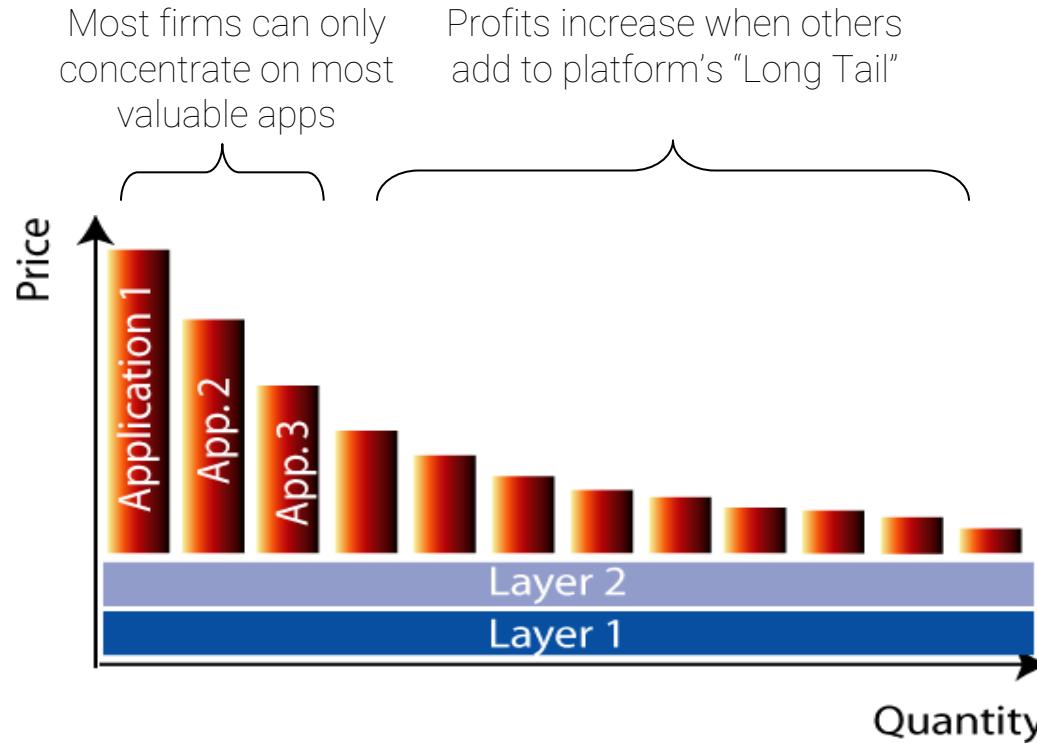
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Repeat

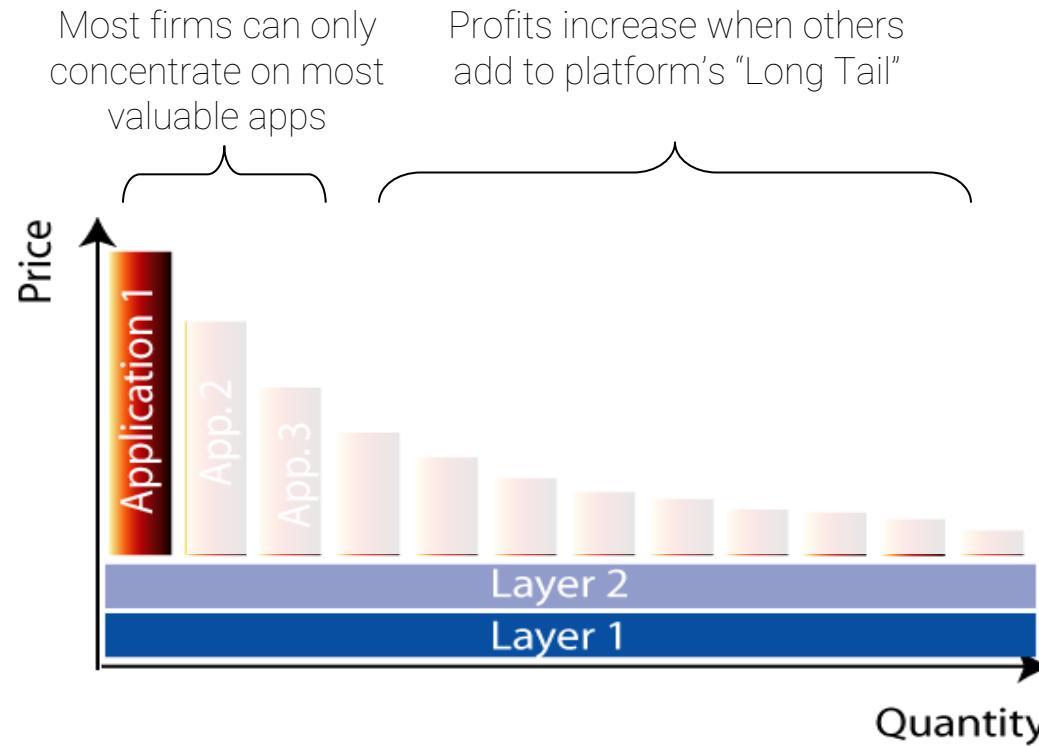
Downstream enhancements add value

Platforms get enormous value from 3rd party developers



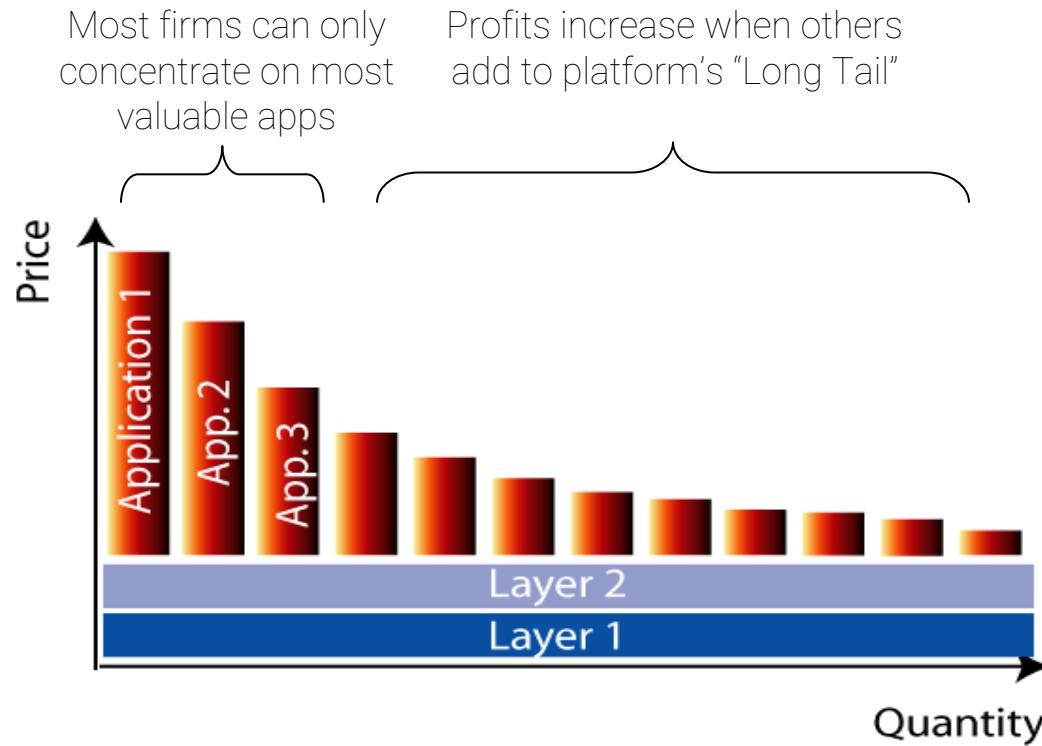
Consider an operating system like MS Windows, Apple Mac, or Google Android

Should Apple have opened the iPod?



No! It does 1 thing only, so make it “insanely great” and own it.

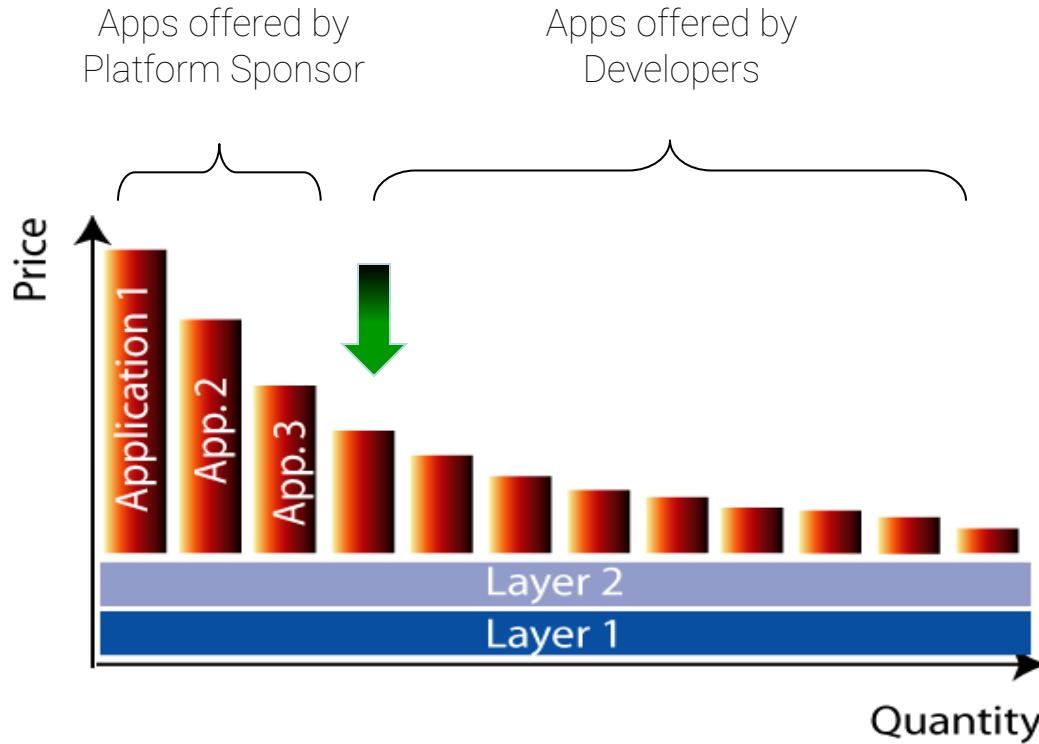
Should Apple have opened the iPhone?



Of Course! It has video, wifi, camera (scanner), accelerometer, mobile, MP3, web browsing, etc. Platforms benefit from broad contributions.

But control the top several complements.

Which applications to absorb?



Rule 1: Absorb the highest value applications from the ecosystem.
This adds value for users and mitigates threat of disintermediation.

Example: Apple iPad absorbed e-books

Example: Microsoft Windows absorbed web browsing

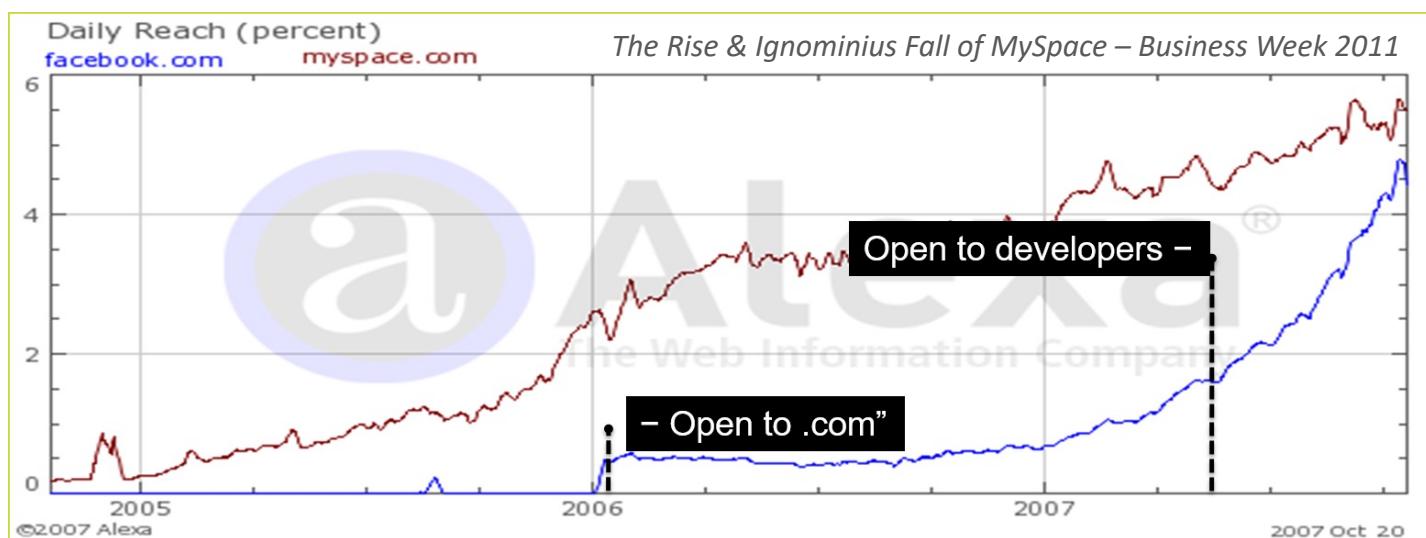
does Openness work?

“ ‘We tried to create every feature in the world and said, ‘O.K., we can do it, why should we let a third party do it?’

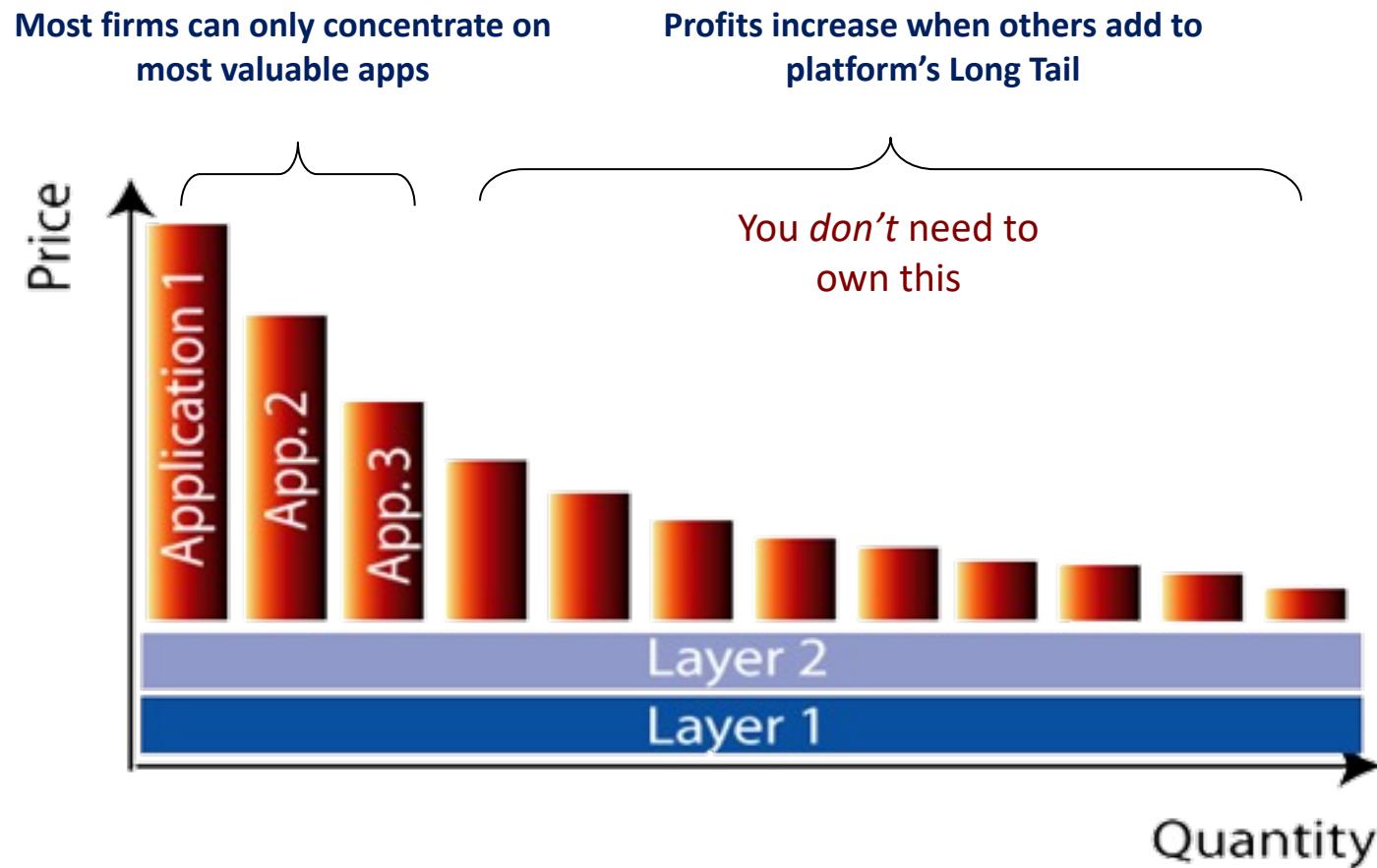
We should have picked 5 to 10 key features that we totally focused on and let other people innovate on everything else. ”

Chris DeWolfe.

MySpace cofounder



Platforms Get Enormous Value from 3rd Party Developers



what changes: Industry Bottlenecks

platforms will **displace Gatekeepers** (Experts or Bureaucrats) with **meritocratic Crowds**

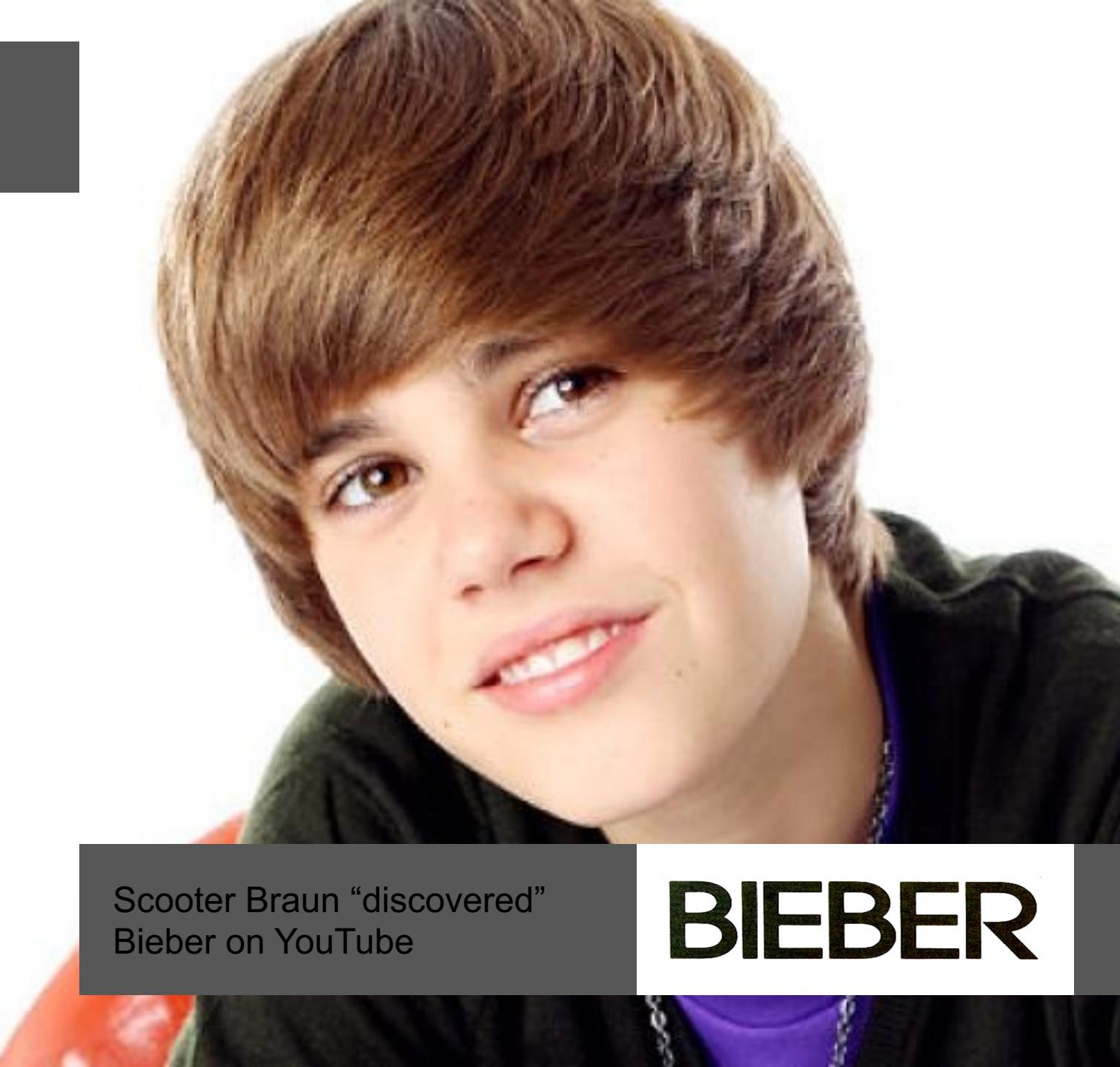
THE BEATLES



Brian Epstein discovered the Beatles in Liverpool

Scooter Braun “discovered” Bieber on YouTube

BIEBER



Disintermediate, Matching, Curation, Trust

The screenshot shows the TripAdvisor homepage. At the top, there's a navigation bar with links for 'Sign in with Facebook', 'Sign in', 'Register Now!', 'FREE Mobile App', and a dropdown menu for 'More'. Below the navigation is a search bar with placeholder text 'Search for a city, hotel, etc.' and a 'Search' button. A green header bar contains links for 'Home', 'Hotels', 'Flights', 'Vacation Rentals', 'Restaurants', 'Best of 2013', 'Your Friends', 'More', and 'Write a Review'. The main content area features a large image of palm trees and a tropical beach. A call-to-action box says 'Plan the perfect trip' with buttons for 'Hotels', 'Flights', 'Vacation Rentals', 'Restaurants', and 'Destinations'. It includes fields for 'City or hotel name' and two date pickers, followed by a yellow 'Find hotels' button. Below this is a section titled 'What travelers are talking about' with tabs for 'Hotel Reviews', 'Photos (64,616)', and 'Forums (123,133)'. It lists reviews for 'killer99' (9 reviews, Casablanca Hotel Times Square, "Excellent", Oct 02, 2013) and 'Jan D' (5 reviews, InterContinental New York Times Square, "Excellent", Oct 02, 2013). To the right, there's a sidebar with 'Tips for your next vacation' and a newsletter sign-up.

Advice from travelers replaces that of travel agents

The screenshot shows the Threadless homepage. At the top, there's a navigation bar with 'Order Status', 'Help', 'LOG IN / JOIN US!', 'SHOP', 'PARTICIPATE', and 'BLOG'. A search bar and a shopping cart icon are also at the top. The main headline reads 'You've helped us pay \$8,774,411 to over 1,200 artists worldwide.' To the left, a pink box displays 'STATS' with the following numbers: 2,532,797 global community members, 522,033 designs submitted, and 4,735 designs printed. To the right, there's a large illustration of Captain America holding a shield, with a pencil and a ruler nearby. Below this are sections for 'MADE: NACHO DIAZ' (an illustration of a deer), 'KIDS' (a blue onesie with a dog and the text 'WHATEVER. FEED ME.'), and 'GIRLY STYLES' (a woman in a blue dress).

Forget designers, product buyers, marketers. Threadless uses crowd to guarantee

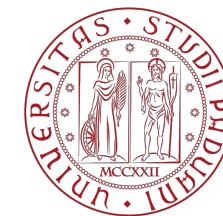
how platforms win

1. own the ecosystem
2. monitor ecosystem activity and own the most important resources/features/apps that emerge
3. leverage the value of data
4. the new M&A: buy someone who's already built on your platform
5. monitor adjacent and indirect competition
6. superior technological design: data to power relevance, curations, matchmaking, ...



StartUp in ICT
University of Padua
February-June, 2024

WhatsApp group



MEI

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