INFO5992 Understanding IT Innovations

Week 7: Distributed Innovation III – User Innovation and Platform Ecosystem

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THE UNIVERSITY OF SYDNEY

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UoS Outline

Week	Lecture Topics	Activity	Assessments
1. 5 Mar	UoS Introduction; Definition of IT Innovation; IT Innovation System; IT Innovation in Australia	Tute 1 – Welcome to your tutorial; Importance of innovation to a Country	Form Groups
2. 12 Mar	Introduction to Technological / IT innovation; Examples of IT innovation in industry sectors; Type and Source of Innovation	Tute 2 – Massive Open Online Courses – Enabling technologies and Peer-review	
3. 19 Mar	Dynamics of Technological / IT Innovation; Adoption of Technology; Dominant Design	Tute 3 – Dominant design in the Smartphone market	Individual Report Introduction
4. 26 Mar	Disruptive Innovation; Industry Value Chain; Value Network analysis	Tute 4 – Cognitive IT services and its value chain	Quiz intro
	Easter Break		
5. 9 Apr	Distributed innovation I: Open / Closed innovation; Platform innovation; Web APIs;	Tute 5 – Web API considerations	MCQ
6. 16 Apr	Distributed innovation II: Crowd innovations; Free and Open source software;	Tute 6 – Open source Geolocation and Maps	
7. 23 Apr	Distributed innovation III: User innovation; Platform	Tute 7 – Sharing Economy from a Distributed Innovation Context	Group presentation Introduction
8. 30 Apr	Innovation by Start-up companies and Opportunities	Tute 8 – Business Model Canvas	
9. 7 May	Organisational Culture; Structure supporting innovation	Tute 9 – Group Presentation preparations and feedback	MCQ Report Submission
10. 14 May	IT Innovation Management	Group Presentation	Group Presentation submissions
11. 21 May	Innovation ecosystem; Sydney's innovation ecosystem	Peer-Review Marking	
12. 28 May	Judging IT Innovations	Tute 10 – Developing a Judging criteria for IT Innovation project	
4. 30 Jun	UoS Review; UoS comments / questions	Tute 11 – Technology innovations in IT Management	Peer-review

Agenda

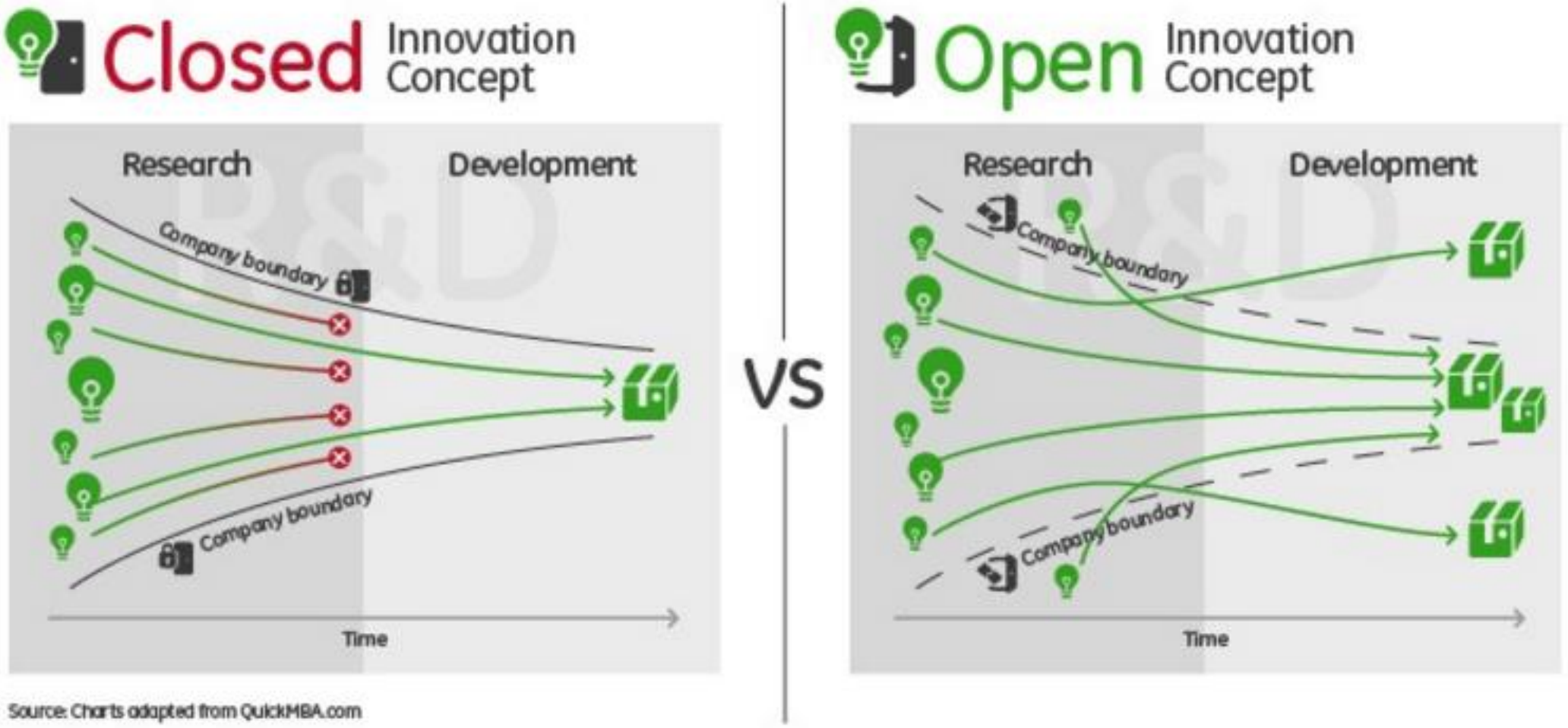
- Distributed Innovation III
  - User Innovation (including Maker Movement)
  - Platform Ecosystem (including Sharing Economy)

- Presentation Introduction

- Tutorial 7 – Sharing Economy

Distributed Innovation – Open Innovation

Recap: Closed and Open Innovation



http://www.geglobalresearch.com/blog/growing-middle

Recap week5 and 6: Some approaches to Distributed Innovation

These are some approaches companies use to get external companies/individuals involved in their innovation:

A. Product platforms
B. Web APIs
C. Crowdsourcing innovation / Crowdfunding Innovation
D. Releasing data sets "Open data"
E. Free and Open Source Software
F. User innovation (including Maker Movement)
G. Platform ecosystems (Sharing economy as an example)
H. Accelerators, investment and others

User Innovation

Traditional model of innovation: "Producer innovation"

- Producer makes product/service for consumers
- Design for innovations come from producer companies
- Producer innovators profit from many users of the same product/service
- **Assumption that a producer serving many customers can afford to invest more in innovation than a single user innovating for themselves**
- To encourage this investment, typical innovation policy allows producer to "protect" innovation through patents

Source: Baldwin and von Hippel (2011)

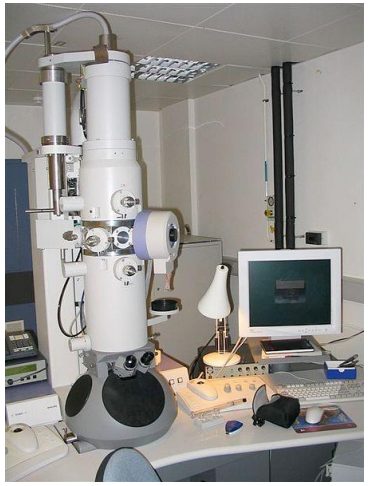
"User innovation" definition

- **User innovation** is the idea that users and consumers are the more of the innovators of new products than suppliers.
- Eric von Hippel was one of the first to notice this trend and explore it.
- Products made by manufacturers (or software companies) are typically developed to meet a wide range of the needs of a wide range of people.
- Therefore, when a particular user experiences needs that are not yet felt by the majority of consumers, they make the adjustments themselves to meet their own needs.
- Often, these ideas are then fed back to the companies from these users in the hope that the product will then be produced for them.
- **These ideas, which we discussed as part of 'Open Innovation' can also lead to new companies being formed, especially with IT products**

The importance of user innovation: Examples

Eric Von Hippel (MIT)

- Approx 80% of the most important scientific instrument innovations were by users (von Hippel, 1976)
- Many product innovations in sports are innovations by users (von Hippel, 2005)
- Many innovations in IT are innovations by users



http://www.flickr.com/photos/tz1_1zt/112072422/

connorbaxter.com

Examples of user innovation in IT

- The World Wide Web
  - created by a worker at a scientific research agency so that the scientists could communicate better
- Many Firefox add-ons
  - Many developers start by developing a plug-in for their own use and then make it available to others
- Apache server modules
  - often originally implemented by a web server administrator
- A lot of open source software is user innovation
  - but not all, many companies also release open source

Example of user innovation: Apache web server

- In 1994, the most popular web server was “httpd” by Rob McCool at NCSA (same place as Mosaic – most popular web browser at the time)
- This was available as open source
- Many httpd users (webmasters) modified the server code for their own sites
- Rob McCool left NCSA in mid 1994
- Eight httpd users emailed each other to discuss using each others changes
- In 1995, they created a common code base
- By 1996, it was the world’s most used web server
- It still is today

http://brian.behlendorf.com/

Brian Behlendorf
Primary developer of Apache

Example of user innovation: MySQL

http://dev.mysql.com/doc/refman/5.1/en/history.html

- We started out with the intention of using the mSQL database system to connect to our tables using our own fast low-level (ISAM) routines. However, after some testing, we came to the conclusion that mSQL was not fast enough or flexible enough for our needs. This resulted in a new SQL interface to our database but with almost the same API interface as mSQL. This API was designed to enable third-party code that was written for use with mSQL to be ported easily for use with MySQL.
- MySQL is named after co-founder Monty Widenius's daughter, My.
- MySQL was bought by Sun Microsystems for $1 billion in 2008

Example of user innovation: Yammer

https://www.geni.com/

- Powerful Genealogy Tools to Help You Grow Your Tree
- Find Your Ancestors
- Connect to New Relatives
- …

Example of user innovation: Yammer

David Sacks

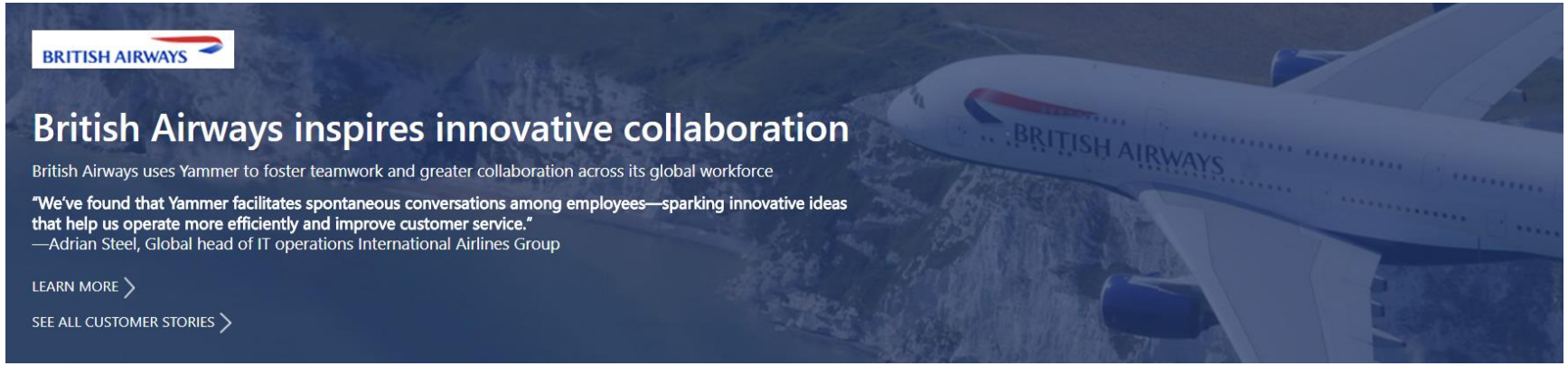
http://www.socaltech.com/interview_with_david_sacks__geni_and_yammer/s-0017613.html

https://www.yammer.com/

- Yammer started as an internal productivity tool at Geni. We basically built the tool to help people stay connected, and we've been using it internally for six months.
- We have about 30 employees at Geni, and have about 20,000 message on yammer.
- it's been incredibly successful at Geni, and is the center of the company's culture. We recently decided we should spin it out into a separate company, so that other companies can use the product as well. About a month ago, we spun it out and premiered it at TechCrunch50, as you know, and won that event.
- Yammer was bought by Microsoft for $1.2 billion in 2012
- Yammer is now used by more than 200,000 companies (source: yammer.com)

What is Yammer?

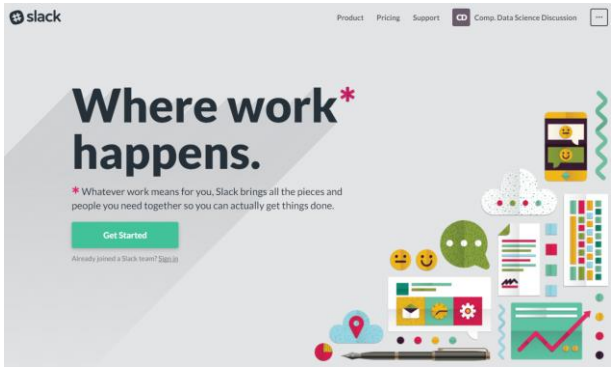
- **Yammer is a private social network for your company.**
- Your company is using Yammer to share files, discuss projects, and get work done faster
- Discuss ideas, share updates, and crowdsource answers from coworkers around the globe. Yammer gives you a faster, smarter way to connect and collaborate across your company.



https://products.office.com/en-US/yammer

Example of user innovation: Slack

https://www.glitchthegame.com/

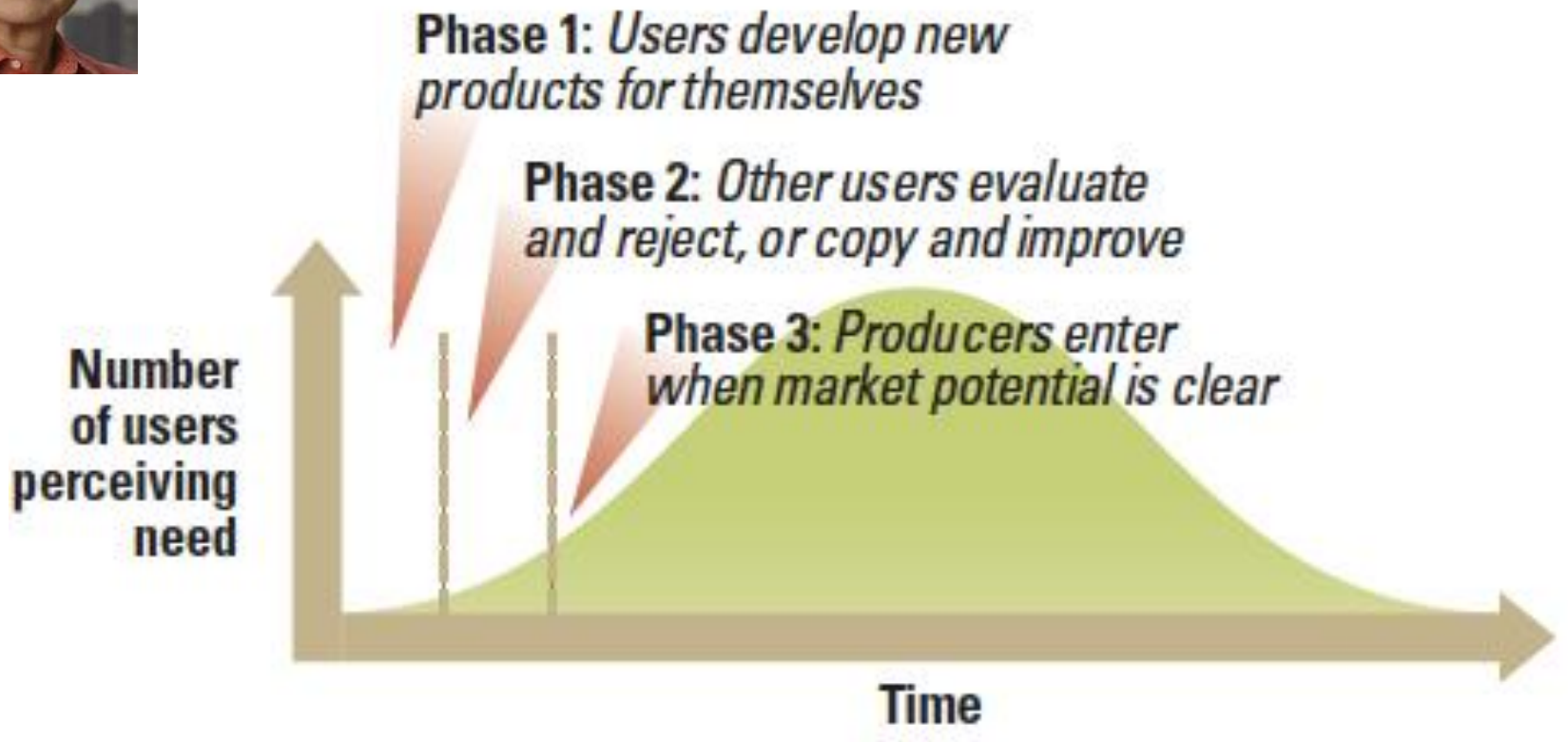


https://slack.com/

- Glitch was a browser-based massively multiplayer online game
- Created by Tiny Speck (co-founded by Flickr co-founder Stewart Butterfield)
- Glitch launched Sept 2011
- Slack was developed as an internal tool for team communication
- Glitch shut down Dec 2012
- Company focused on Slack as a product for others
- Have received $540M in investment for Slack

User Innovation

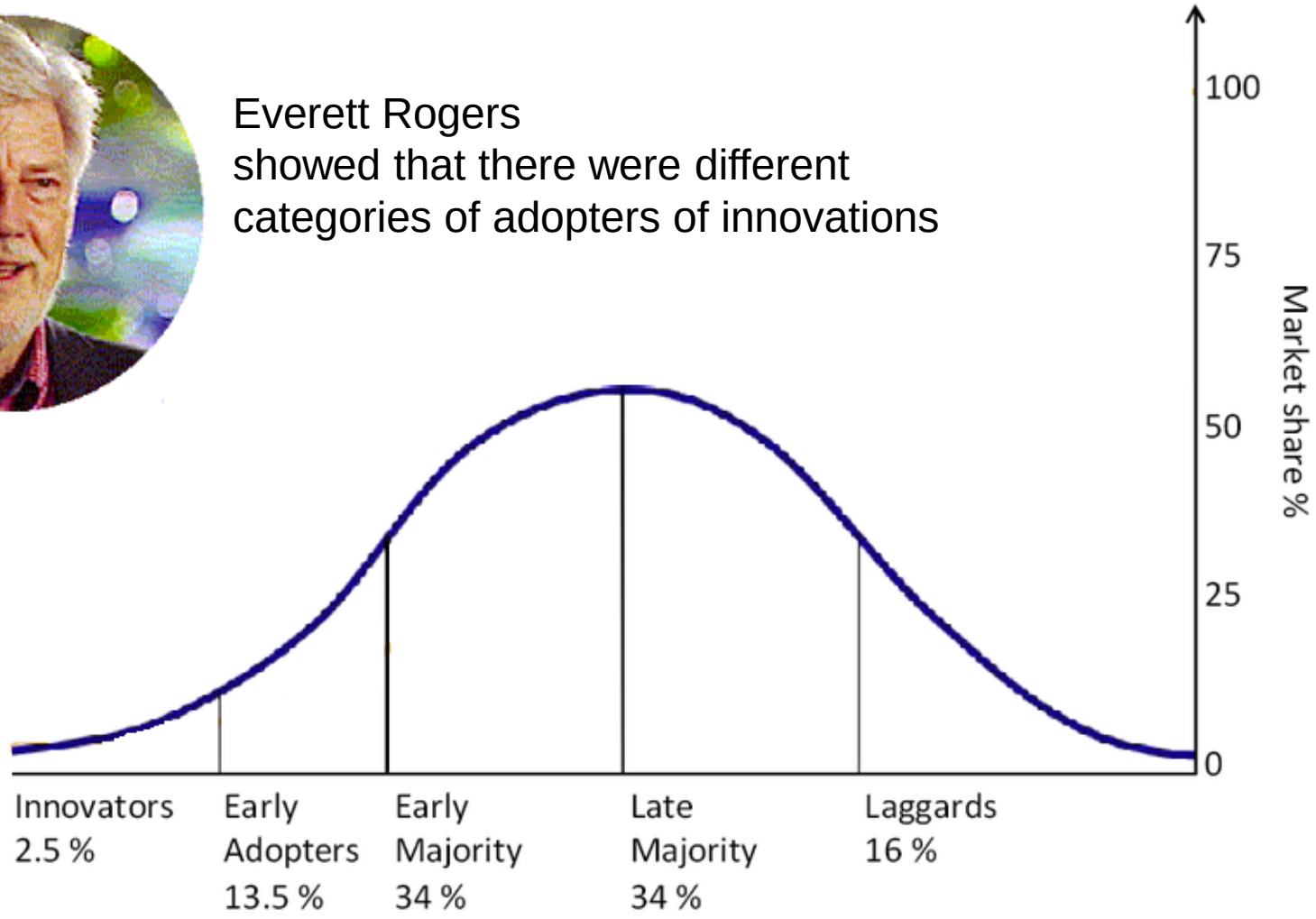
Eric Von Hippel
MIT Sloan School of Management



http://sloanreview.mit.edu/article/the-user-innovation-revolution/

Recap week 3: Diffusion of Innovation

Everett Rogers
showed that there were different
categories of adopters of innovations

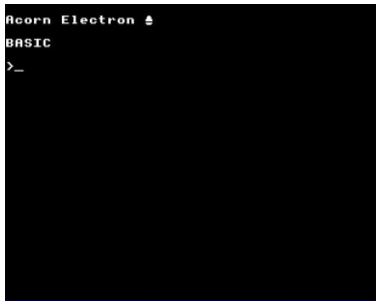


Lead users

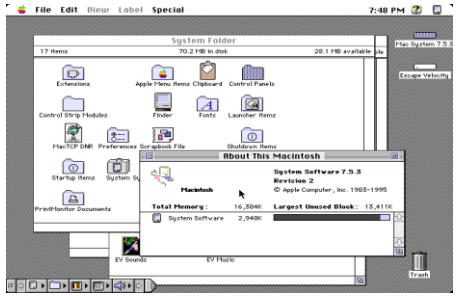
1986 journal article in *Management Science*
"Lead Users: A Source of Novel Product Concepts"

Lead users

- In some product categories (eg cleaning products), market research focuses on typical users (eg with interviews, focus groups)
- The feedback and opinions of typical users can be useful in developing new products.
- For IT and other high tech industries, typical users are not so effective
  - Eg they often suffer from "**functional fixedness**"



Typical users not likely to suggest



- Involving lead users often leads to more effective innovation
- Lead users may be individuals, companies or communities

How to identify lead users

- According to Von Hippel…

- Lead Users:
  - Face the needs that will be general in the market, but months or years before the general marketplace realise the needs.
  - Will benefit significantly by obtaining a solution to those needs, and…
  - Spend resources trying to solve those needs
  - Are at the leading edge of trends and so are very knowledgeable about "state of the art"
  - Note: Lead users are not usually a company's "lead customers" – they are usually not satisfied with current products so have had to create their own

Source: Von Hippel (1986)

Users as source of innovation

- "Lead users" can provide concepts for products, services, processes and features to help companies innovate
- Sometimes, lead users actually do the innovation themselves (i.e. "user innovation")

User-led Innovation – an alternative perspective

- **Users insights can't predict future demand:** The users themselves often have no idea if they will like a breakthrough product before they start using it.
- **User-centered processes stifles creativity:** "The user-centered process is created as linear rational process for innovation and that's why it's so popular among managers… creating something new is a chaotic, unpredictable, frustrating, and very, very hard process. And most of all, it's the result of extraordinary efforts and visions of a few extremely talented people."
- **User focus makes companies miss out on disruptive innovations:** "Focusing on users will lead companies to make incremental innovations that typically tend to make the products more expensive and complicated and ironically, in the long run, less competitive."
- **User-led design leads to sameness:** "Even if user insights were useful, it isn't a competitive advantage. Even the most advanced users studies are now widely available."

http://www.forbes.com/sites/stevedenning/2011/02/15/user-led-innovation-cant-create-breakthroughs/#35edb5c75a9b
http://www.fastcodesign.com/1663220/user-led-innovation-cant-create-breakthroughs-just-ask-apple-and-ikea

User-led Innovation – Apple?

- Apple has a good track record when it comes to its consumer products, and that's because of how they define "insanely great products." To quote Jobs again:

  "It's not about pop culture, and it's not about fooling people, and it's not about convincing people that they want something they don't. We figure out what we want. And I think we're pretty good at having the right discipline to think through whether a lot of other people are going to want it, too. That's what we get paid to do."

- In other words, Apple makes products that they themselves want to use. They are their own leading-edge customers.

https://hbr.org/2012/12/to-stay-ahead-of-disruptions-curve

Maker Movement

User innovation: becoming an even bigger force in innovation – e.g. "Maker movement"

Image source: http://spotlight.macfound.org/blog/entry/craftsmanship-is-dead-long-live-maker-culture/

Image source: http://robodino.org/

"The maker movement, as we know, is the umbrella term for independent inventors, designers and tinkerers"

http://time.com/104210/maker-faire-maker-movement/ 2014

What is Maker Movement

- *The Maker Movement is the embodiment of the do-it-yourself, tech community — a celebration of the ever-growing culture bred from the cross section of collaboration and creativity that is continuously recruiting people and ideas and technologies and inviting them to be tested and broken and shared. Makers are everywhere — welding in a garage, tucked away in a lab or DIY-ing on the living room floor — but the community's unofficial headquarters are all around the nation, and creating a place for makers of all kinds in the form of Makerspaces.*

https://makermedia.com/
http://www.arkansasbusiness.com/article/118454/the-maker-movement-why-it-matters

IT enabler?

- IT is a key enabler to rapid increase in innovations
- But not only in IT…. there are many other ways for innovation to occur
- Maker movement has made tremendous interest in the past years

How It All Began

Make: is the magazine for Makers, which was first published in 2005 and used the word "Maker" to name the community. Now in its 13th year, Make: is published bi-monthly in print and features dozens of DIY technology projects. Called the "bible" for makers, Make: and its companion website, Makezine.com, cover makers, their projects and technologies as well as the communities that grow up around them.

Gathering the Community

Maker Faire is the "Greatest Show on Earth," an incredible celebration of makers and a showcase of innovative-in-the making. Maker Faire is the best evidence of the power and reach of the Maker Movement — all around the globe. The first Maker Faire was held in 2006 in the San Francisco Bay Area. In 2016, there were nearly 200 Maker Faire around the world with four of the events drawing at or above 100,000 people in San Mateo, New York, Rome and Shenzhen.

Maker Movement

The Rise of the Movement

Reveling in the creation of the new devices… and tinkering with existing ones.

2005
Make: magazine launches, coining the term "Maker"

2006
First **Maker Faire** event

Etsy launches

2009
First **TechShop** opens

Square launches

2011
The overall market for 3D printing products and similar maker services reached **$1.7 billion**

2012
Maker Camp launches

NY Times reports "Made in America" is on the rise

2013
3M people pledged $480M to **Kickstarter** projects

2014
First **Maker Faire** at White House

Mayors Maker Challenge launches

2015
Global **Maker Faire** attendance surpasses 1M

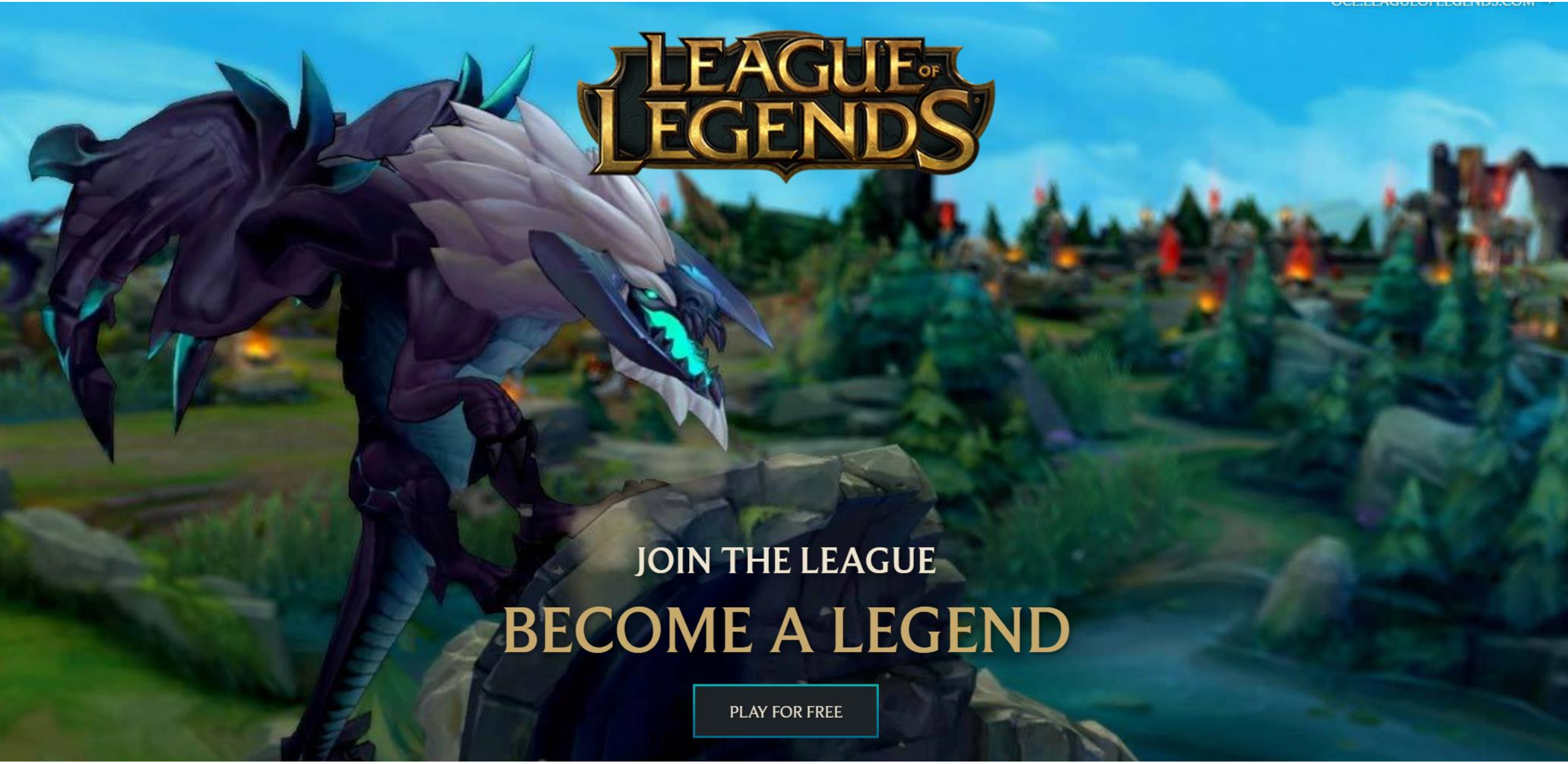
RaspberryPI reaches 5M units in sales

2016
26% of U.S. cities currently have **Makerspaces** and 13% have hosted a **Maker Faire**

2017
240+ **Maker Faires** around the world

https://makermedia.com/maker-movement/

Platform Ecosystem



http://leagueoflegends.com/

Platform economy – Online Games

- In 2009, Riot Games released a new game product - League of Legend
- **More than a new product, the strategy was to build a *platform*.**
- 67 million people play it each month,[1] generating some $1 billion dollars in annual revenue for the company.[2]
- Play for free; Riot Games makes its money when, having drawn players into its designed 'environment', it finds other ways to capitalize on their presence e.g., character skins. Such an environment will have 'governance' – a set of protocols or standards to 'play' within it.
- Live events, in which League of Legend teams compete in tournaments in front of live spectators, launched what is now the fastest-growing part of the sports industry, **e-sports**, which has TV rights etc.

https://dupress.deloitte.com/dup-us-en/focus/business-trends/2015/platform-strategy-new-level-business-trends.html

Governance – Protocols or Standards

- A couple of key elements come together to support a well-functioning platform:
  - **A governance structure:** including a set of protocols that determines who can participate, what roles they might play, how they might interact, and how disputes get resolved.
  - **An additional set of protocols or standards:** is typically designed to facilitate connection, coordination, and collaboration.

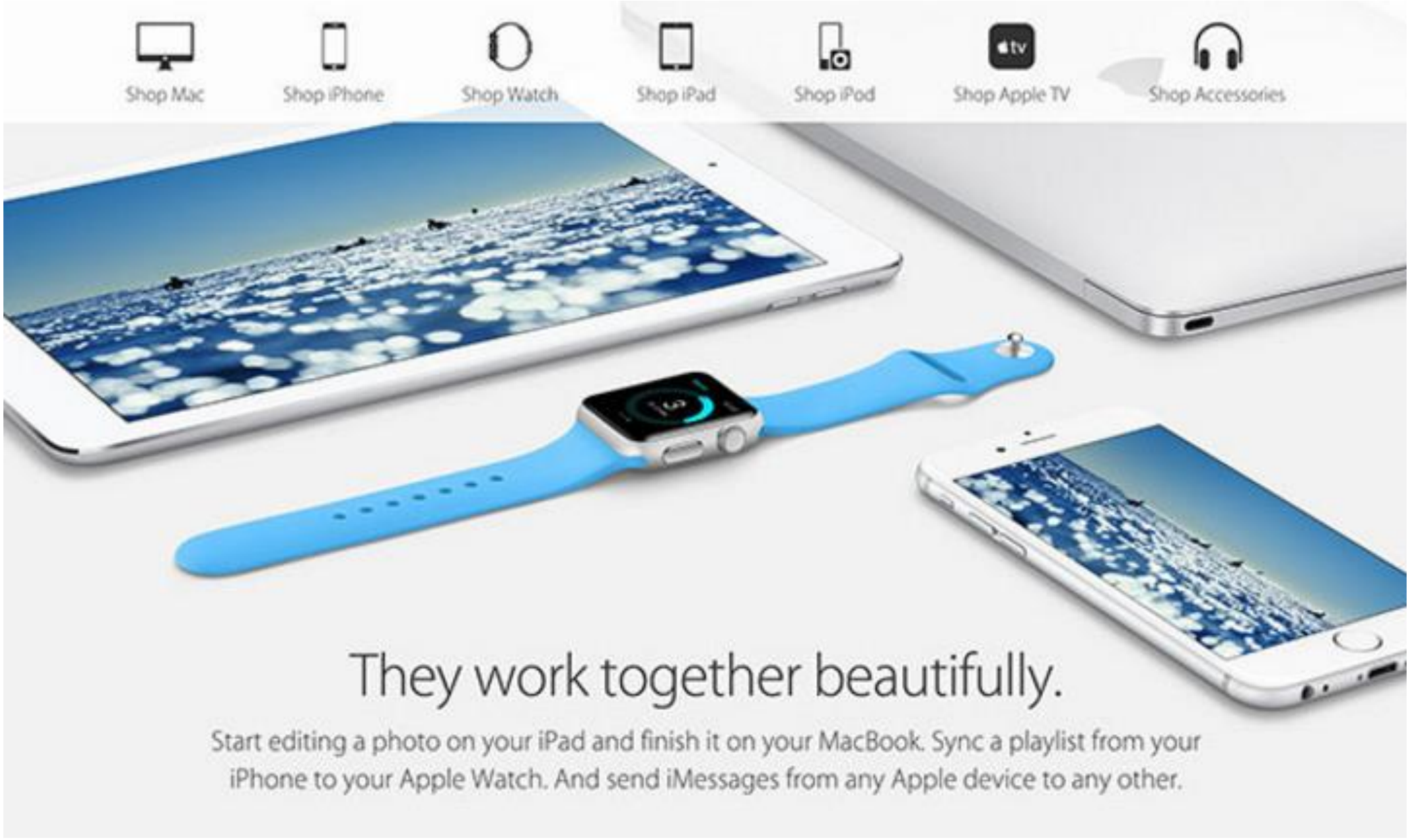
- Platforms are increasingly supported by global digital technology infrastructures that help to scale participation and collaboration
  - But this is an enabler, rather than a prerequisite, for a platform.

Deloitte, 2015

There is money to be made in providing layers of capabilities and standards that other players in that market can tap into and use to interact more efficiently.

Properly designed, Platforms can become powerful catalysts for rich ecosystems of resources and participants.

Deloitte, 2015


Shop Mac
Shop iPhone
Shop Watch
Shop iPad
Shop iPod
Shop Apple TV
Shop Accessories
They work together beautifully.
Start editing a photo on your iPad and finish it on your MacBook. Sync a playlist from your iPhone to your Apple Watch. And send iMessages from any Apple device to any other.

Apple iPhone…

- Back in 2007, the five major mobile-phone manufacturers – Nokia, Samsung, Motorola, Sony Ericsson, and LG – collectively controlled 90% of the industry's global profits. That year, Apple's iPhone burst onto the scene and began gobbling up market share.
- By 2015 the iPhone singlehandedly generated 92% of global profits, while all but one of the former incumbents (former companies) made no profit at all.

Marshall W. Van AlstyneGeoffrey G. ParkerSangeet Paul Choudary, "Pipelines, Platforms, and the New Rules of Strategy", Harvard Business Review, April 2016
https://hbr.org/2016/04/pipelines-platforms-and-the-new-rules-of-strategy

Apple – Pioneering the App platform

- Apple (along with Google's competing Android system) overran the incumbents by exploiting the **power of platforms** and leveraging the new rules of strategy they give rise to.
- **Platform businesses bring together producers and consumers in high-value exchanges.** Their chief assets are information and interactions, which together are also the source of the value they create and their competitive advantage.
- Understanding this, Apple conceived the iPhone and its operating system as more than a product or a conduit for services. **It imagined them as a way to connect participants in two-sided markets – App developers on one side and App users on the other – generating value for both groups.**

Marshall W. Van AlstyneGeoffrey G. ParkerSangeet Paul Choudary, 2016

Apple – leveraging the Network Effect

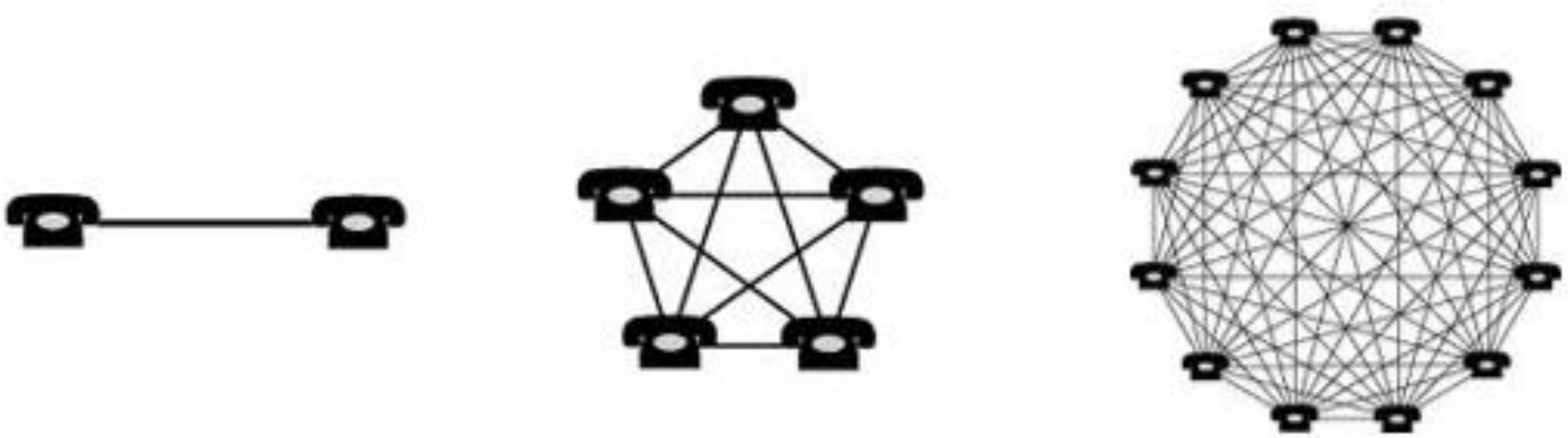
- As the number of participants on each side grew, that value increased – a phenomenon called "network effects," which is central to platform strategy. By January 2015 the company's App Store offered 1.4 million apps and had cumulatively generated $25 billion for developers.
- Apple's success in building a platform business within a conventional product firm holds critical lessons for companies across industries.
- Firms that fail to create platforms and don't learn the new rules of strategy will be unable to compete for long.

Platform Economy

Fundamentals

Recap wk3: Networks

Wk3: Network effects - For technologies with network effects, the benefit from using a technology increases with the number of other users



Recap wk3: Types of network effects

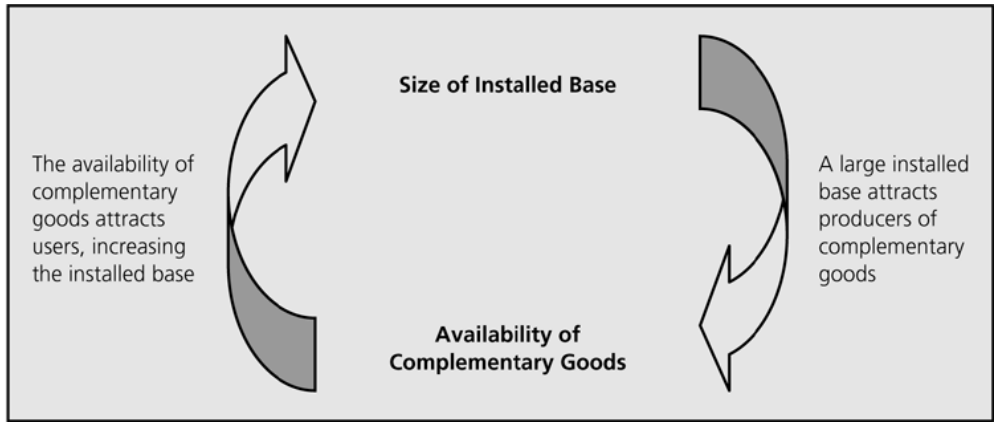
- Direct network effects:
  - Increase in usage leads to direct increase in value
  - eg Email, Telephone, Twitter
- Indirect network effects:
  - Increase in usage leads to increase in value of complementary goods leading to increase in value of the original technology
  - eg PC Architecture gained value from value of compatible software
- Two-sided network effects:
  - Increase in usage by one set of users increases value to another set
  - eg marketplaces (such as eBay, Airbnb), reader/writer software
- Local network effects:
  - Increase in use of local networks (within a larger network) leads to increase in value
  - Eg Instant Messaging, Facebook

Source: Arun Sundararajan http://oz.stern.nyu.edu/io/network.html

Recap wk3: The self-reinforcing cycle

- A technology with a large installed base attracts developers of complementary products;
- A technology with a wide range of complementary products attracts users;
- An increase in the number of users is an increased installed base.
- This leads to a self-reinforcing cycle

FIGURE 4.2
The Self-Reinforcing Cycle of Installed Base and Availability of Complementary Goods



Source: Schilling (2008)

Recap wk5: Modularity

- *Modularity refers to the extent to which a software/Web App may be divided into smaller modules. Software modularity indicates that the number of application modules are capable of serving a specified business domain.*
- https://www.techopedia.com/definition/24772/modularity

- Products may be modular at:
  - **User level** e.g. Firefox add-ons, Office plug-ins, Smartphone Apps
  - **Producer level** e.g. Canon camera, Software products based on company platforms
  - **Industry level** e.g. each component of PC made by different company, web API, etc.

Recap wk5: Modularity

- A standard interface enables components to be combined easily (e.g. by user, within company, between companies)
- Modularity can enable many different configurations to be achieved from a given set of components.
- Technology companies often design their structures around the product structure (e.g. with separate divisions developing “technology platforms”)

Recap wk5: Product Platforms

- Concept became popular in the 90s – used for reusable components/design frameworks
- Foundation of components around which a company builds related products
- Also known as "product family engineering"
- Platforms make it possible for companies to:
  - Have a rich line-up of different products with the same core functions
    - At different price-points
    - For different customer types
  - To do so efficiently through re-use of a common platform

Types of Platform Business

Platform businesses

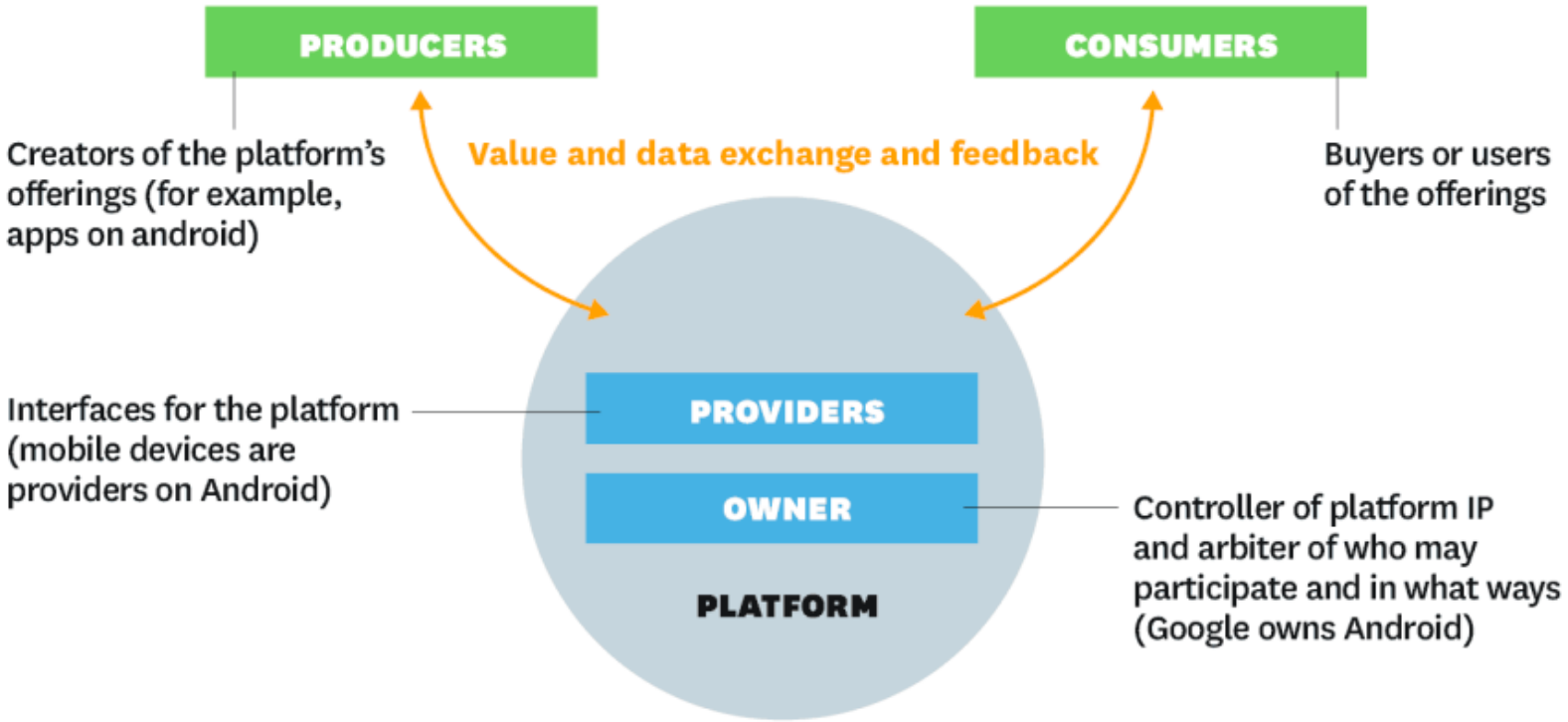
- Platform businesses bring together producers and consumers in high-value exchanges.
- Their chief assets are information and interactions, which together are also the source of the value they create and their competitive advantage.

Source: Van Alstyne, Parker and Choudary

Main players in a platform ecosystem

The Players in a Platform Ecosystem

A platform provides the infrastructure and rules for a marketplace that brings together producers and consumers. The players in the ecosystem fill four main roles but may shift rapidly from one role to another. Understanding the relationships both within and outside the ecosystem is central to platform strategy.



SOURCE MARSHALL W. VAN ALSTYNE, GEOFFREY G. PARKER, AND SANGEET PAUL CHOUDARY
FROM "PIPELINES, PLATFORMS, AND THE NEW RULES OF STRATEGY," APRIL 2016

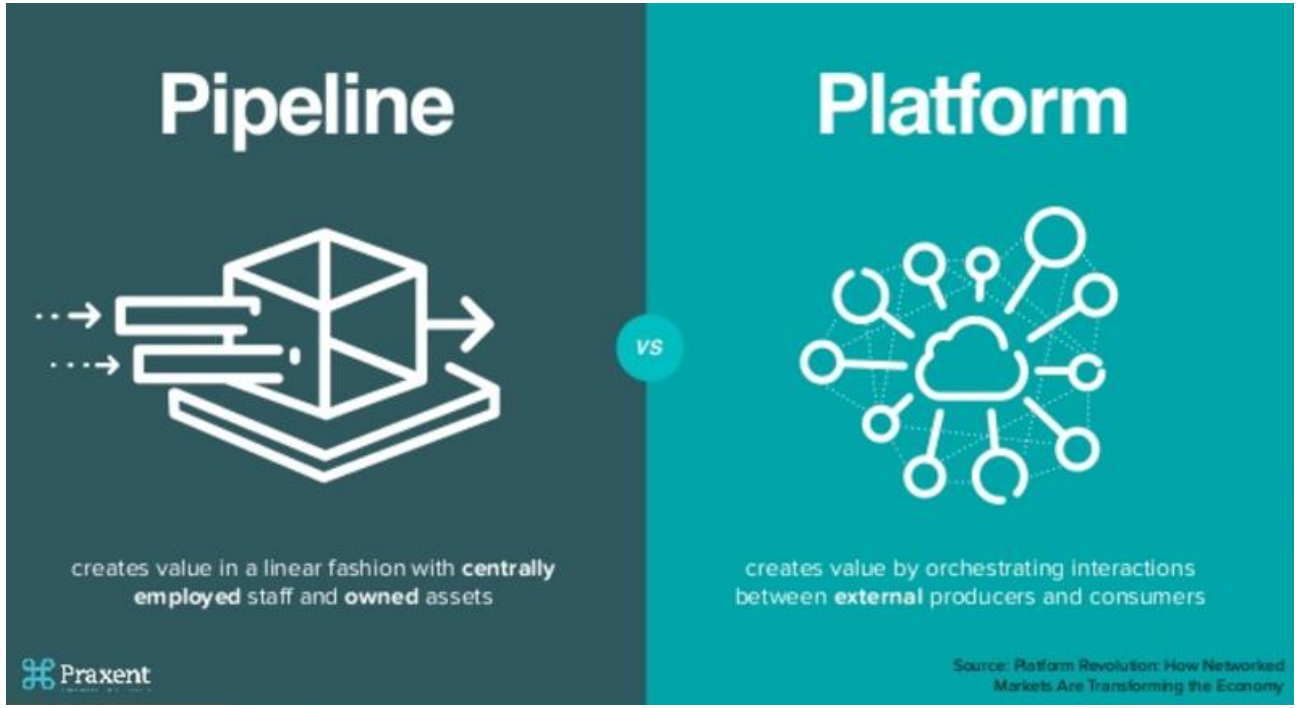
Roles in a platform ecosystem

- **Producers** create the platform's offerings
- **Consumers** buy or use the platform's offerings
- **Platform providers** provide the interfaces to the platform
- **Platform owners** owns platform intellectual property (e.g., trademarks) and control who participates in the platform and how they participate

Source: Van Alstyne, Parker and Choudary

Pipelines vs Platforms

Companies that take in resources, add value to them and then release products that are higher value



Companies that create value by controlling the interactions between producers and consumers

Can be both (e.g., Apple)

https://www.slideshare.net/praxent/launching-a-hyper-scalable-platform-business-by-praxent

Strategy: From Pipeline focus to Platform focus

1. From *resource control* to *resource automation*
   - The main asset for platforms is the network of producers and consumers
2. From *internal optimisation* to *external interaction*
   - Platforms focus on facilitating interactions in the network
3. From a focus on *customer value* to a focus on *ecosystem value*
   - Platforms focus on the total value of the expanding network

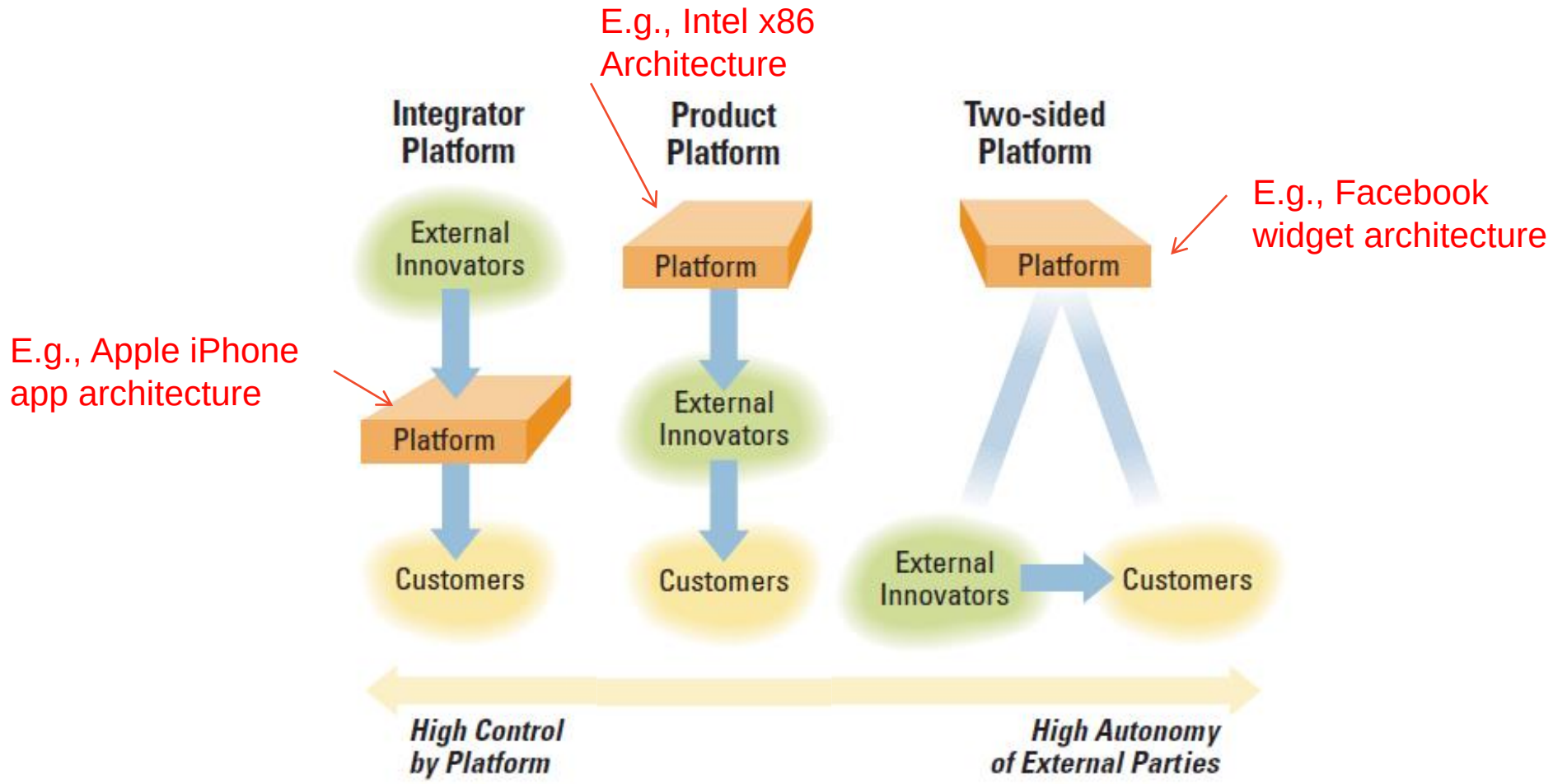
Source: Van Alstyne, Parker and Choudary

Measuring a platform business

- Interaction failure:
  - Failure of a key interaction between producers and consumers
- Engagement:
  - Level of participation enhancing network effects
- Match quality:
  - Level of quality of an interaction between producer and consumer
- Negative network effects:
  - Need to manage the platform carefully to avoid e.g., over-supply or over-demand

Source: Van Alstyne, Parker and Choudary

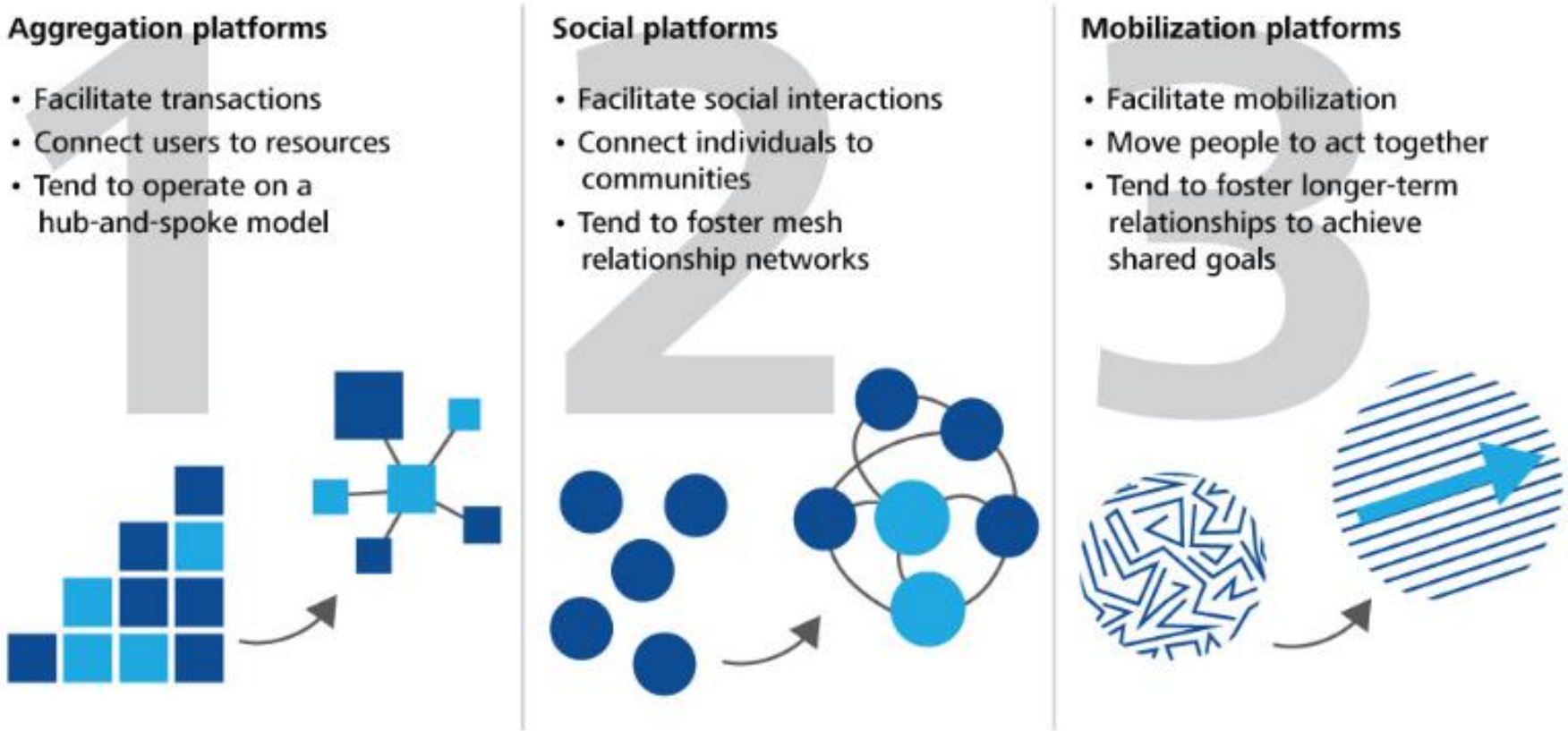
Different forms of platform businesses



Source: K.J. Boudreau and K.R. Lakhani

Common Platform Types

Figure 2. Three common platform types that facilitate transactions, interactions, and mobilization



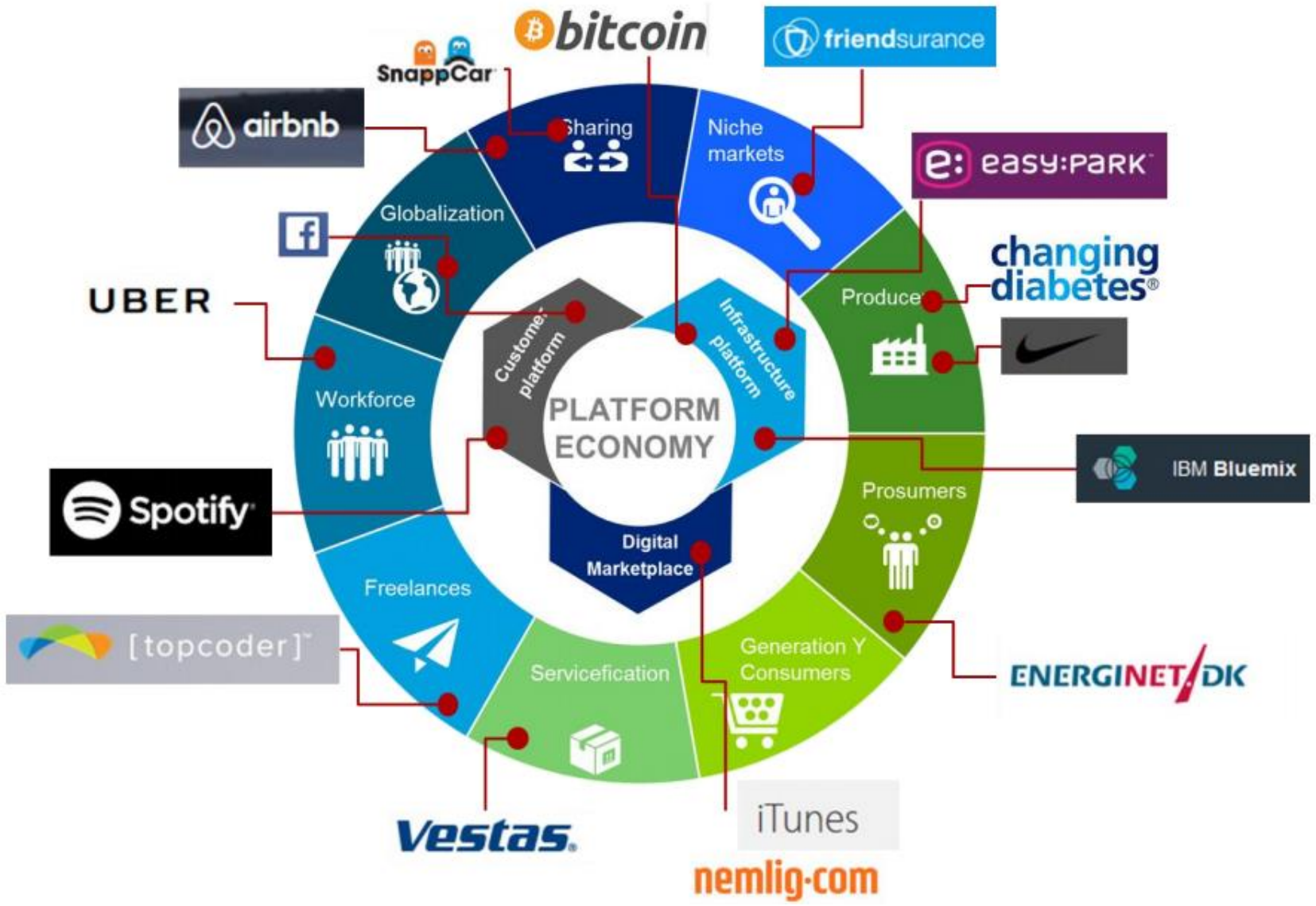
eBay, Etsy, and the App Store, Airbnb, Kaggle

Facebook and Twitter

Linux or Apache

Deloitte, 2015

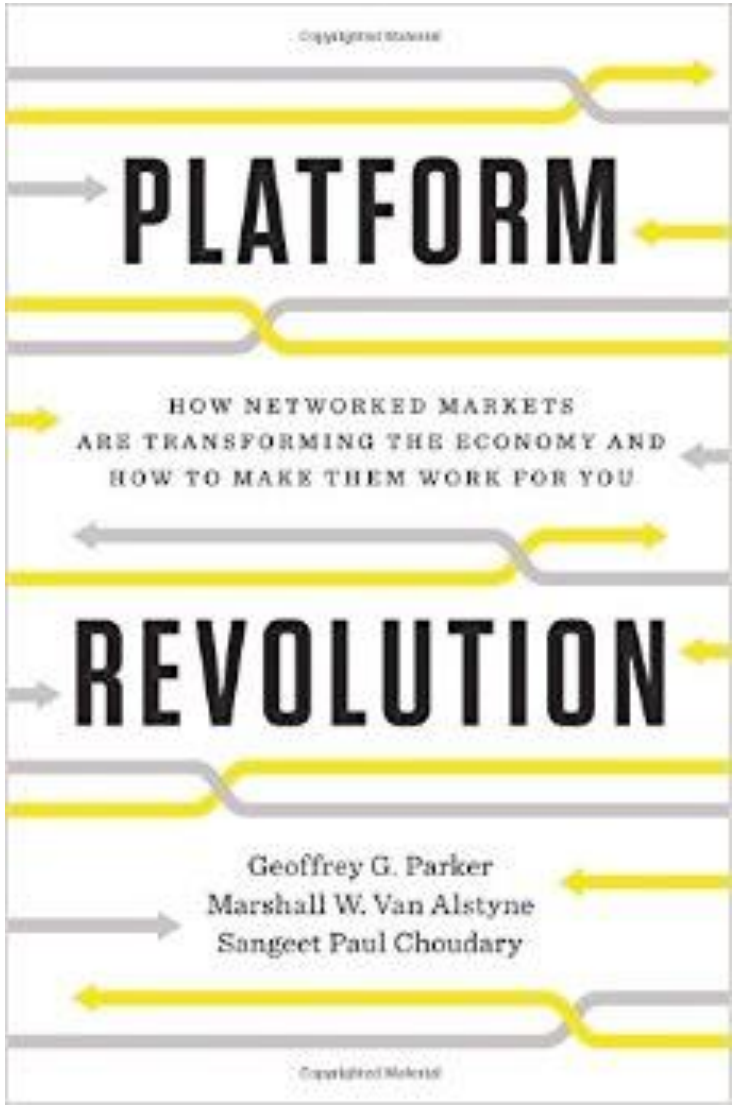
Examples

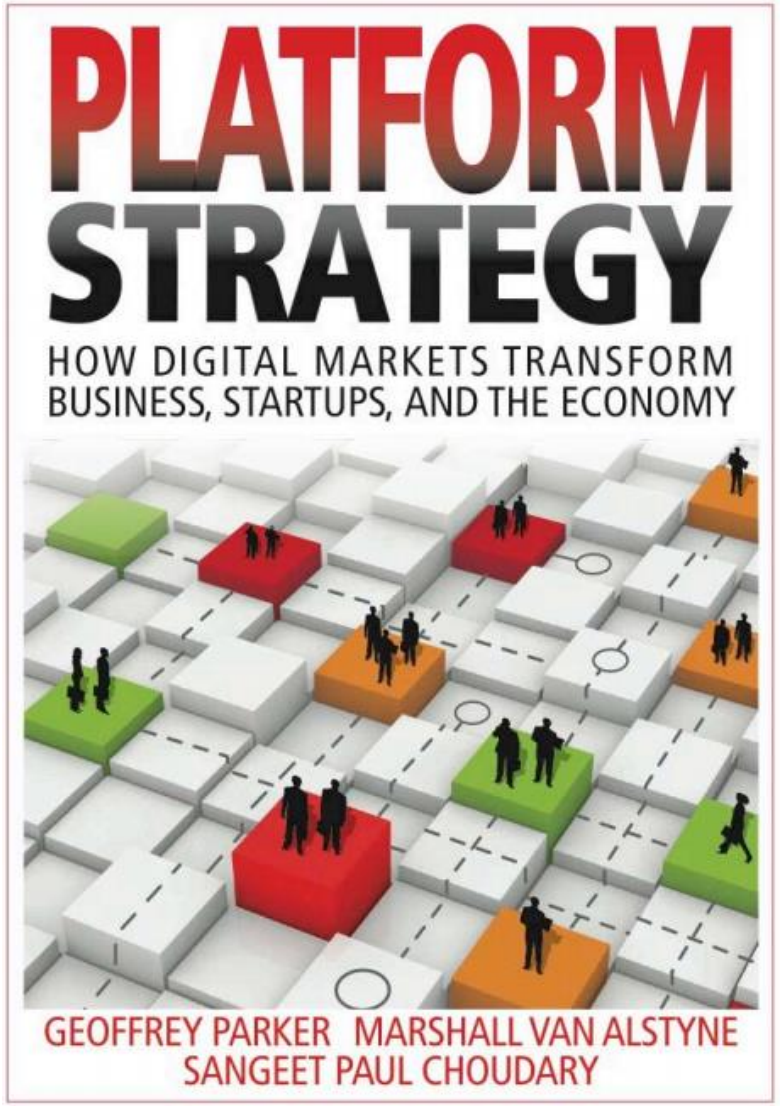


Deloitte. Digital

12

Suggested reading





Summary

- Platform businesses build networks bringing together producers and consumers in interactions that are high-value to all participants
- The key roles in a platform ecosystem are producers, consumers, platform provider and platform owner
- Platform companies produce value in a different way from traditional "pipeline companies"
- Many industries are being transformed by platform businesses
- Approaches for running successful platform businesses are different from those for running pipeline businesses (eg for strategy, focus, measuring success)
- Understanding how to build a platform ecosystem is key for many companies that are likely to be important in the future

References

- Baldwin, C. Y. (2012). Organization design for business ecosystems. *Journal of Organization Design*, *1*(1).
- Boudreau, K., & Lakhani, K. (2009). How to manage outside innovation. *MIT Sloan management review*, *50*(4), 69. *http://sloanreview.mit.edu/the-magazine/articles/2009/summer/50413/how-to-manage-outside-innovation/*
- Parker, G. G., Van Alstyne, M. W. & Choudary, S. P. (2016). *Platform Revolution*. W. W Norton & Company.
- Van Alstyne, M. W., Parker, G. G., & Choudary, S. P. (2016). Pipelines, Platforms, and the New Rules of Strategy. *HARVARD BUSINESS REVIEW*, *94*(4), 54-+.

Platform Economy

Case Studies

THE UNIVERSITY OF SYDNEY

InterBrand: 2013 Best Global Brands

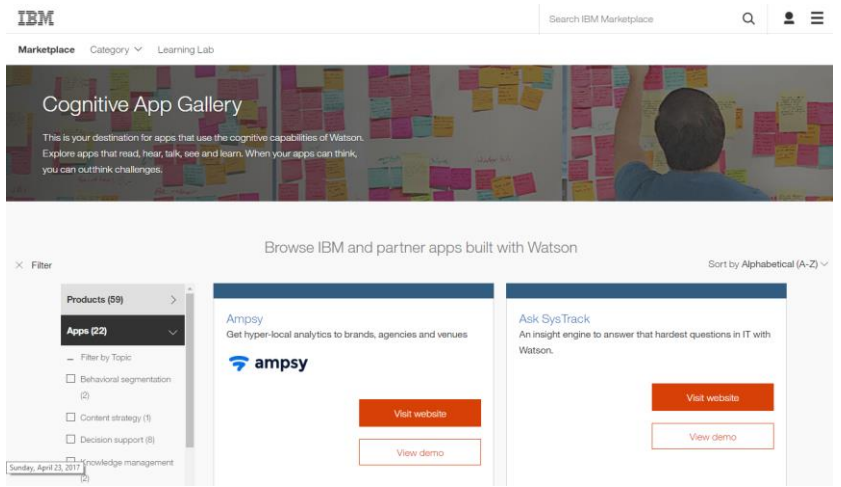
Marshall Van Alstyne, Professor at Boston University, https://www.slideshare.net/InfoEcon/the-rise-of-platforms-and-what-it-means-for-business, 2013

These are Platforms

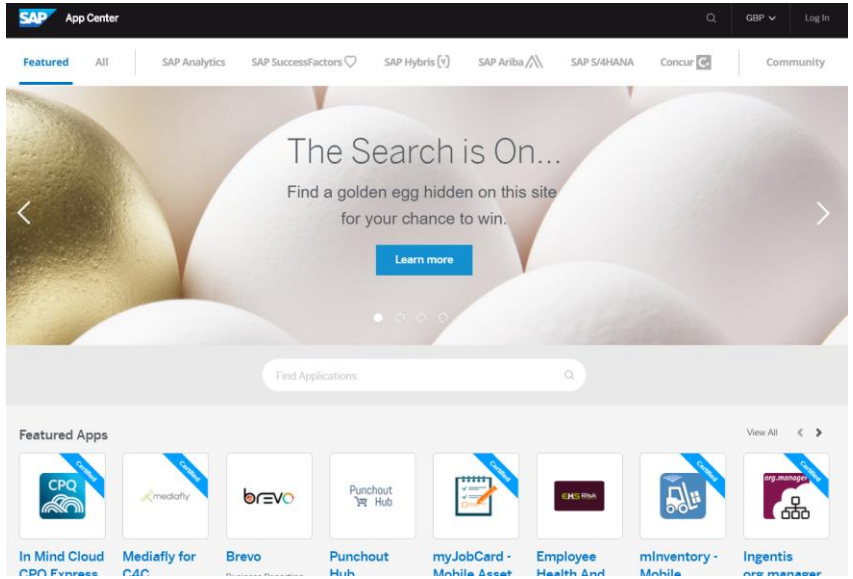

How are these related?
eBay Sellers
Expedia Airlines/Hotels
Xbox Developers
American Express Merchants
Aga Khan Doctors
YouTube Videographers
AirBnb Rooms
Electric Car Charge Stations
Mechanical Turk Laborers
LinkedIn Employers
Android Developers
eBay Buyers
Expedia Travelers
Xbox Gamers
Amex CardHolders
Aga Khan Patients
YouTube Viewers
AirBnb Renters
Electric Car Drivers
Mechanical Turk Jobs
LinkedIn Employees
Android Users
Each Side Attracts More of the Other
Twitter: @InfoEcon :: :: PlatformEconomics.com

Companies …

- Google
- Apple – e.g., iTunes
- Microsoft – e.g., OS, App store
- Amazon
- **IBM – e.g., Marketplace**
- eBay
- Samsung
- Oracle
- SAP
- American Express
- Intel
- Cisco



https://www.ibm.com/au-en/marketplace



https://www.sapappcenter.com/home?qual=1

Can you Map the examples to Platform economy type?

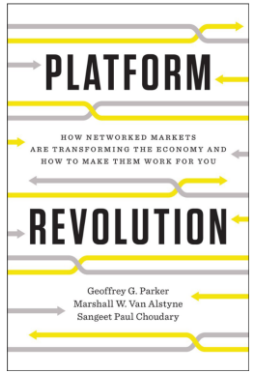
- Producer, Consumer, Provider, Owner
- Aggregate, Social, Mobilise
- How about Distributed innovation ?
  - Product platforms, Web APIs, Crowdsourcing innovation / Crowdfunding Innovation, Releasing data sets “Open data”, Free and Open Source Software, User innovation

Examples of some platform businesses

Industries being transformed by platform businesses

INDUSTRY	EXAMPLES
Agriculture	John Deere, Intuit Fasal
Communication and Networking	LinkedIn, Facebook, Twitter, Tinder, Instagram, Snapchat, WeChat
Consumer Goods	Philips, McCormick Foods FlavorPrint
Education	Udemy, Skillshare, Coursera, edX, Duolingo
Energy and Heavy Industry	Nest, Tesla Powerwall, General Electric, EnerNOC
Finance	Bitcoin, Lending Club, Kickstarter
Health Care	Cohealo, SimplyInsured, Kaiser Permanente
Gaming	Xbox, Nintendo, PlayStation
Labor and Professional Services	Upwork, Fiverr, 99designs, Sittercity, LegalZoom
Local Services	Yelp, Foursquare, Groupon, Angie's List
Logistics and Delivery	Munchery, Foodpanda, Haier Group
Media	Medium, Viki, YouTube, Wikipedia, Huffington Post, Kindle Publishing
Operating Systems	iOS, Android, MacOS, Microsoft Windows
Retail	Amazon, Alibaba, Walgreens, Burberry, Shopkick
Transportation	Uber, Waze, BlaBlaCar, GrabTaxi, Ola Cabs
Travel	Airbnb, TripAdvisor

FIGURE 1.2. Some of the industry sectors currently being transformed by platform businesses, along with examples of platform companies working in those arenas.



https://platformrevolution.com/ Source: Parker, Van Alstyne and Choudary

Case Study
Sharing Economy

THE UNIVERSITY OF SYDNEY

WHAT IS SHARING ECONOMY?

“ The peer to-peer-based activity of obtaining, giving, or sharing the access to goods and services, coordinated through community-based online services”

Hamari, Juho, Mimmi Sjöklint, and Antti Ukkonen. "The sharing economy: Why people participate in collaborative consumption." Journal of the Association for Information Science and Technology 67.9 (2016): 2047-2059.

WHAT IS SHARING ECONOMY?

01 Sharing Economy is a socio-economic system built around the sharing of human and physical resources.

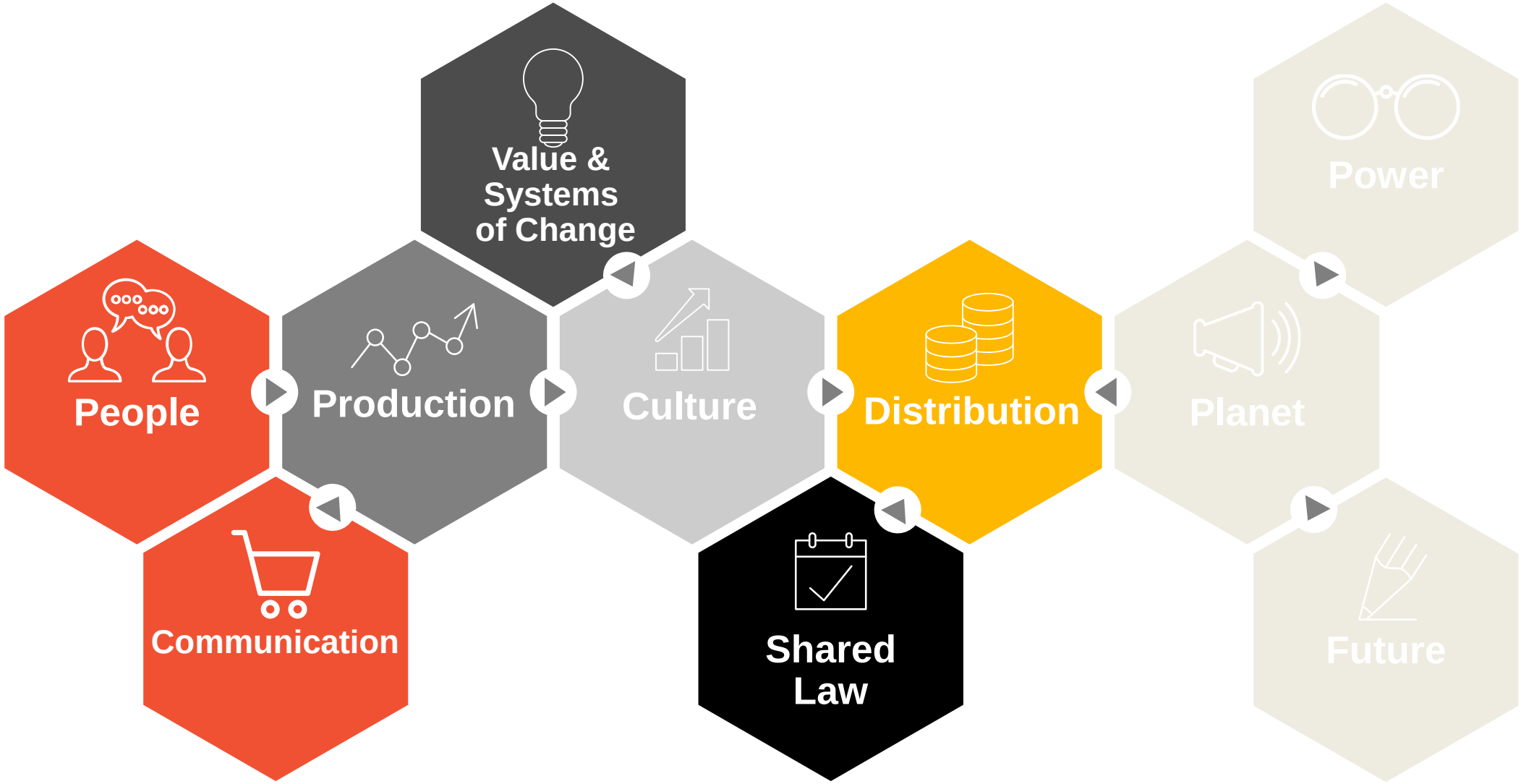
02 It includes the shared creation, production, distribution, trade and consumption of goods and services by different people and organisations.

03 To get here we needed companies like eBay, Paypal, Amazon, and Facebook

04 While these companies are here to stay, new rules surrounding how they operate are already changing the way they operate.

http://www.thepeoplewhoshare.com/blog/what-is-the-sharing-economy/
http://time.com/3687305/testing-the-sharing-economy/
https://thenextweb.com/entrepreneur/2016/12/23/sharing-economy-will-shift-next-5-years/#.tnw_BKrDupb1

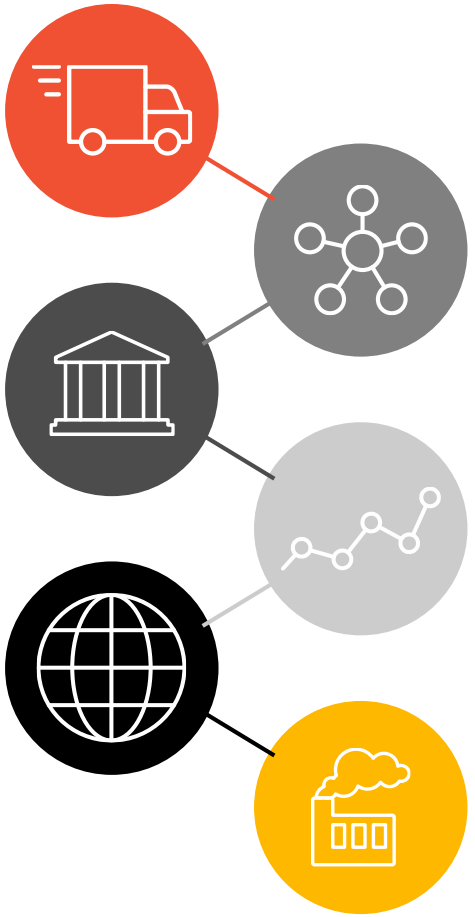
SHARING ECONOMY BUILDING BLOCKS



http://www.thepeoplewhoshare.com/blog/what-is-the-sharing-economy/

BENEFITS OF SHARING ECONOMY

86% agree it makes life more affordable



83% agree it makes life more convenient and efficient

76% agree it's better for the environment

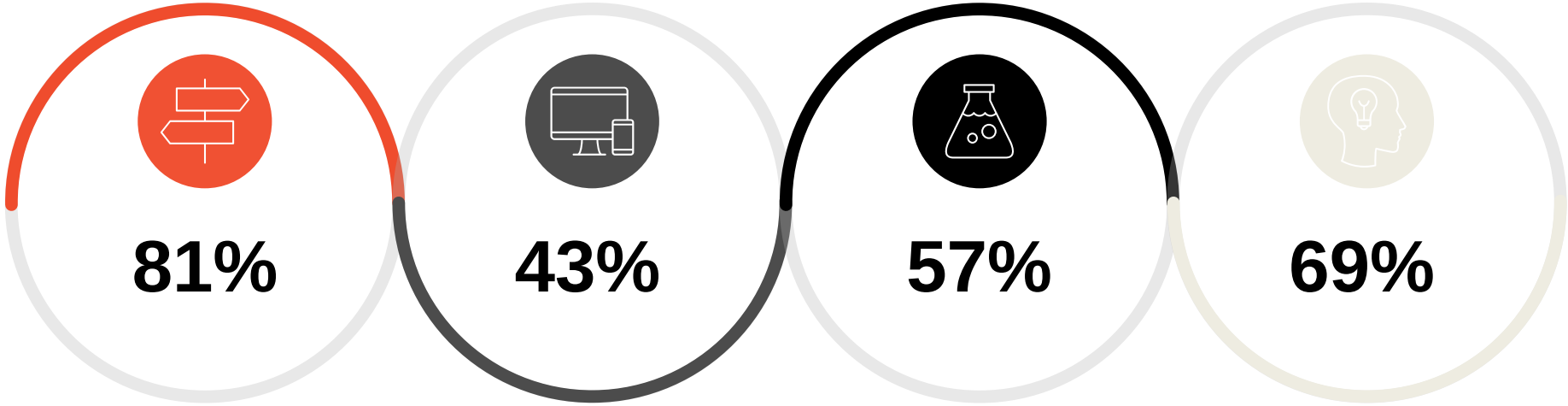
89% agree it is based upon trust between providers and users

63% agree it is more fun than engaging with traditional companies

78% agree it builds a stronger community

https://www.pwc.com/us/en/technology/publications/assets/pwc-consumer-intelligence-series-the-sharing-economy.pdf

RE-THINKING THE VALUE OF OWNERSHIP



81%

Agree that it is less expensive to share goods than own them individually

43%

Agree owning today feels like a burden

57%

Access is the new ownership

69%

Agree they will not trust sharing economy companies until recommended by someone they trust

https://www.pwc.com/us/en/technology/publications/assets/pwc-consumer-intelligence-series-the-sharing-economy.pdf

FUTURE AHEAD. . .

The future of sharing economy depends on “trust”

As more and more of us around the world start to interact in the collaborative marketplace, there is a real need for both quality and trust metrics.

https://www.forbes.com/sites/theyec/2015/02/10/the-future-of-the-sharing-economy-depends-on-trust/#698ebd4b4717

Tutorial 7: Sharing Economy from a Distributed Innovation Context

Selected Examples of Sharing Economy

- Services (**DogVacay**, https://www.dogvacay.com/) DogVacay is a Santa Monica based company known for home dog boarding and other pet services. It is cheaper than a kennel, and provides a more comfortable stay for the dog.
- Automobile Services (**Lyft**, https://www.lyft.com) Lyft is a ride sharing company for people to find rides from "regular" people who have a car.
- Wi-Fi Services (**Fon**, https://fon.com) Fon enables people to share their home Wi-Fi network in exchange for getting free Wi-Fi from anyone out of the 7 million people in Fon's network.

Tutorial Questions

- What are the IT technologies that are enabling sharing economy platforms? Have a look at some of the popular sharing economy companies. Study the example companies and see what technologies they all rely on. Do you see a pattern among majority of the companies that are listed above?
  - Key enabling technologies for sharing economy, among many others, are peer-to-peer transactions and social networking technologies. What are they and why are they so important?
  - What technologies the sharing economy companies might adopt in the future?
- Pick one example from the above companies. Can you apply 'main players in a platform ecosystem'?
- There are several weaknesses identified for sharing economy companies. What are they? In particular, why is it suggested that many 'web startups are easy to launch but many will not survive once their funding runs out' [1]?
  - Do you think it is too easy to replicate a sharing economy platform? In fact, several sharing economy platform company has popped up quickly and also disappeared quickly. What are the main reasons for this?
  - A Web API is readily available for you to start a sharing economy platform. See for example below which lists three different platforms:
- http://www.shareable.net/blog/3-platforms-to-start-your-own-sharing-service
- Using such platform, can you come up with your own innovation? There are many new innovations emerging and a good example of this is the competition from IC tomorrow, which is a part of Innovate UK Network. See the recent finalist in the link below from a sharing economy competition – they are quite innovative!
- https://ictomorrow.innovateuk.org/article-view/-/blogs/digital-innovation-in-the-sharing-economy-contest-finalists-announced
- [Optional / Homework] Would you consider companies adopting 'sharing economy' platform to be following the concepts of disruptive innovation? Can you give an example of a sharing economy company you think is causing disruption?

Thank you! ☺