Technology and Innovation Management

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From products to platforms

From platform to product: The future of Netflix

Netflix Reports First Drop in U.S. Users in Nearly a Decade

(Wall Street Journal, 2019)

Netflix's Original Content Strategy Is Failing

(Forbes, 2019)

Netflix Loses $17 Billion in Value in One Day

(The Hollywood Reporter, 2019)

NETFLIX

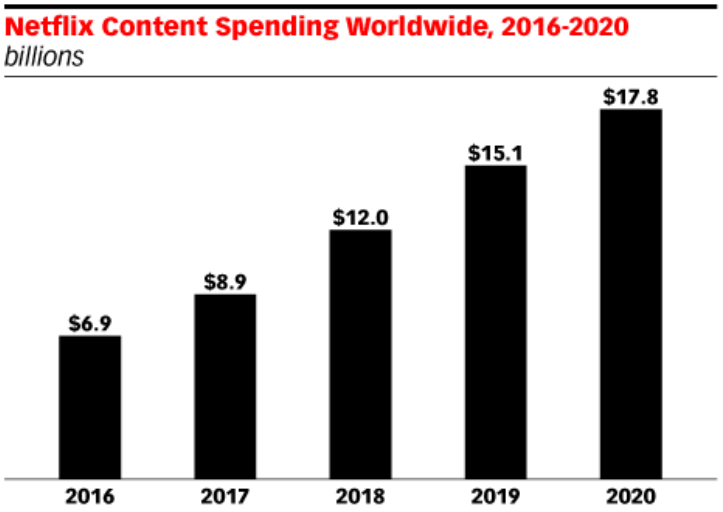
Source: Google images

The tranformation of Netflix: From platform towards pipeline business

Netflix Content Chief Says 85% of New Spending Is on Originals (Variety, 2018)

- 2007: Start of streaming business in USA
- 2013: Start of developing own original content
- By end of 2018 over 1'000 original movies and TV shows

Source: Associated Press, Businessinsider



Source: eMarketer, 2019

Background: Two characteristics of the streaming ecosystem

Characteristics

- Indirect network effects
  - More viewers attract better content and vice versa
- Multi-homing
  - Low switching costs for consumers

Netflix Strategy

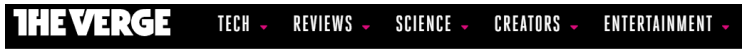
- Distribution channel for the most popular content
  - Attracts more new viewers
- Create original content
  - Increases stickiness

Result: Netflix is controlling the distribution **and** production of content

Negative effects of the “Hybrid Model”

- Netflix is becoming a competitor
  - Other providers launch their own streaming services
- Rising content costs
  - Forced to raise prices, which makes competitors more viable
- Less exclusive deals
  - Higher reliance on own content, increases multi-homing tendency

Source: Google images



ENTERTAINMENT \ TECH \ TV SHOWS

The Office will leave Netflix in 2021

It will stream exclusively on NBCUniversal's new service

By Julia Alexander | Jun 25, 2019, 6:37pm EDT

Platform, Producer or Product?

- Netflix as **platform**
  - Distribution channel for content provider
- Netflix as **producer**
  - Production company creating own content
- Netflix as **product**
  - Leveraging own brand

From products to platforms

Learning objectives

Key concepts

- Platforms
- Step processes and options
- Product architecture
- Platform strategies

Methods

- Discussion of cases and examples

Abilities

- Critical assessment of different platform strategies
- Understanding what makes a product a platform

Required Readings for today

- Cusumano, M. A., & Gawer, A. (2002). The elements of platform leadership.MIT Sloan Management Review, 43(3), 51.
- Gawer, A., Cusumano, M. A. (2012). How companies become platform leaders. MIT/Sloan Management Review, 49(2).

Suggested Readings for today

- Gawer, A. (2014). Bridging differing perspectives on technological platforms: Toward an integrative framework. Research Policy, 43(7), 1239-1249.
- Zhu, F., & Furr, N. (2016). Products to platforms:: Making the leap. *Harvard business review*, *94*(4), 18.
- Hagiu, A. (2014). Strategic decisions for multisided platforms. MIT Sloan Management Review, 55(2), 71.

Definition

Definition: Platform

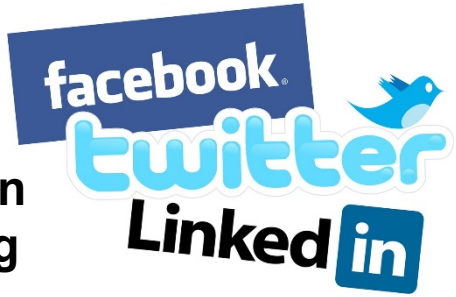
- A platform is a foundation technology or service that is essential for a broader, interdependent ecosystem of businesses
- The platform requires complementary innovations to be useful, and vice versa

- Note the challenge of **interdependencies** that need to be managed
- Note the challenge of **control** that needs to be managed
- Note the challenge of **monetization** that needs to be managed

Examples? Better definitions?

Platforms everywhere

Communication and networking



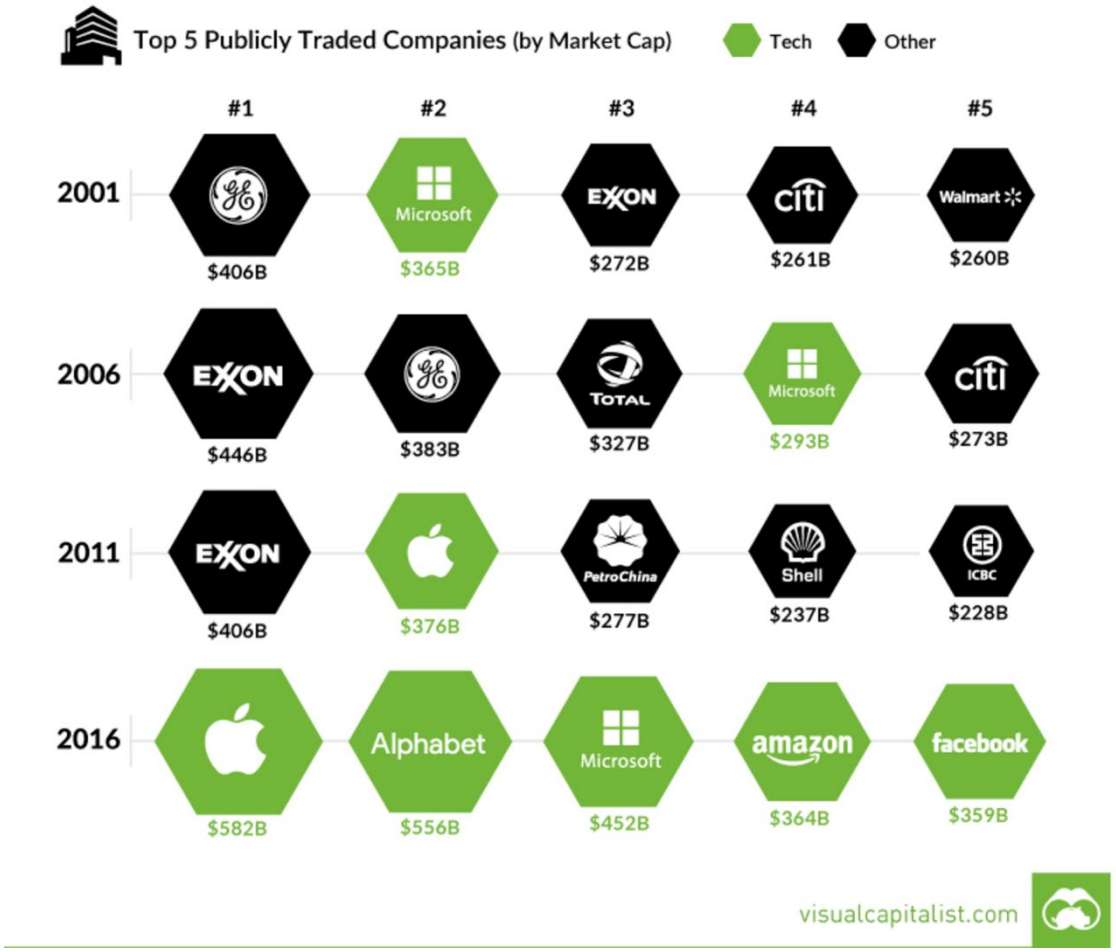
education

finance

Logistics/delivery

gaming

Something is changing



What's common about the companies below? And what is not?

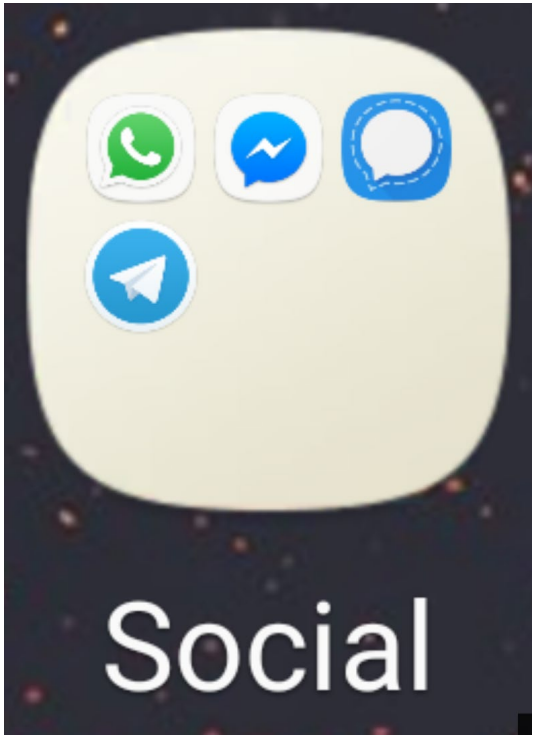
Served need	Firm	Year	Employees	Market cap
Mobility (getting from A to B)	BMW	1916	116,000	$53B
	Uber	2009	7,000	$60B
Accommodation	Marriot	1927	200,000	$17B
	Airbnb	2008	5,000	$21B
Entertainment content	Walt Disney	1923	185,000	$165B
	Facebook	2004	12,691	$315B
Capturing and distributing images	Kodak	1888	145,000	$30B (heyday)
	Instagram	2010	13	$1B (acquisition)

Recall the link between technical and organizational trajectories (session 2)

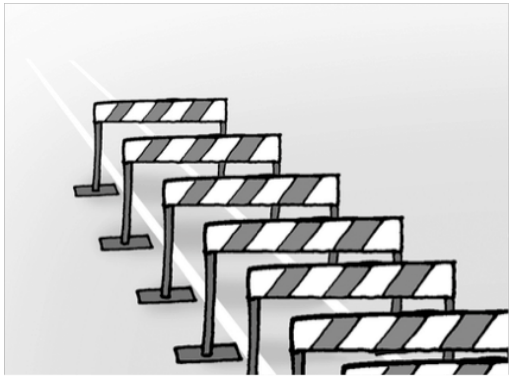
The so-called **American system of manufacturing**, which was based on very fine divisions of labor and specialized machinery, permitted single factories to produce goods in volumes never seen before. However as the tasks became more subdivided and the intermediate steps more numerous, production systems […] spun out of control. The **response was a movement towards "systematic management**" aimed at rationalizing production within factories. The systematizers […] invented production control systems, inventory control systems, and cost accounting systems and implemented them at a number of firms. **Frederick W. Taylor** extended their work by incorporating detailed time studies and advocating a "differential piece rate" form of compensation. He became a famous (and in some circles infamous) advocate of what he called "scientific management."
(Baldwin, 2017, p.6)

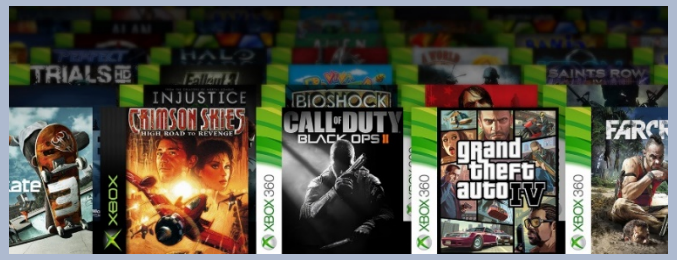
The engineering-friendly explanation

Or, more accurately:



Step processes vs. platform functions





Different functions for performance of the system: Variance and options

Variance:
how far a set of (random) numbers are spread out from their average value

Options:
Things you can decide to choose after knowing the outcome

In our setting:

- Variance:
  - Of performance of production steps / platform complements
  - Are all of them average, or some good and some bad?
- Options:
  - Is every element of the system necessary? In step processes **yes**, in platforms **no**
  - When does the evaluator choose? Only in platforms: after the outcome is known

Source: Baldwin (2017)

A simple example of how variance and options play out differently:

Consider a step function consisting of 3 manufacturing steps,
or a platform with 3 interchangeable options, of which you need only one
The average performance of all steps/elements is 50

- With high variance: typical outcomes might be **20 50 80**
- With low variance: typical outcomes might be **40 50 60**

In a step function, the performance of the whole is determined by the bottleneck (lowest performance):

Step function	Low V: 40 50 60	High V: 20 50 80
Total performance	40	20

In a platform, you can select the best option, after performance is realized

Platform	Low V: 40 50 60	High V: 20 50 80
Total performance	60	80

- ➢ Performance variance is **bad** for step functions, **good** for platforms
- ➢ (because) options exist **only** in platforms

What does the organization behind it look like?

Step processes

Characteristics:

- Interdependence
- Hierarchy
- Coordination
- Risk-aversion
- Integrality

***Outcome*:**

Large, vertically integrated firms

Platforms

Characteristics:

- Independence
- Openness
- Option value
- Risk increase (for complements!)
- Modularity
- Innovation, variation

***Outcome*:**

Small firms with large ecosystems

Why now? How do step processes become platforms?

Removing interdependencies, standardizing interfaces

- Forward openness: downstream optional extensions
- Backward openness: upstream optional suppliers
- Open exchange: facilitate transactions of goods, information, …

- Step processes themselves become parts of platforms

Digital as the great catalyst

- Separating information from physical assets
- Explosion of access

Platform management: an introduction to the basic terms and concepts

4

Microsoft Edge

Microsoft's new **Chrome** downloading tool. It downloads Chrome **2X** as fast as Internet Explorer, Its preceeder

*As soon as I installed Windows, I used The Microsoft Edge **Chrome downloading** tool to install **Google Chrome***

by DictionaryOfficial December 14, 2018

6

twitter

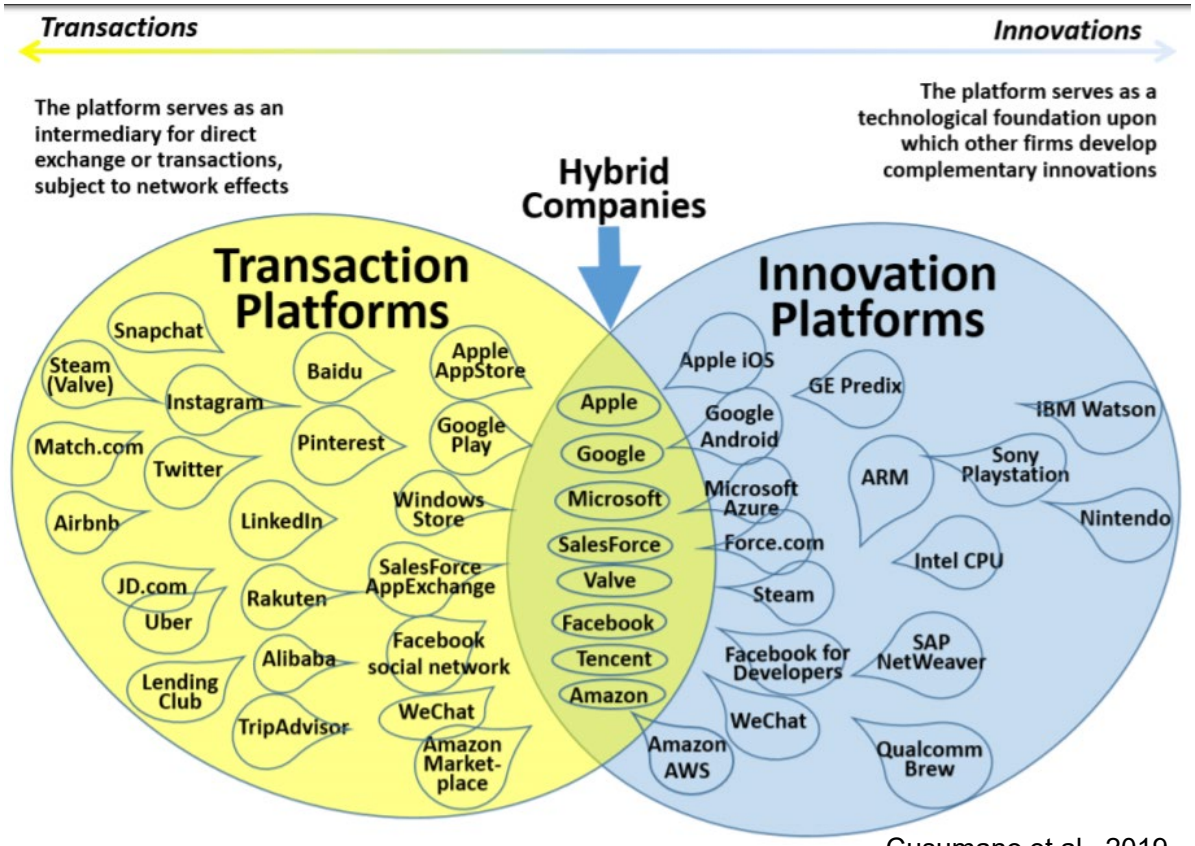
the **legal** way to **stalk celebrities**

*im going to go on twitter to see what **joe jonas** is up to. then i can **tweet** to him my thoughts. **hopefully** he'll read it.*

#twitter #tweet #twit #stalking #celebrities

Urban Dictionary

Transaction and *Innovation* platforms



Cusumano et al., 2019

- Transaction platforms rely on **commitment**
- Innovation platforms rely on **investment**

Network effects

Platforms (Armstrong, 2006)

- "Markets involving two groups of agents interacting via 'platforms' where one group's benefit from joining a platform depends on the size of the other group that joins the platform".

Two-sided platforms (Evans and Schmalensee, 2008)

- "businesses in which pricing and other strategies are strongly affected by the indirect network effects between the two sides of the platform".

Network effects

Direct network effects

- The attractiveness of the platform to a user depends on how many others are already on the platform

Indirect network effects

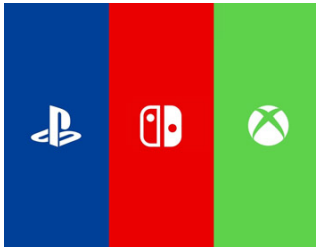
- The value of joining the platform to side X depends on whether side Y is already on the platform

➢ Cross-side effects can be negative!

- Advertisers benefit from many users, not the other way around

Transaction platforms:

Innovation platforms:



The chicken-and-egg problem

- If network effects are important, how do you get them going?
- In the case of indirect network effects, which side to bring on board first?
  - Create stand-alone value for customers
  - Subsidize one or multiple sides
  - Bring aboard multiple sides at the same time
  - Solution depends on the industry

- This often involves (temporarily) losing money!

Winner-takes-all (or -most) markets

- If network effects are important enough, an entire market can (and will!) converge to one platform

- Enabled by standardization
  - But standardization is a double-edged sword!
  - The importance of **managing modularity**

	WTA/M	No WTA/M
Transaction platform		
Innovation Platform		

- Winner-takes-all markets do not necessarily imply there is anything to ‘take’

Tipping strategies

- In winner-takes-all/most markets, how do you increase the chance of winning?

"Tipping" is the set of activities or strategic moves that companies can use to shape market dynamics and win a platform war when at least two platform candidates compete.

- These moves cover sales, marketing, product development and coalition building. Successful tipping requires actions taken from both the **technology** and the **business** sides of the platform

- E.g. Google building a coalition of phone manufacturers around Android
- E.g. Apple making its devices complementary to each other

- Note: there is a fine line between good tipping strategies and abuse of market power

Cusumano & Gawer, 2008

Multihoming, barriers to entry(exit) and switching costs

Multihoming: complementors being active on multiple platforms

- E.g. apps on both Apple's and Google's app stores, drivers on Uber & Lyft
- ➢ *Strategic* (but also technical) decision by complementors, enabled by *technical* (but also strategic) decisions of platform leaders

Barriers to entry: how difficult it is for *complementors* to join a platform ecosystem

- Ideally, as low as possible (to 'tip' faster)
- BUT: low entry barriers usually imply low exit barriers and low entry barriers for competitors.
- E.g. Uber's challenge of keeping a stable pool of drivers
- Usually a *strategic* plan in the form of a *technical* choice

Switching costs (for *users*): how unattractive it is for a user to leave the platform

- Ideally as high as possible (to lock users in)
- Low switching costs usually prevent WTA/M markets
- Often a *technological* feature

Who really benefits here?

Users/customers:
- Benefit: access to products and services under highly competitive conditions
- Risk: locked into few (and similar) powerful platforms for access to products/services

Platform leaders:
- Benefit: leverage ecosystem of complementors for own profit / operations
- Risk: extreme competition with other platform leaders, lack of control over what complementors do

Platform complementors:
- Benefit: access to a large group of potential customers through the platform
- Risks: plenty and unavoidable
  - Dependence on platform leader (e.g. changes in conditions, constraints)
  - Weakened relationship to customers
  - Restricted access to outside options
  - Risk of vertical integration from platform leader (e.g. as tipping strategy)

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