



# Technology and Innovation Management

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[www.timgroup.ethz.ch](http://www.timgroup.ethz.ch)



# Business Models

# Discovering 'food' business models around ETH HG



Pictures: internet and own (bottom left)





# Business Models

# Learning objectives

## Key concepts

- Business Models
- General Purpose technology markets
- Logic of accumulation

## Methods

- Discussion of cases and examples
- Discussion and critique

## Abilities

- Critical assessment of different business models embedded in diverse ecosystems, and the relationship with other TIM topics
- Critical assessment of broader implications of new business models and organizational forms

# Required Readings for today

- Gambardella, A., & McGahan, A. M. (2010). Business-model innovation: General purpose technologies and their implications for industry structure. *Long range planning*, 43(2), 262-271
- Ricart, J., & Casadesus-Masanell, R. (2011). How to design a winning business model. *Harvard business review*, 89, 1-2.
- Srnicek, N. (2017). The challenges of platform capitalism: Understanding the logic of a new business model. *Juncture*, 23(4), 254-257.
- Zuboff, S. (2015). Big other: surveillance capitalism and the prospects of an information civilization. *Journal of Information Technology*, 30(1), 75-89.

# Business models and strategy

- **Business models** refer to the logic of the company – how it operates and creates and captures value for stakeholders in a competitive market place
- **Strategy** is the plan to create a unique and valuable position involving distinctive set of activities

While every company has a business model, not every company has a strategy

# Business models

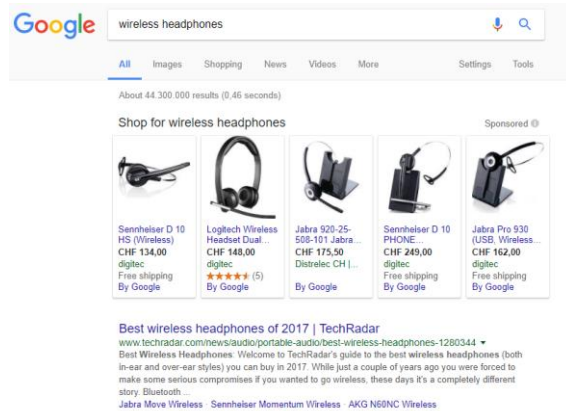
- Are about a coherent set of choices, and their consequences
- Take into account both value creation and value capture (what your customers want, how they want it, and how you get paid for it)
- Compete against competitors' business models

(Masanell & Rickard 2011; Gambardella & McGahan 2010)



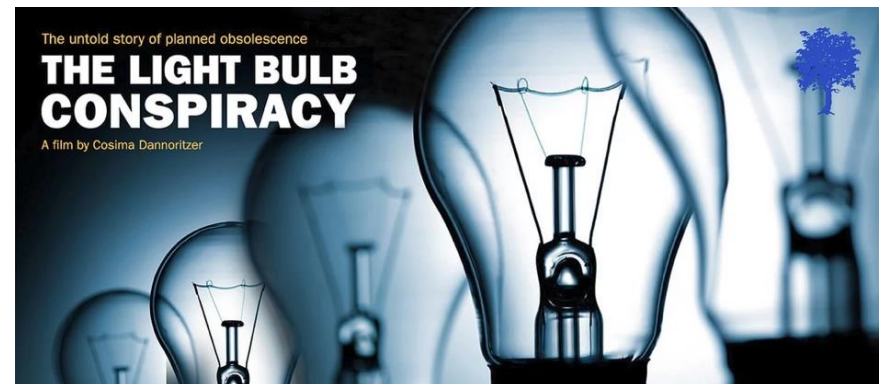
# Some examples...

- Charge the user vs. charge others for the users' presence



- Selling the service vs selling the product

- Jet engines, mobility, light?
- This has implications for the capabilities of the seller! (and its incentives)



# Discovering 'food' business models around ETH HG



Note the differences in:

- What they do?
- What they need to have?
- Who is the customer?

Pictures: internet and own (bottom left)

# Zoology with business models

# Making sense of the business model zoo

## The 4 Business Model Categories



### 01. PRODUCT MODEL

The company develops a product or standardized service and sells it to customers. The value proposition is transactional: to provide a product or standardized service that customers will buy.

[FIND OUT MORE](#)

### 02. SOLUTIONS MODEL

The company engages with a customer about a problem the customer faces, and provides an integrated solution. The value proposition is relational: to tailor solutions to each customer.

[FIND OUT MORE](#)

### 03. MATCHMAKING MODEL

The company joins buyers and sellers in its online or physical marketplace. The value proposition is transactional: to facilitate exchange.

[FIND OUT MORE](#)

### 04. MULTI-SIDED MODEL

The company provides different products or services to different customer groups. The value proposition is multi-sided: one customer group gets additional benefits from the other group's transactions.

[FIND OUT MORE](#)

[Businessmodelzoo.com](https://businessmodelzoo.com)

# Another option?



(Gambardella & McGahan  
2010)



# Recall session 4 – the challenges of combining exploration and exploitation

## Ambidexterity: a few challenges

Alignment of:	Exploitative business	Explorative Business
Strategic intent	Cost, profit	Innovation, growth
Critical tasks	Operations, efficiency, incremental innovation	Adaptability, new products, breakthrough innovation
Competencies	Operational	Entrepreneurial
Structure	Formal, mechanistic	Adaptive, loose
Control, rewards	Margins, productivity	Milestones, growth
Culture	Efficiency, low risk, quality, customers	Risk taking, speed flexibility, experimentation
Leadership role	Authoritative, top down	Visionary, involved

(Source: O'Reilly and Tushman, 2004)

# Recall session 6 – the options of outbound (and inbound) open innovation

## Move 3: Make your IP work harder for you and others

(12) **United States Patent**  
Mekenkamp et al.

(10) Patent No.: US 8,537,231 B2  
(45) Date of Patent: Sep. 17, 2013

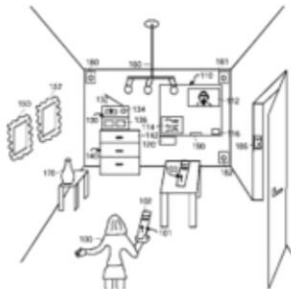
(54) **USER INTERFACE SYSTEM BASED ON POINTING DEVICE**

(75) Inventors: Gerbrandus Engelbertus Mekenkamp, Eindhoven (NL); Tim Dekker, Eindhoven (NL)

(73) Assignee: Koninklijke Philips N.V., Eindhoven (NL)

Philips has developed a thriving licensing business around its more than 60,000 patents and has spun out nearly two dozen new ventures.

This is the patent from Philips which it successfully used to sue Nintendo for the Wii



Source: Chesbrough and Garman, 2009

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## Move 2: Let others develop your nonstrategic initiatives



Source: Chesbrough and Garman, 2009

Shapeways is a company that 3D prints anything people want. The idea came from Philips Design, but it required a lot of investment in acquiring 3D printers so it was spun out. Its investors include Lux Capital and Union Square Ventures, but Philips kept part of the shares.

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# Another branch of business model innovation: Specializing in generality

- Move upstream: becoming a supplier to many downstream integrators
  - Making a **General Purpose Technology**
  - Using **Technology Markets** rather than product markets
- How?
  - Focus on the basic R&D
  - Standardize your technology and make it compatible with downstream applications
  - License to as many companies as possible
- Examples:
  - Software, bio/nanotech
  - product development processes
  - Industrial robots? AI?



# General Purpose Technology Markets

- Dividing the exploration-exploitation problem across the value chain
- New threats:
  - Downstream: lose innovation as a valuable resource
  - Upstream: less control over the success of your solution

Viability of this model depends on:

- Modularity (of the downstream organization/product)
- Size of the market
- Appropriability
  - Patents
  - Unique value added (remember 3D printing OEMs)

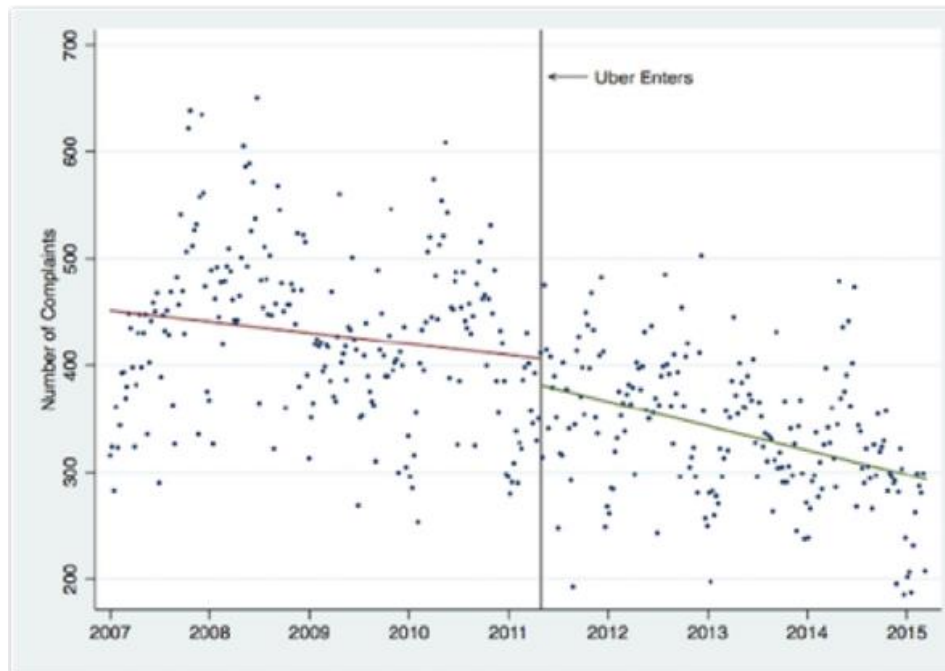




# The implications of (big) platforms and platform-based business models

# Uber's positive effect on X?

Number of taxi complaints submitted to NYCTLC, 2015



“To the extent that they face **greater competition**, existing providers that operate into the ‘traditional economy’ will be more and more **incentivized** or even forced **to innovate** by adopting new technologies to improve their services and therefore survive in this new fiery competitive marketplace”

# Uber's negative effect on X?

## Uber banned in Italy nationwide after court rules app provides unfair competition to taxi drivers

Ride-hailing company has ten days to shut down its services - company says it is 'shocked' and will appeal



Source: Internet; The Independent, 11th April 2017

# The effect of the 'platform economy'

What are the 'net' effects of these new organizational forms on:

- competition
- quality of services
- relative power and constraints for different actors



# Concerns of Srnicek

1. Are 'sharing economies' inherently sustainable? Or are they only sustainable because they:
  - stay ahead of (i.e. get around) regulation, and
  - are fueled by venture capital (hence, they need not to be profitable)
  
2. What does the industrial landscape of the future look like?
  - Will we see little islands of monopolies, or one big convergent industry with all platforms competing?
  - And is it good or bad? (for whom?)



# Concerns of Zuboff, 1/2

- What is the 'logic of accumulation'? How does it matter?
  - Who has access? Who participates? Who learns? Who decides?
- What or who is driving the emergence of this logic?  
Is it a consequence of new technologies? Is this really the case?
  - The technology exists, but it is embedded in governance rules that shape it and mold it in specific ways
  - See examples of court actions against Google.
- How are interactions across individuals changing, in this new logic of accumulation?
  - Old fashioned capitalism: knowledge/information are distributed; coordination through markets (the prices system)
  - Now: knowledge/information are concentrated

# The origins of the logic of accumulation: Google's first decisions

1998: Should a good search engine be a free or paid service?

*“But we believe the issue of advertising causes enough mixed incentives that it is crucial to have a competitive search engine that is transparent and in the academic realm.”*

*(Brin & Page, 1998, appendix A)*

2000: Can advertisements be included without biasing attention?

First ads were text only, in the margins, and only when relevant

*“[A] colleague leaned over at the meeting that settled on the details of the text-only advertising and predicted, ‘You wait, in a month, we’ll be selling banners.’”*

*(Stross, 2009, Planet Google: One Company's Audacious Plan to Organize Everything We Know. p.4)*

# Concerns of Zuboff, 2/2

What are the characteristics of current platform models? And should we be worried about them?

- Surveillance capital (and -capitalism): (personal) data is what generates value, and improved performance is achieved by accumulating more data
  - Note the difference with the nature of capitalism in previous 'long waves', with regard to the interaction between firm and society, as well as firms and their employees (Zuboff, 2015, p.80)
- 'Big Other': All potential sources of data are becoming mined, there is no way for individuals to opt out of behavior being recorded (and modified!)
  - Privacy rights are being redistributed (Zuboff, 2015, pp.81-82)
- Accumulation of decision power and rights with platforms: the logic of surveillance capitalism implies that important functions and decisions about e.g. privacy, information flow and access, are taken over by companies (rather than individuals and/or public institutions like regulators)
  - Note the lack of 'legitimate' authority of platforms, in combination with the lack of detection and sanction (Zuboff, 2015, p. 83)

# Is it all bad? Is it all good? Is it both/neither?



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# Next week:

## A closer look at platforms, ecosystem competition, business models and new technologies in the music industry

