



**Universität
Zürich** UZH

Department of Business Administration - Chair for Entrepreneurship

A Primer in Entrepreneurship

Dr. Christian Peukert

Chair of Entrepreneurship

Universität Zürich

Fall 2015



About me

Senior research associate (Post-Doc)

PhD in Management and Economics from LMU Munich (2014)

Research interests: Innovation, Digitization, Media Industries

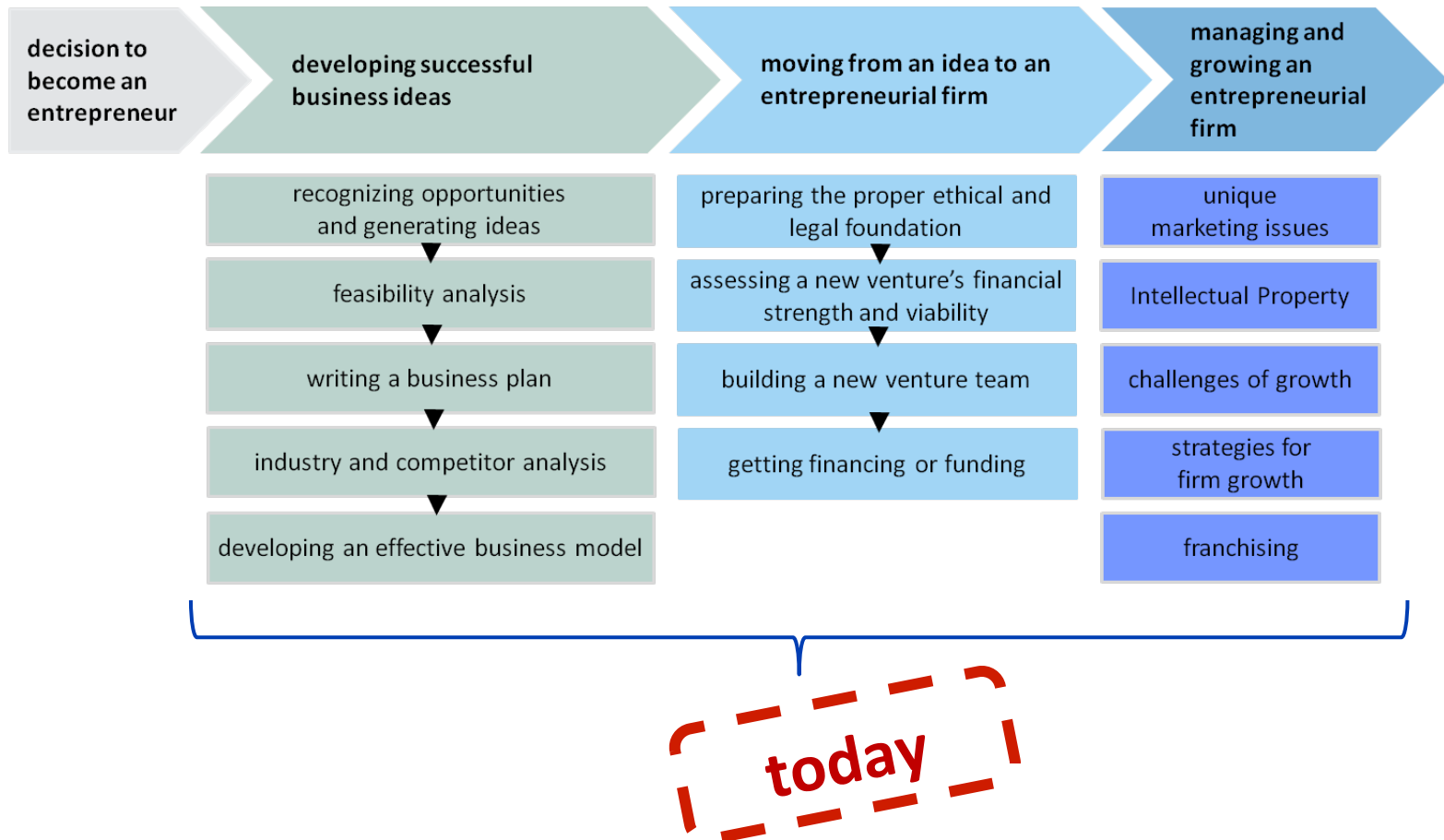
Example questions:

- Do YouTube videos promote or displace record sales?
- Is online copyright enforcement effective?

Contact me if you are interested in such topics for your bachelor thesis.



Content





**Universität
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A Primer in Entrepreneurship

Examples of Business Models

Lecture 16

Disruptive Innovations and Platforms

Dr. Christian Peukert

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(some slides adopted from Tobias Kretschmer)

Fall 2015



Disruptive innovation

- Disruptive innovations transform complicated products into simple products that are much more affordable.
- Classical example: from mainframes, to desktops, to laptops, to smartphones.
- Often a disruptive product is of worse quality than the currently incumbent product. Often those products change the industry environment.
- Disruptive innovations generally need you to go for new (lower end) markets and new customers.
- Incumbents often do not invest in disruptive innovation to avoid cannibalizing current revenue streams.



Market (dis)intermediation (1/2)

- Products that make use of technology to efficiently connect buyers and suppliers.
- Intermediaries are often disruptive in that they transform intransparent, complex markets into transparent, more easily accessible markets.
- Often platform-based business models
 - Examples: Ebay, Google News



Market (dis)intermediation (2/2)

- Platform-based business models usually scale quite easily.
 - Information technology allows to automate and drive down labor costs.
 - Network effects provide “free marketing”.
 - Marginal costs are close to zero.
- Intermediating technologies often allow to create highly individualized products
 - Information content (Facebook, Twitter, Flipboard, Google)
 - Physical products (MyMuesli, Nike ID)

\$120.00 ★★★★★ 23 reviews

NIKE LUNARFLY+ 1.5 iD RUNNING SHOE

SIZE ▾

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5/6 Completed

1 ✓

2 ✓

3 ✓

4 ✓

5 ✓

6

Start Over

1. BASE



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CHOOSE A PRIMARY GRAPHIC COLOR



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3 VIEWS

SCENE ON

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Email +

MAKE A POSTER

Get Started ▶



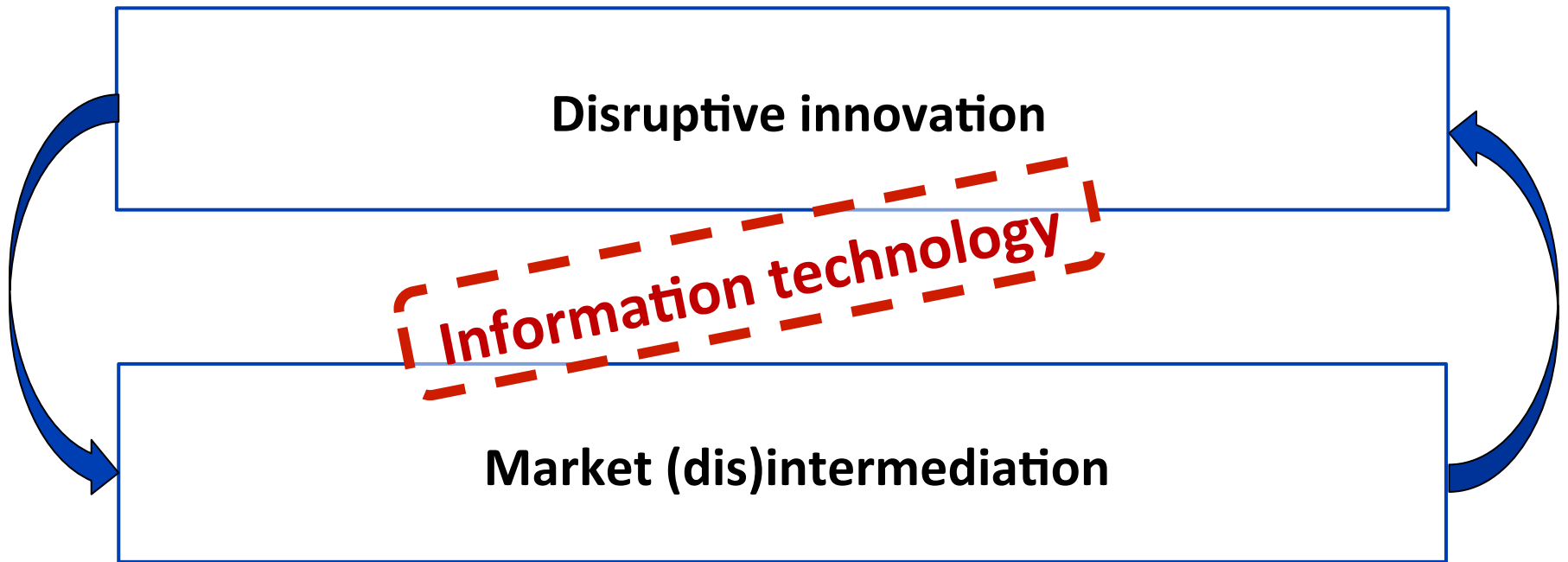
ADD TO NIKEiD GALLERY

Add Your Design ▶





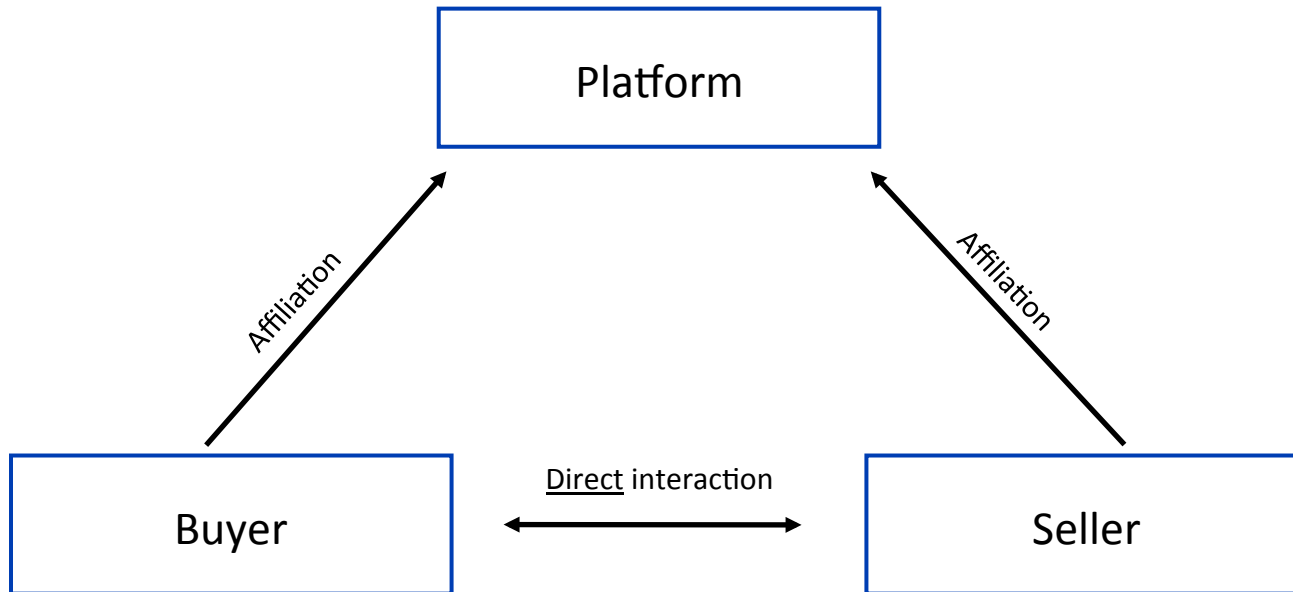
Generic business models for start-ups





Platform markets

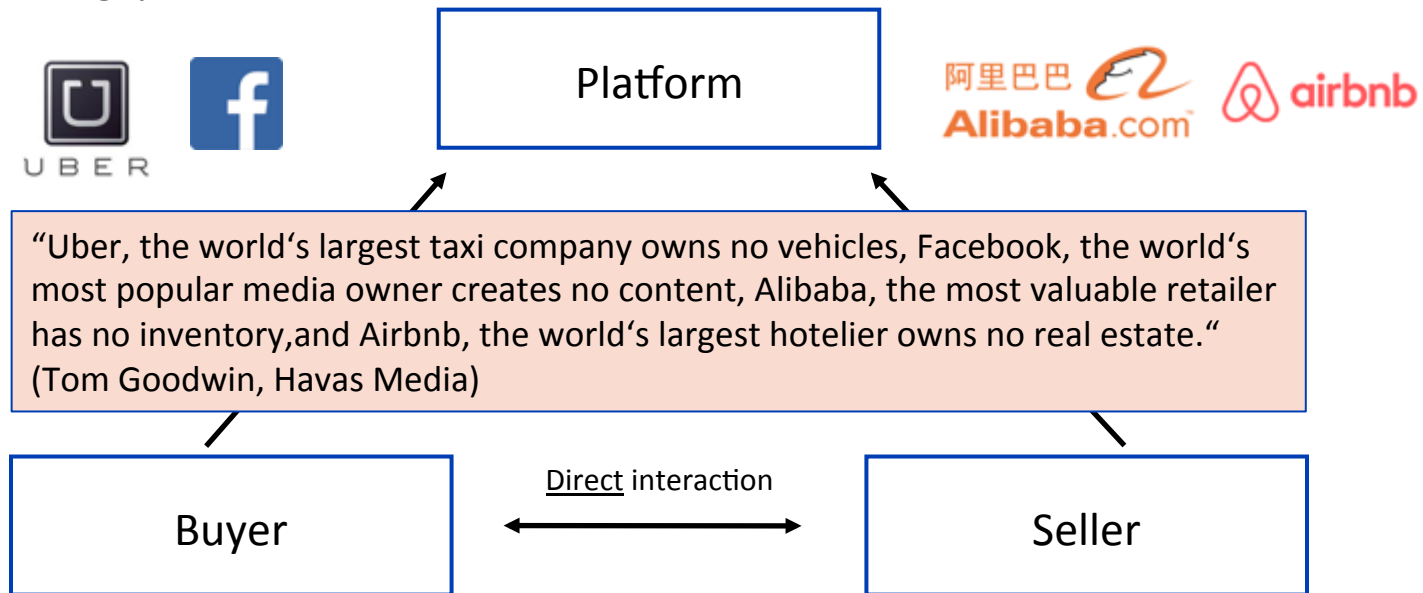
“An organization that creates value primarily by enabling direct interactions between two (or more) distinct types of affiliated customers“ (Hagui and Wright, forthcoming, p.7)



*Affiliation: Some costs are incurred by the buyer/seller

Platform markets

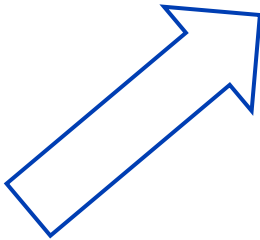
“An organization that creates value primarily by enabling direct interactions between two (or more) distinct types of affiliated customers” (Hagui and Wright, forthcoming, p.7)



*Affiliation: Some costs are incurred by the buyer/seller



Types of externalities in platform markets (1/2)



Cross-side network effect

Positive externality:

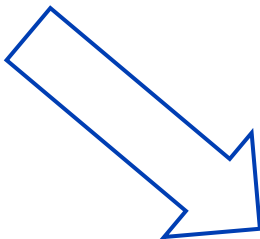
Users on one side benefit from more users on the other side.

Examples: credit cards, yellow pages

Negative externality:

One side would prefer fewer users on the other side.

Example: TV advertising



Same-side network effects (i.e. direct network effects)

Positive externality:

Users on one side benefit from more users on the same side.

Example: game consoles that support online gaming

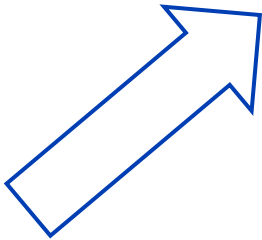
Negative externality:

Users on the same side compete for the other side.

Examples: career platforms, eBay



Types of externalities in platform markets (2/2)



Cross-side network effect

Arises if the benefit to users on at least one side depends on the number of users joining the other side.



Same-side network effects (i.e. direct network effects)

Arises if there are cross-side network effects in both directions so that the benefit to a user on one side depends (indirectly) on the number of users on her side.




Product design to overcome the chicken-and-egg problem

- Compatibility choice is a strategic variable to benefit from network effects of an installed base of users
- Compatibility is achieved by fixing a number of product characteristics such that products are interoperable
- With perfect compatibility, network effects are equalized across technologies since users of all networks can make use of the other networks
- Compatibility choice is a double-edged sword since desirability of compatibility often changes over time
- Once an installed base of consumers has been established, decreasing compatibility has the same effect as increasing product differentiation and therefore softening competition

Compatibility examples

Mobile telecommunication



swisscom Sunrise

➔ Fully compatible

Desktop software



Office OpenOffice.org™

➔ Partially compatible

Digital storage media



COMPACT disc DVD

➔ Backward compatible



Pricing in platform markets (1/3)



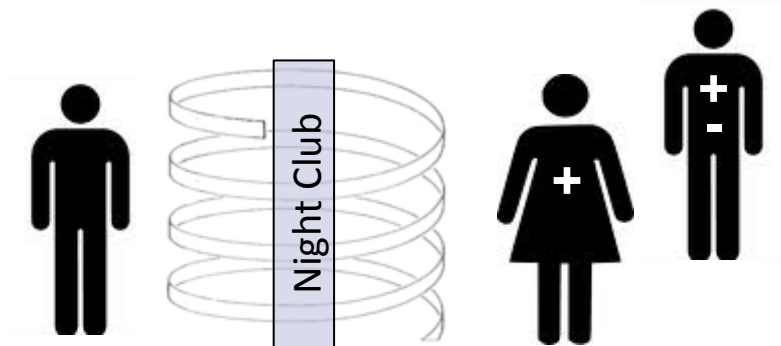
Price structure matters for market outcome!
Note: The total price stays the same in both configurations.

Pricing in platform markets (2/3)

Price structure reflects relative valuation

If the **surplus** obtained by one side of the market from attracting an additional participant of the other side of the market **is greater than vice-versa**, then an efficient price structure will require the **price for the higher valued side to be lower**.

Examples: “Lady’s night” at nightclubs, Free-to-air television, Google





Pricing in platform markets (3/3)

Price structure reflects taste for variety

When consumers demand more variety, producers' products become less substitutable → all other things equal, producers can charge higher prices

Since now the producers extract a relatively high share of the surplus (in the terminology from before: their valuation per consumer is higher)
→ platforms should increase the price on the side of the producers and decrease it on the side of the consumers

Examples:

Video game consoles and smartphone app stores



Some examples of business models

- Online education
- Cash-less payment
- Crowdfunding
- Sharing platforms
- Strategic use of intellectual property



Online education

Stylized facts

- Classrooms and teachers are a scarce resource
- Agglomerations of good teachers and students
- Much more demand for education than can be supplied by (the best) teachers

Examples of business models

- Create platform where teachers and students meet online
- Network effects: attract good teachers (organizations), attract good students
- Problem: funding, reputation of established organizations, cheating of students
- **Coursera:** team up with universities
- **TED Ed:** free-ride on the brandname of TED conferences



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**Internet History, Technology,
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**Quantum Mechanics and
Quantum Computation**

University of California, Berkeley

Started 14 days ago (8 weeks long)

TED Ed

LESSONS WORTH **SHARING**



Cash-less payment

Stylized facts

- Largely concentrated market
- Few platforms (credit card companies), many buyers and sellers
- Infrastructure investments for buyers, live communication with the platform
- Not every seller accepts credit cards, sellers bear the costs of the transaction
- Micro payment is often not possible

Examples of business models

- **Square:** Small hardware device (given away for free) that turns any smartphone into a credit card reader
- **Paymit and Twint:** Peer-to-peer money transfer using a smartphone app (and seller terminals). No credit card needed (but supported in the background)



Now it's simple to accept credit cards.

Easy to use.

Plug in the free card reader to accept credit cards on your iPhone, iPad or Android.

No hidden fees.

Just 2.75% per swipe. No contracts, commitments or monthly fees.

Get paid fast.

We'll deposit the money directly to your bank account.

Get your free card reader at squareup.com/free



Free Square Card Reader



Get yours at squareup.com/free

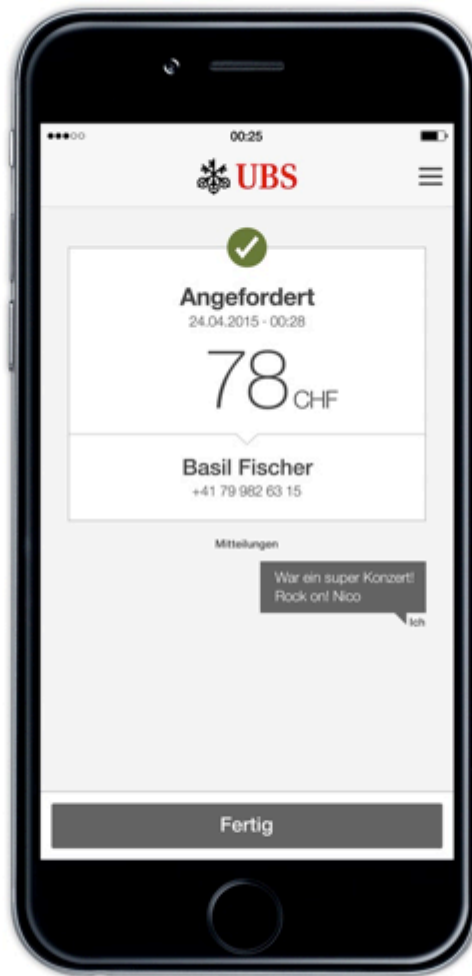
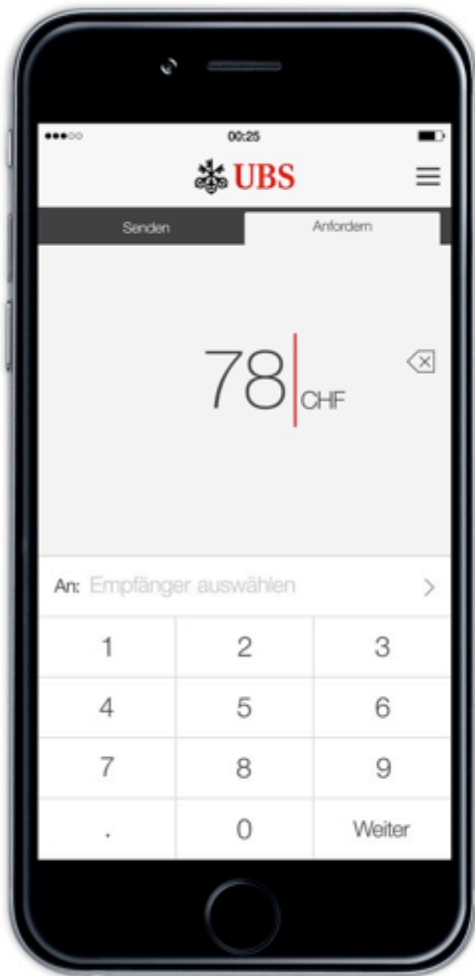


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1544-0412-1A







Crowdfunding

Inventor

- Lower cost of capital
- Access to more information
- Disclosure risk
- Forgone additional benefits from professional investors



Platform

Transaction fee for successful projects (4-5% of the total funding amount)

Investor

- Access to investment opportunities
- Early access to new products
- Philanthropy
- Formalization of contracts
- Incompetence, Fraud



Sharing platforms

Stylized facts

- Infrastructure is often not used to its full capacity
- It is difficult to fill up capacity because of market frictions (lack of transparency, search costs, incompatibility)

Examples of business models

- **Airbnb:** Real estate owners meet (short-term) tenants
- **Uber:** Car owners (drivers) meet travelers
- **Sharely/Pumpipumpe:** Owners of any physical good meet (short term) users
- **Spotcloud:** Owners of computing capacity meet (short term) users
- **Napster:** Digital music owners exchange files (without thinking about copyright)



airbnb



Am Wochenende mit den Jungs auf die spontane Tour?

Bike auf Sharely.ch gemietet –
Vorfreude garantiert!

Jetzt registrieren



a
sharing
community

Pumpipumpe

DE FR EN



Sticker bestellen

So funktioniert

Der Verein

Feedbacks

Unterstütze uns

Stickershops

WAS KANNST DU VERLEIHEN?



Pumpi



Mixer



Küchenwaage



Gugelhopfform



Racletteöfen



Reiskocher



A Global Market for Cloud Capacity

Buy and sell computing capacity globally based on price, location, and quality, on a fast and secure platform.

Thank you for visiting [Spotcloud.com](#). The SpotCloud Beta is now closed and we would like to thank all of you who participated in making this program successful. We are now redirecting all inquiries on SpotCloud to [Virtustream.com](#). Watch for details about the integration of SpotCloud's features and functionality into Virtustream's leading cloud management software, xStream.

Thank you again for your participation and interest.





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How Netflix Uses Piracy to Pick Its Programming

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SEPTEMBER 14, 2013 | 09:54AM PT

COURTESY OF NETFLIX

Company looks at what's popular on illegal services in determining what shows to buy, according to Netflix exec

MOST POPULAR

1



BIZ 12:04AM PT

China's Wanda Seeks Share Listings For Film Divisions

2



TV 11:25PM PT

'Pretty Little Liars': Five Things We Learned from '5 Years Forward'



Strategic use of intellectual property

- In March 2014, the successful rap band Wu-Tang Clan announced that they will sell just one copy of their new album
- *“By adopting a 400 year old Renaissance-style approach to music, offering it as a commissioned commodity and allowing it to take a similar trajectory from creation to exhibition to sale, as any other contemporary art piece, we hope to inspire and intensify urgent debates about the future of music. We hope to steer those debates toward more radical solutions and provoke questions about the value and perception of music as a work of art in today’s world.”*
- *“The album will be put on listening display in renowned galleries, museums, venues and exhibition spaces around the world for only the most dedicated to experience before it disappears into the private collection of a buyer.”*

Source: <http://scluzay.com/>



Once Upon A Time In Shaolin - For Wu Fans, For Wu People

by Fans of Wu Tang the World Over

Home Updates **15** Backers **625** Comments **44**

New York, NY Hip-Hop



Share **2,442** Tweet Embed

★ Remind me

Wu Tang is releasing Once Upon A Time In Shaolin to the highest bidder. Let's raise money, win the bid & give the music away for free.

625

backers

\$14,462

pledged of \$5,000,000 goal

39

days to go

KICKSTARTER

Back This Project

\$1 minimum pledge

This project will only be funded if at least \$5,000,000 is pledged by Mon, Jun 9 2014 3:17 PM CEST.



Project by

Fans of Wu Tang
the World Over

New York, NY

📅 First created - **1** backed

🌐 Has not connected Facebook

🌐 latimes.com



MAGIC CITY @JubileeDJ · Apr 15

@ROXYCOTTONTAIL hahaha i woke up to soundcloud saying they took down a @ShawnReynaldo mix i didnt even know i had up bc of some cumbia song

← ↻ ☆ 1 👤 ⋮



Mixcloud Support

@MixcloudSupport



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Mystery radio signals that baffled astronomers for years came from the staff microwave

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NEXT STORY
Insurance companies can now replace the human inspecting your roof with a drone

BUSINESS

SoundCloud starts working with YouTube's partner to scan music for copyright infringement

It's about money, not takedown requests

8 COMMENTS

Mixcloud

IMPORT YOUR SOUNDCLLOUD MIXES

SoundCloud Import (Beta)
Import Soundcloud audio to your Mixcloud profile



Do you know the answer ?



What are the characteristics of disruptive innovations?



Why are start-ups more likely to invest in disruptive innovations than incumbent firms?



Why are platform-based business models usually quite scalable?

...test yourself.



References

Hagiü, A. and Wright, J. “Multi-sided platforms”, forthcoming in International Journal of Industrial Organization.