

# Privacy vs. Data: Business Models in the digital, mobile Economy

## Lecture 3

### Business Models, Markets and Platforms

SS 2016

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- Introduction to Business Models
- E-Business vs. M-Business (Models)
- Types of Digital Business Models
- Understanding the Impact of Digital Business Models
- Digital Markets & Platforms

# What is a business model?

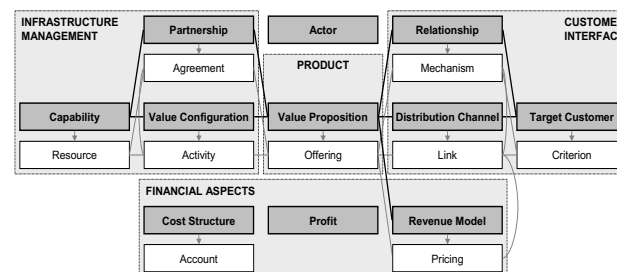
- “A business model is the methodology that a company follows to generate revenue from its product or service offering.”  
[investinganswers.com, 2011]
- “A business model is the way or ways that a company generates revenues and profits. A particular business model can be thought of as the prototypical operational framework repeated in the business plans of several companies of the same type.” [investorglossary.com, 2011]
- “Description of means and methods a firm employs to earn the revenue projected in its plans.” [businessdictionary.com, 2011]
- “The plan implemented by a company to generate revenue and make a profit from operations. The model includes the components and functions of the business, as well as the revenues it generates and the expenses it incurs.” [investopedia.com, 2011]

→(Too) many definitions ...

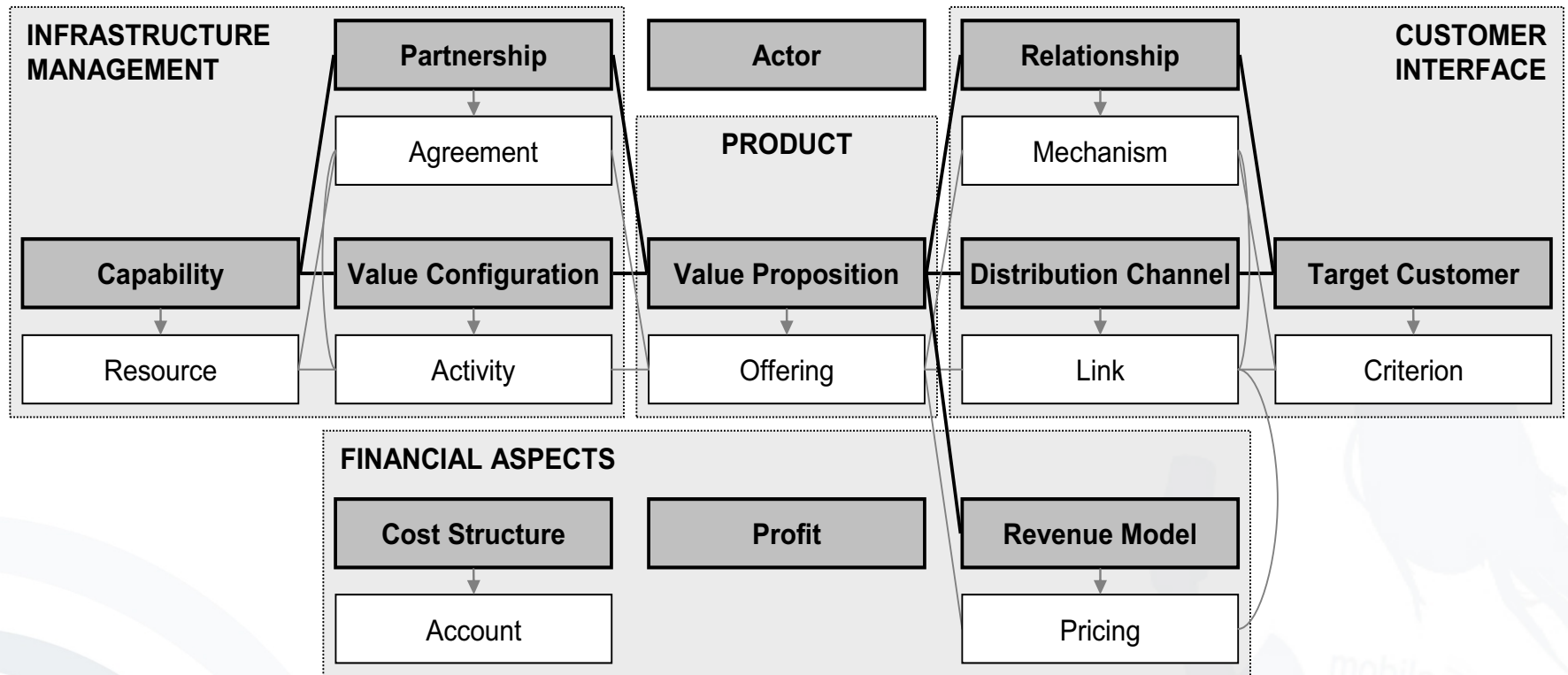


# Comprehensive Business Model Definition by Osterwalder

- “A business model is a conceptual tool that contains a set of elements and their relationships and allows expressing a company's logic of earning money. It is a description of the value a company offers to one or several segments of customers and the architecture of the firm and its network of partners for creating, marketing and delivering this value and relationship capital, in order to generate profitable and sustainable revenue streams”. Source: Osterwalder (2004)



- Developed in the PhD Thesis of Osterwalder (2004) based on an extensive review of existing business model definitions



Source: Osterwalder (2004)

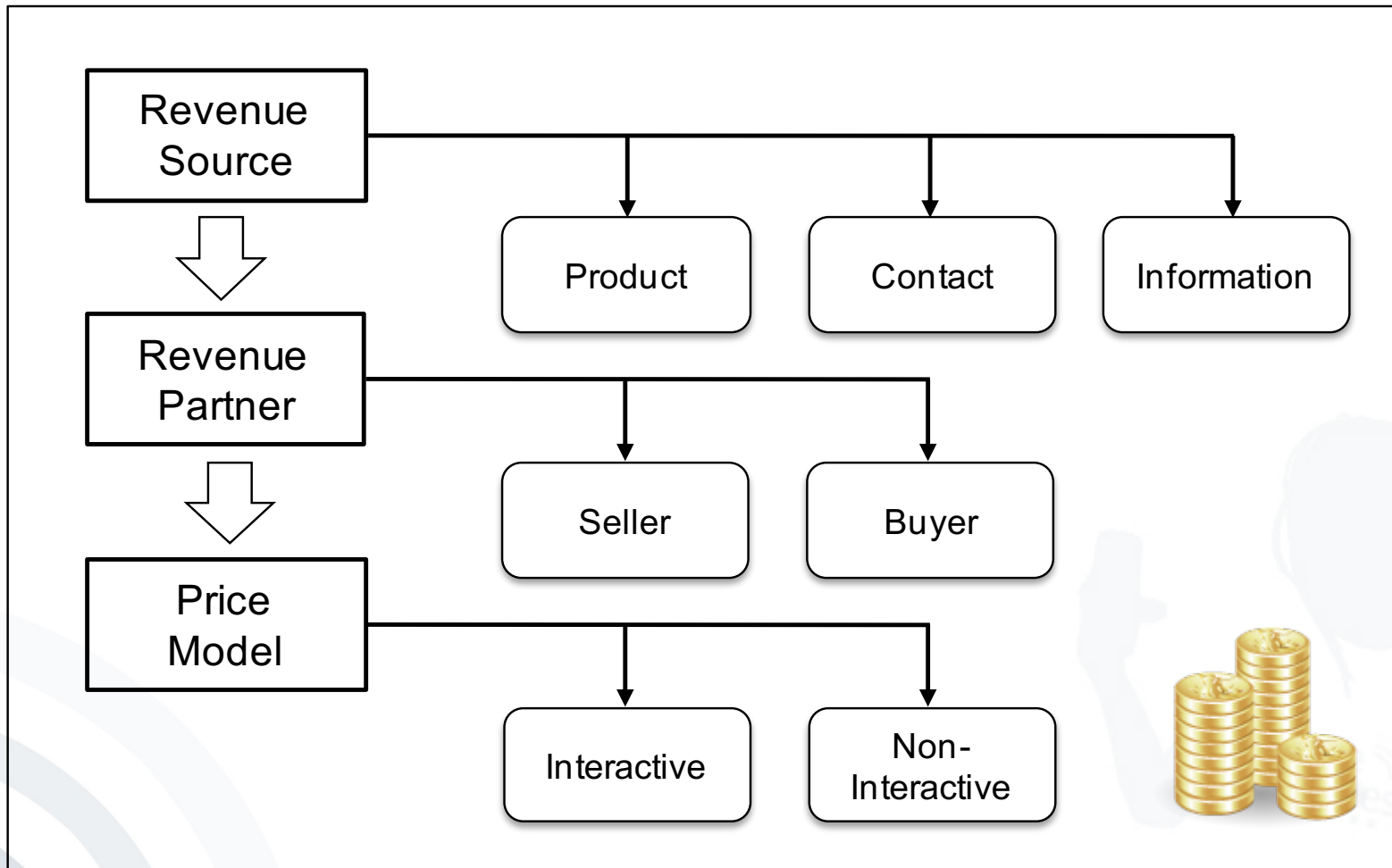
Working Definition based on Zerdick et al. (2004), Timmers (1998) and Stähler (2001). They similarly identify the following main three components of a business model:

- Value Proposition
- Revenue Model
- Architecture of Value Creation



- The value proposition of an organisation defines the proposed value for customers and partners participating in the value creation process
- Examples
  - Microsoft offering Software
  - Apple offering mobile devices
  - Google offering web search
  - ....





Source: Skiera (2005)



- Revenue types

	direct revenues	indirect revenues
transaction dependent	1	3
transaction independent	2	4



- Type 1: transaction dependent / direct revenues
  - Revenue generated directly from conducted transactions with a customer
- Examples
  - Sale of Apps iTunes AppStore by Apple
  - Sale of a Mobile Phone by DTAG
  - ...



- Type 2: transaction independent / direct revenues
  - Revenues generated independent from conducted transactions, but directly from a customer
- Examples
  - Contract setup costs (e.g. change of mobile data tariff)
  - Subscriptions fee for mobile data communications



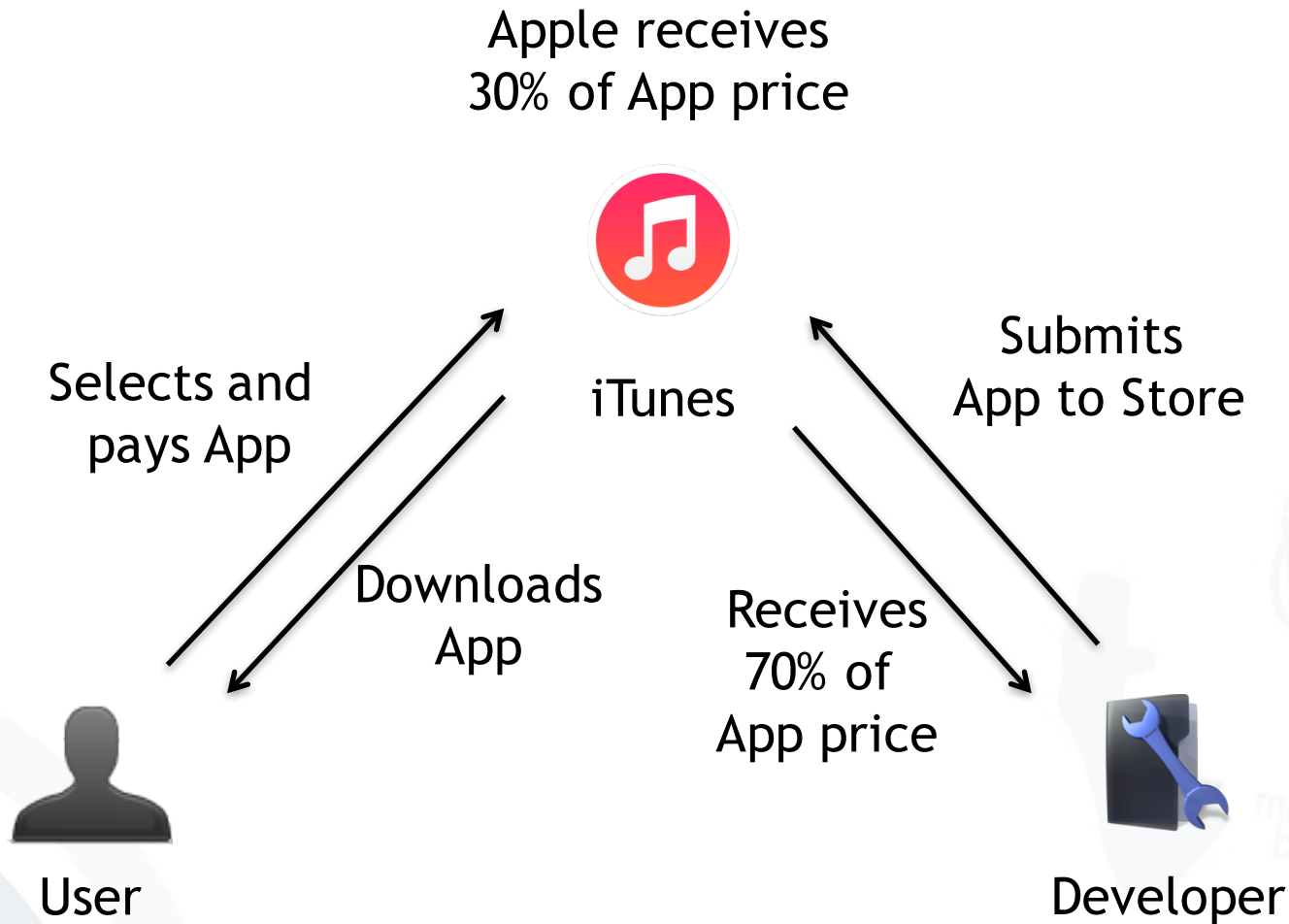
- Type 3: transaction dependent / indirect revenues
  - Revenues generation depended on conducted transactions with customers, but originating from a Third Party
- Examples
  - Reverse revenue streams
    - Advertising (Cost-per-Click Model)
    - ...



- Type 4: transaction independent / indirect revenues
  - Revenues generated independent from conducted transactions with customers, but originating from a Third Party
  - Examples
    - Advertising (Pay-per-View Model)
    - ...



# Apple iTunes App Store Revenue Share Model



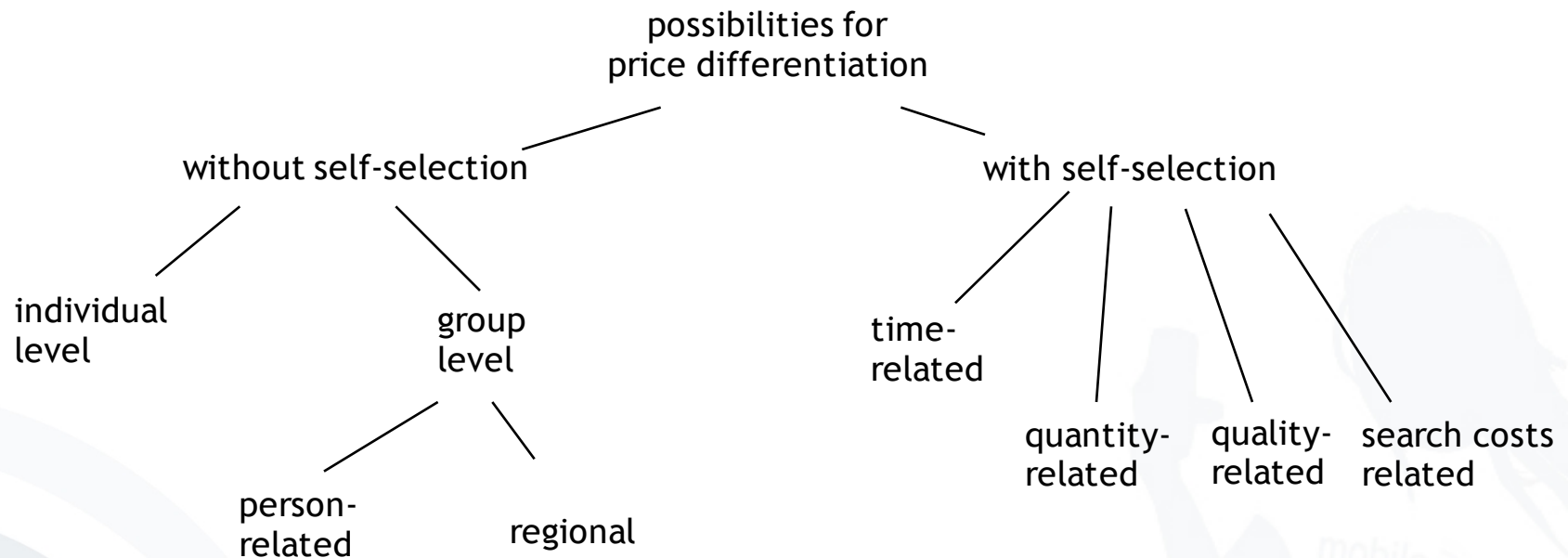
as of 2012



- Interactive Pricing Models
  - Dynamic, Interactive Pricing
    - Interaction between seller and buyer
    - Negotiations, auctions, etc.
    - e.g. eBay
  - Dynamic-Posted Pricing
    - Price changing dynamically over time
    - E.g. Airline Yield-Management
  - Reverse Pricing
    - Buyers proposes a price, which has to be above a secrete threshold
    - e.g. option at eBay as alternative pricing mechanism
- Non-Interactive Pricing Models
  - Static-Fixed Pricing
    - Fixed price, which does not change over time
    - Price differentiation as option to personalise pricing



## ■ Differential Pricing



Source: Skiera (2001)

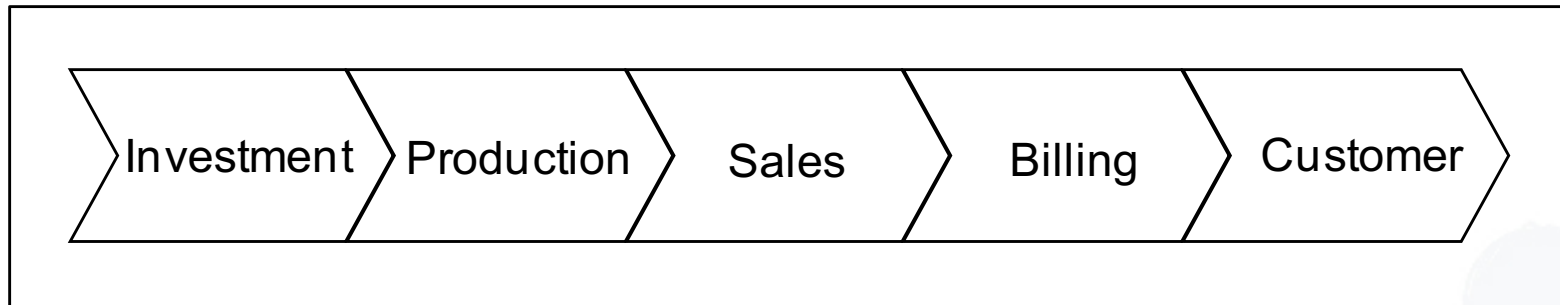




## Example

Tariff A	Tariff B
13 € per month	10 € setup fee / 5 per month

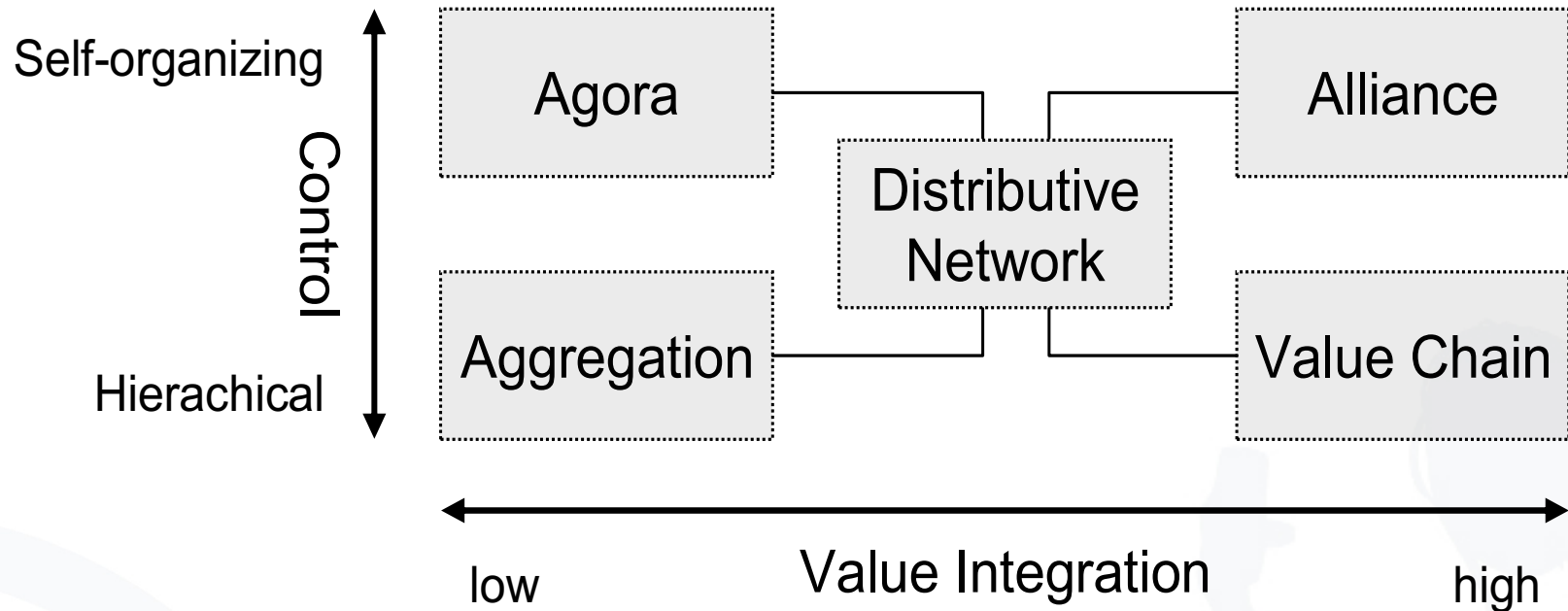
- Traditional Value Chain



Source: Zerdick (2001)

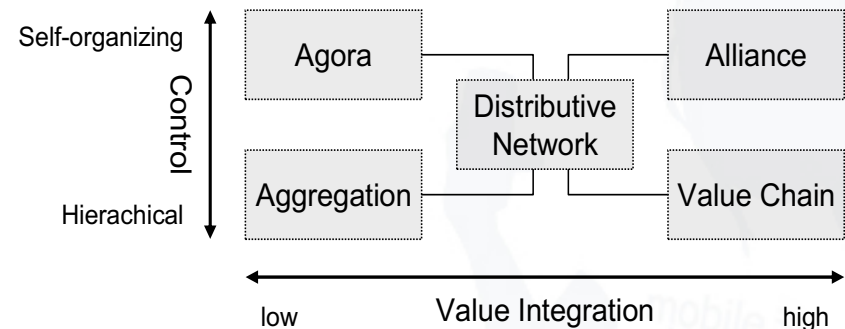
- No longer relevant for most Online business models of today

# Business Webs as Types of Value Creation



Source: Tapscott, Ticoll und Lowy (2000)

- Agora
  - Open electronic marketplaces with regard to pricing and offered products (e.g. Android marketplace)
- Aggregation
  - Closed, controlled electronic marketplaces (e.g. Apple App Store)
- Distributed Network
  - Value Network
- Value Chain
  - ICT-enabled Value Chains
- Alliance
  - Loosely cooperation market players (e.g. Open Source projects)



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Applying information and communication technologies (ICT) in order to support all kinds of business activities.



- business-to-business (B2B)
- business-to-consumer (B2C)
- business-to-employee (B2E)
- business-to-government (B2G)
- government-to-business (G2B)
- government-to-government (G2G)
- government-to-citizen (G2C)
- consumer-to-consumer (C2C)
- consumer-to-business (C2B)
- online-to-offline (O2O)



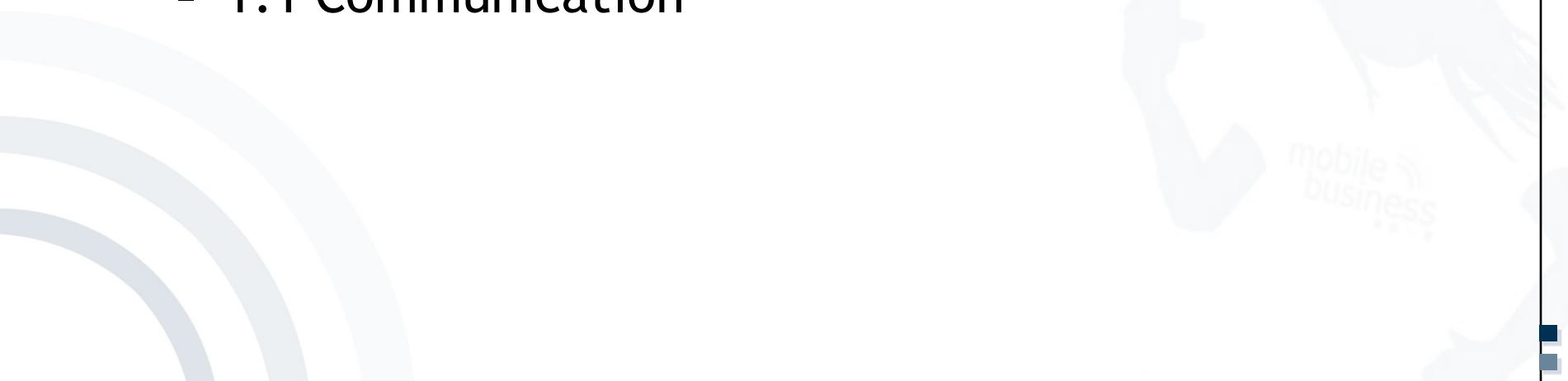
- **Automatisation / Digitization**
  - Value Proposition is provided electronically
- **Time Flexibility**
  - 24/7 access to services via Internet
- **Interactivity**
  - Users are integrated in the provision of the service
- **Individualisation**
  - Personalisation of services according to users preferences





## E-Business Specifics plus

- Time and Location Independence
- Location Awareness
- Personal Nature of the Medium
- Distinct Identification of Mobile User
- 1:1 Communication



- M-Business Applications

- M-Business only as additional channel to the customer
- M-Business only as additional channel to the customer, but with some added value (e.g. Facebook mobile)
- M-Business fully exploits of the unique features of the mobile media (e.g. location-based mobile advertising campaigns)

E-Replica



M-Unicum

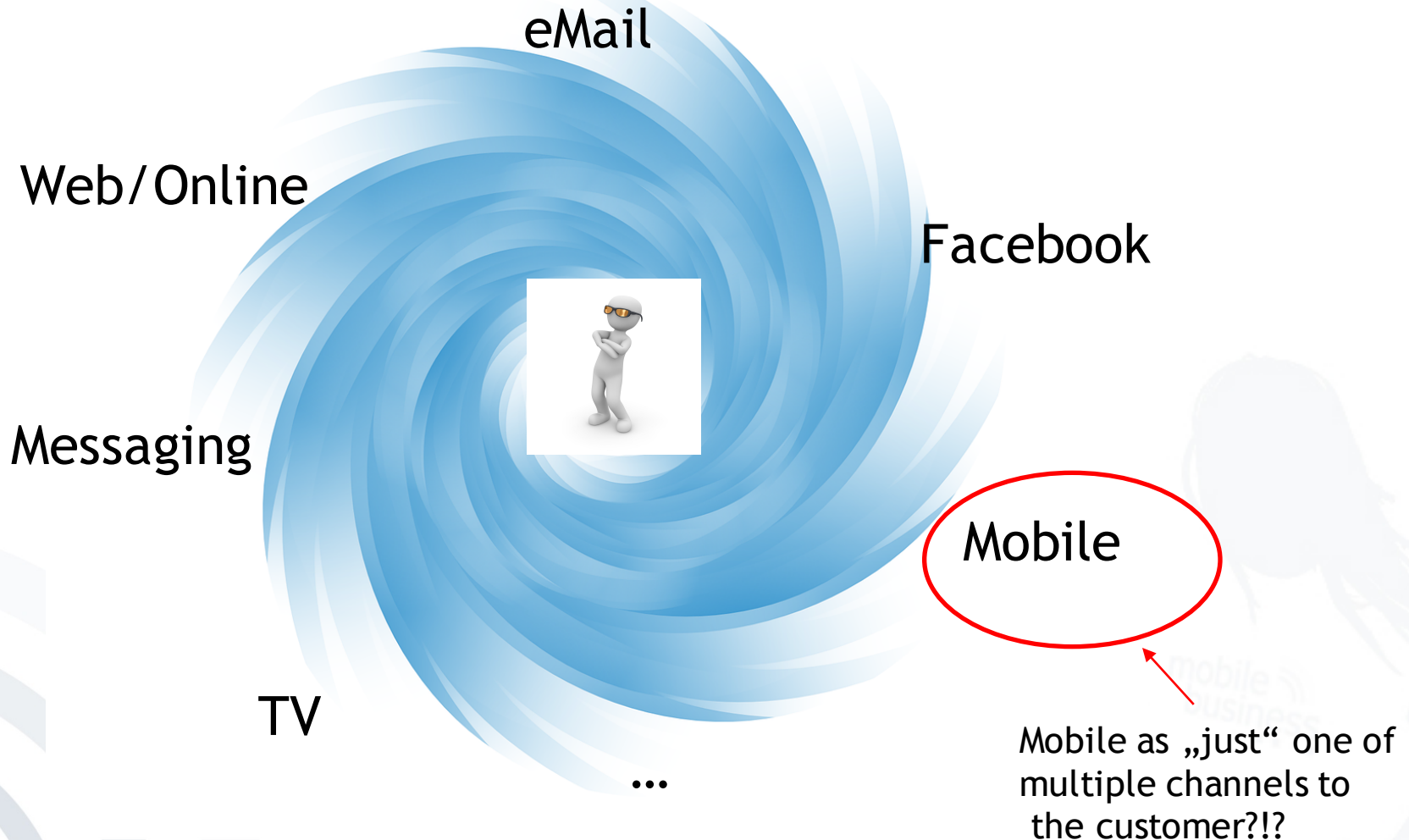
		<i>Service User/Consumer</i>		
		Consumer	Business	Administration
<i>Service Provider</i>	Consumer	<b>Consumer-to-Consumer</b> e.g. SMS	<b>Consumer-to-Business</b> e.g. Tickets in mobile phones at ticket control	<b>Consumer-to-Administration</b> e.g. identity card implemented in mobile phones
	Business	<b>Business-to-Consumer</b> e.g. downloading tunes	<b>Business-to-Business</b> e.g. mobile access for management consultants at their clients' site	<b>Business-to-Administration</b> e.g. toll - Collection
	Administration	<b>Administration-to-Consumer</b> e.g. mobile traffic ticket	<b>Administration-to-Business</b> e.g. advices for requests for bids via SMS	<b>Administration-to-Administration</b> e.g. fire brigade communication

Source: Herrmann, Sauter (1999)

- In terms of electronic communication, M-Business is a specific part of E-Business, but ...
  - for M-Business services a more complex, sophisticated infrastructure environment is required.
  - M-Business services have to deal with several technical limitations (e.g. bandwidth, screen size of device, etc.).
- The specifics of M-Business enable the provision of unique M-Business services (distinct from E-Business services).
  - e.g. Location-Based Services or Mobile Brokerage
- Addressing the mobile infrastructure issues while taking advantage of the unique mobile features is one major challenge for all mobile ecosystem stakeholders in order to provide successful of M-Business services.



# Trend towards Multi-Channel/ Omni-Channel Business



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- Commerce
- Access
- Enablers
- Content
- Social Networks / Streams of Activities
- Advertising Networks
- Info-Intermediaries / Match Makers
- ...

- Value proposition
- Revenue model
- Architecture of value creation
- Examples from the industry
- Personal data collection & usage
- Facts worth mentioning





- Value Proposition
  - Sale of products (physical / digital)
- Revenue Model
  - Direct/transaction-dependent
- Architecture of Value Creation
  - Multiple Options (e.g. Web shop with classic value chain)
- Examples (B2C)
  - Amazon, ReWe Online, iTunes, ...
- Personal Data Collection & Usage
  - Collection of sales data and activities of customers on commerce websites
  - Used for product recommendations, optimisation of offered products, and sales of general consumer behaviour to Third Parties (e.g. Top book sellers)
- Facts worth mentioning
  - Amazon allegedly needs only seven user clicks on its website to determine a gender with a certainty of over 80%.

- Value Proposition
  - Access to Online/Mobile Communications
  - E.g. UMTS, DSL, WiMax, LTE, WiFi Hotspots, LiFi, ...
- Revenue Model
  - Direct (indirect) through usage fees
- Architecture of Value Creation
  - Telcos/ISPs, Mobile Operators, MVNOs, Internet Hubs
- Examples
  - Deutsche Telekom, Vodafone, Blau.de
- Personal Data collection & usage
  - Collection & processing of Internet traffic data in order to gather insights for new services and to optimize existing services
  - Highly regulated market in Europe
- Facts worth mentioning
  - Dropping access prices to due „access“ being an homogenous goods and competition
  - Any ideas to improve or solve this issue?





- Value Proposition
  - Services, which enable/support E/M-Business services
- Revenue Model
  - Direct/transaction-(in)dependent
- Architecture of Value Creation
  - For instance:  
Google Wallet: Mobile Operators, Banks, Credit Cards Companies, Local Merchants, Security Providers
- Examples
  - Identity Services (Facebook Connect), Mobile Payment/Wallet, Certification Services, Cloud Computing
- Personal data collection & usage
  - Service usage of users (Identity Services), transactions of users (Payment/Wallet), ...
- Facts worth mentioning
  - Enabler services often offered by market players with different main value proposition (e.g. Facebook Connect, Google Wallet)

- Value Proposition
  - Offering of informative or entertaining content (e.g. news, music, books, etc.)
- Revenue Model
  - Direct/Indirect, transaction-(in)dependent
- Architecture of Value Creation
  - E.g. Content Producer, Content Aggregators, Content Distributors
- Personal data collection & usage
  - Personalisation of content, market research on consumer interests, recommender services
- Examples
  - Spiegel Online, T-Entertain, financial information (e.g. stock charts), iTunes, Google News, etc.
- Facts worth mentioning
  - E.g. pricing of digital editorial content challenging (paid vs. ad-financed content)





- Value Proposition
  - Connecting/„staying in touch“ → Social Information and Entertainment
- Revenue Model
  - Direct/indirect, transaction-(in)dependent (e.g. advertising / e/m-Commerce)
- Architecture of Value Creation
  - Content providers, users (user-generated content), and advertisers
- Personal data collection & usage
  - Targeting of advertisements, personalisation of contents, matching users
- Examples
  - Facebook, Google+, Twitter, ...
- Facts worth mentioning
  - Facebook has already ca. 800+ million members and also is one of the biggest Identity Provider on the Web

- Value Proposition
  - Sale of Online/Mobile Advertising space or audiences for specific user target groups
- Revenue Model
  - Direct, transaction-(in)dependent
- Architecture of Value Creation
  - Platform Provider, Advertiser, Publisher, Ad Exchanges, Demand-Side Provider, Data Provider
- Examples
  - Google AdWords, Microsoft Bing, Facebook Ads, Yahoo Ad Network, etc.
- Personal data collection & usage
  - Online tracking of user behaviour (e.g. Google Analytics)
  - Applied for targeting of online/mobile advertising campaigns
- Facts worth mentioning
  - 97% of Google's revenue is generated by AdWords service





- Value Proposition
  - Reduction of search costs for users (Info-Mediaries, matchmakers)
  - Support for transactions (brokers)
- Revenue Model
  - Direct/indirect, transaction-(in)dependent
- Architecture of Value Creation
  - Information provider, intermediary platform (Info-Mediaries, matchmakers)
  - Partners for transaction support such as payment (brokers)
- Examples
  - Dating Services, Amazon Market Place, Mobile Voice Traffic Brokers, Search Engine Providers. Etc.
- Personal Data Collection & Usage
  - Tracking of User Behaviour
  - Optimisation / personalisation of services
  - Sale of anonymous data about consumer preferences and consumption habits

# Apple, Google, Facebook & Amazon's supported Business Model Types

- Commerce
  - Amazon Webshop, Apple iTunes, Google Android Marketplace
- Access
  - -
- Enabler
  - Amazon Marketplace, Facebook Connect, Google Checkout, Apple AppStore
- Content
  - Amazon, Apple, Google: eBooks, Music
- Social Networks / Streams of Activities
  - Facebook, Google+, ...
- Advertising Networks / Platforms
  - Google AdWords & AdSense, Apple iAds, Facebook, Amazon Ads
- Info-Intermediaries / Match Maker
  - Amazon Marketplace, Google Android Marketplace, Amazon Marketplace, Apple AppStore, Facebook Apps



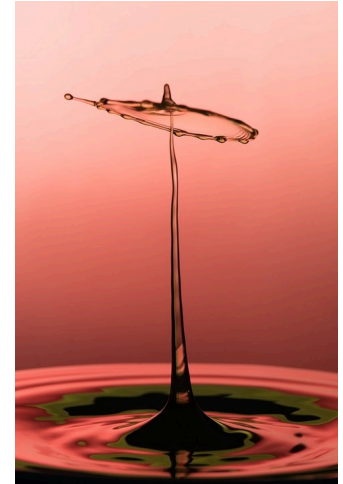


- All four players are involved in almost every existing business model type - except „Access“ business
- Why?
  - Generation of revenues from sales
  - Collection of personal user data from different businesses
- Access Business
  - „Access“ business is complex, often highly regulated with low/dropping margins, but offers high quality personal user data
  - New opportunities for whom? Telcos & Co.? Big Four?



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- Easy scalability to the mass
- Fast evolvment / “copy & paste”
- (Strong) interactivity between provider & customer
- (Almost) perfect information transparency
- Strategy often mainly data-driven
- Providers as market makers (e.g. Google with Android)
- Large, agile value networks and eco-Systems
- Increasing media convergence
- Long-Tail concepts
- Open platforms
- Freemium model
- Paywalls vs. Ad-Financing
- Fast growth of AI-driven applications
- ...



## ■ Examples

- Digital distribution (e.g. Spotify or iTunes Store)
- Scalability to mass market (e.g. eBay)
- Price comparison (e.g. geizhals.de)
- Audio/eBook publishing (e.g. kindle, Apple iBooks)/ TV broadcasting (e.g. YouTube) for everyone
- Information markets (e.g. Facebook or Google)
- Chatbot markets (see [chatbots.org](http://chatbots.org))
- ...



- Understanding a business model allows one to judge on the trustworthiness, reputation, lastingness of a business
- Some questions to ask ...
  - What is the revenue model of a business?
  - How does its pricing compare to competition?
  - How does it differentiate from competition?
  - How professional is its Web presence?
  - What are its partners?
  - What is it located? EU? US? Elsewhere?
  - ...



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# What is a market?

- “*Markets* can be understood as an abstract place where supply and demand for goods meets and exchange processes between buyers and sellers are enabled.”  
Source: Picot et al. (2003)
- Markets can either evolve over time or are designed by market engineers.
  - The latter type is based on formal rules as well as standards for a specific purpose and are referred to as *organised markets*.
  - Organised markets require a market operator, which enables and monitors the transactions on the market.



- Operators of organised markets often act as intermediaries between sellers and buyers and may provide several economic benefits.
- On the **Internet**, information intermediaries play an important role by helping to overcome market imperfections
  - Mitigating information asymmetries by enabling the matching of appropriate trading partners
  - Reducing necessary number of interactions between trading partners. The outcome, known as the Baligh/Richartz-Effect, lowers the necessary contacts from  $n*m$  to  $n+m$ .
  - Acting as a trust provider between the involved parties whilst providing charging, billing or other logistic functionality necessary for the execution of market transactions





- “Electronic markets are markets, for which at least one phase of a market transaction supported electronically.”

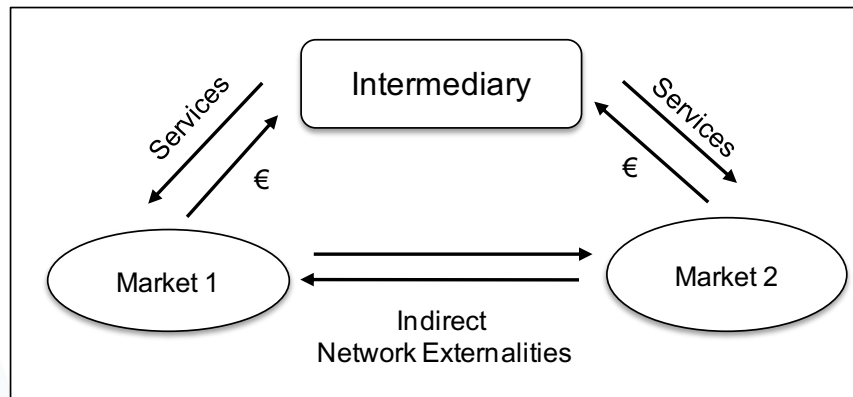


Source: Schmid (1998)

- What are mobile markets, then?
  - Market players can access the market via the mobile medium?
  - Runs on a mobile device?
  - Sells mobile applications?
  - No difference?

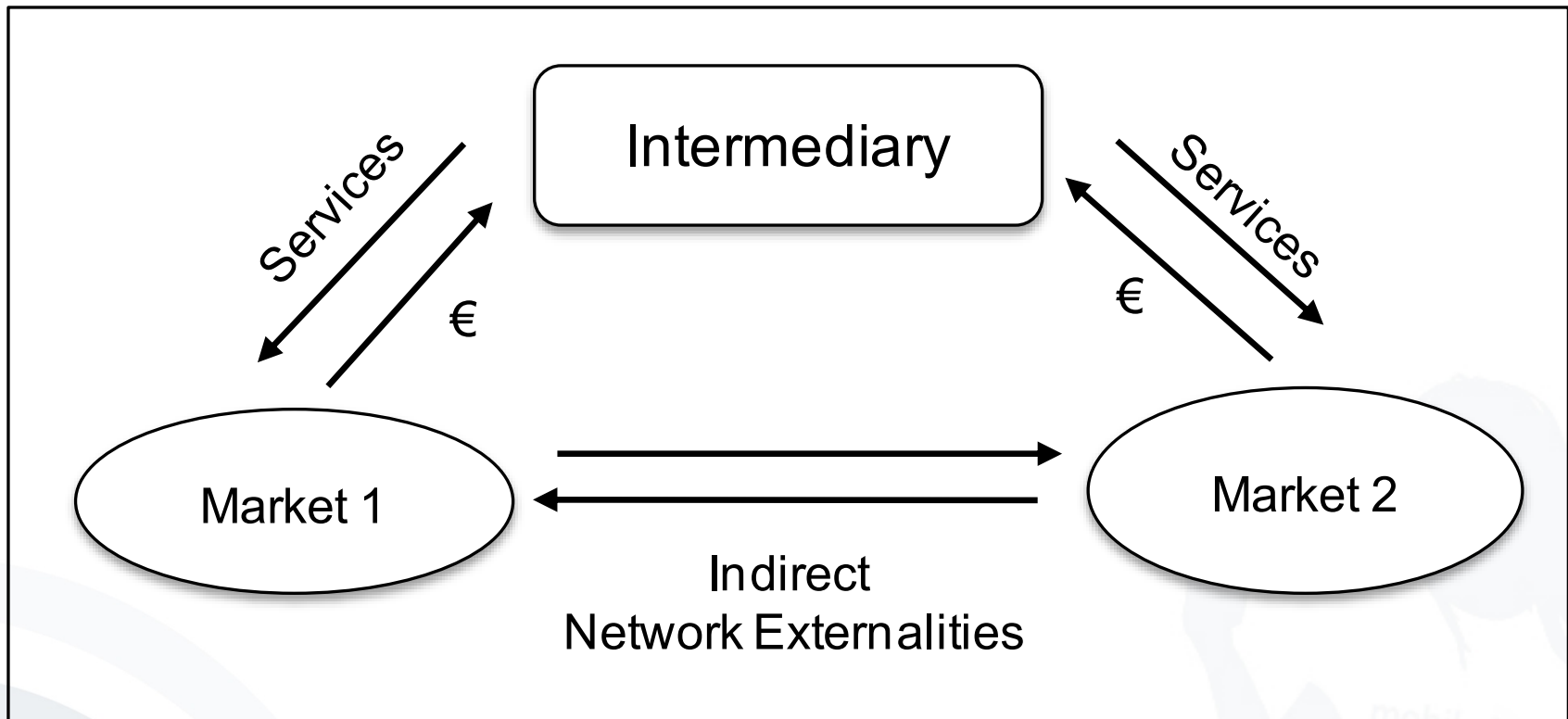


- *“Two-sided networks, markets or platforms, are defined as an economic environment in which goods or services are sold to two distinct sets of customers, that benefit from an increase in the number of agents in the other set.”*



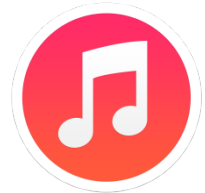
Source: Roson (2005)

# Two-sided Market Concept



Source: based on Dewenter (2006)

- Windows Operation System Platform
  - Users and Developers
- Apple iTunes
  - Users and Developers/Publishers
- Credit Card Systems
  - Customers and Merchants
- Google AdWords
  - Users and Advertisers
- Adobe Reader
  - Users and Publishers



- Indirect Network Externalities
  - One market benefits directly from the size of the other market and vice versa (either in a positive or negative way)
- Pricing
  - Common pricing structure between markets
  - Needs to be balanced carefully
- Market Development
  - Critical mass of participants on one market needed in order to attract participants on other market
  - Chicken & Egg problem

- Digital Business Models
  - <https://netzoekonom.de/2015/12/01/die-bevorzugten-geschaeftsmodelle-fuer-das-digitale-zeitalter-offenheit-und-plattformen/>
- Amazon
  - <http://www.cnbc.com/2015/01/13/how-amazon-tricks-you-into-thinking-it-always-has-the-lowest-prices.html>
- Ad Block Plus
  - <http://www.heise.de/newsticker/meldung/Adblock-Plus-Eyeo-legt-Preisliste-fuer-Acceptable-Ads-offen-3046033.html>

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