

## *Exercise 2*

# Economic Basics

**Mobile Business I (WS 2015/16)**

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- Exercise 1: Mobile Equipment & IT Value Chain
- Exercise 2: Mobile Economy
- Exercise 3: M-Commerce Market
- Exercise 4: Value Creation
- Exercise 5: Business Models
- Exercise 6: Pricing Models

a) Name all parts of the classic “Mobile” value chain.

## GSM World

**Equipment Manufacturers**  
(Apple, Samsung, Microsoft/Nokia,  
Google/Motorola, Huawei, ...)

**Telcos**  
(Telekom, Vodafone, Telefónica...)



# ***Exercise 1***

## **Mobile Equipment & IT Value Chain**

**b) Web search & Discussion:** In the “Mobile” value chain, are the equipment manufacturers or the “telecoms” the dominant players in terms of market share and revenues? Has the ratio remained constant or shifted over the recent years?

# Exercise 1: Mobile equipment & IT value chain











## Wikipedia: Telecommunications equipment

### Vendors [\[edit\]](#)

The world's five largest telecommunications equipment (ex. mobile phone handsets) vendors measured by applicable 2011 revenues are:<sup>[4]</sup>

1.  Ericsson
2.  Huawei
3.  Alcatel-Lucent
4.  NSN
5.  ZTE

The world's 10 largest mobile phone handset vendors measured by unit sales in the second quarter of 2013 are (global market share shown in parentheses):<sup>[6]</sup>

1.  Samsung (24.7%)
2.  Nokia (14.0%)
3.  Apple (7.3%)
4.  LG Electronics (3.9%)
5.  ZTE (3.5%)
6.  Huawei (2.6%)
7.  Lenovo (2.5%)
8.  TCL (2.3%)
9.  Sony Mobile Communications (2.2%)
10.  Yulong (1.8%)

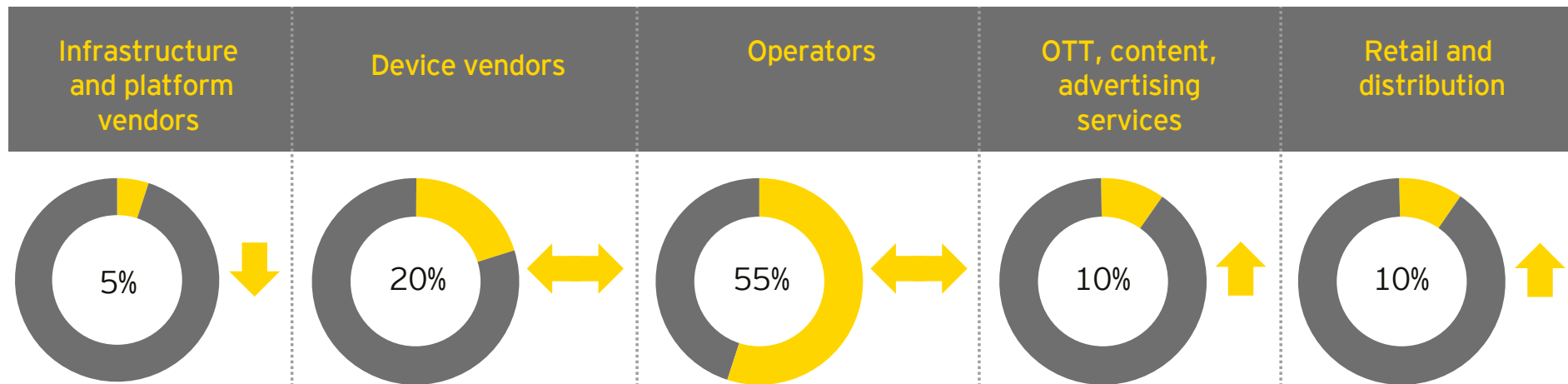
## Wikipedia: Telecommunications equipment

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# Exercise 1: Mobile equipment & IT value chain

Telecommunications industry value chain — 2015 share of revenues by segment



Source: EY analysis

"To avoid commoditization, telcos should become the focal point of the extended value chain, focusing on digital services and taking advantage of their traditional competencies."

Source: Global telecommunications study: navigating the road to 2020. E&Y, 2015)



# Exercise 1: Mobile equipment & IT value chain

## **Manufacturers are strong, because...**

- ...they have a global oligopoly and can overpower the Telcos
- ...the device plays a central role for the customer decision regarding subscriptions
  - The role of ecosystem
  - Device as status symbol
  - Features of the device

## **Telco's are strong, because...**

- ...“Net neutrality” is undermined by Telcos – Content Providers are forced into cooperation to assure service quality.
- Telco's tariff structure and data volume / transfer speed determines device decision in target groups.
- Telcos have long term customer relationship via subscriptions, this influences device decision.
- Telcos are main retailer for devices, and influence by device subsidies.
- Coverage determines subscriptions.

# ***Exercise 1***

## **Mobile Equipment & IT Value Chain**

- c) Which parts of the value chain of the “IT World” can be found in the classic “Mobile” value chain and where are they reflected there?

## GSM World

**Equipment Manufacturers**  
(Apple, Samsung, Microsoft/Nokia,  
Google/Motorola, Huawei, ...)

**Telcos**  
(Telekom, Vodafone, Telefónica...)



IBM,  
Infineon, ...

MS, ...

Dell, ...

Cisco,...

Telekom  
Vodafone  
...

MS,  
IBM,  
...

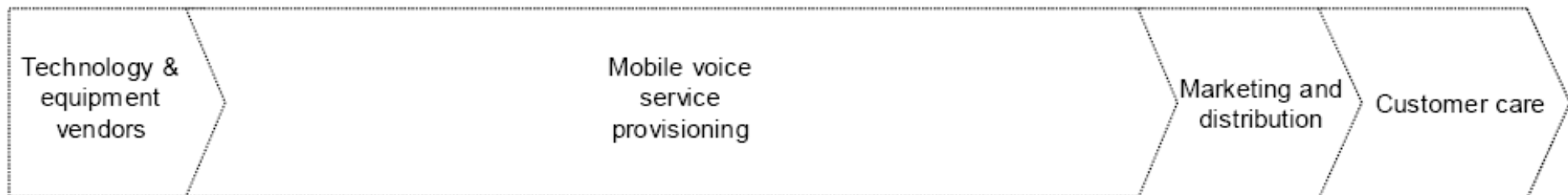
MS,  
SAP,  
Telekom,  
Google  
...

**IT World** (Based on: SAP)

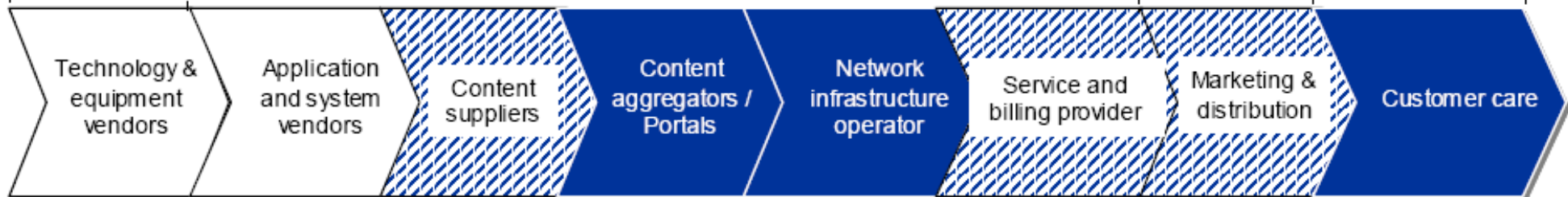
- d) Explain the meaning behind the statement “The traditional value chain of mobile service delivery splits”.

# Different market players take care of parts of the value chain

## TRADITIONAL VALUE CHAIN OF MOBILE SERVICE DELIVERY



## EMERGING MOBILE OPERATOR VALUE CHAIN



Primary opportunity for operator



Some opportunity



Opportunity through alliances

[Passerini et al. 2004]

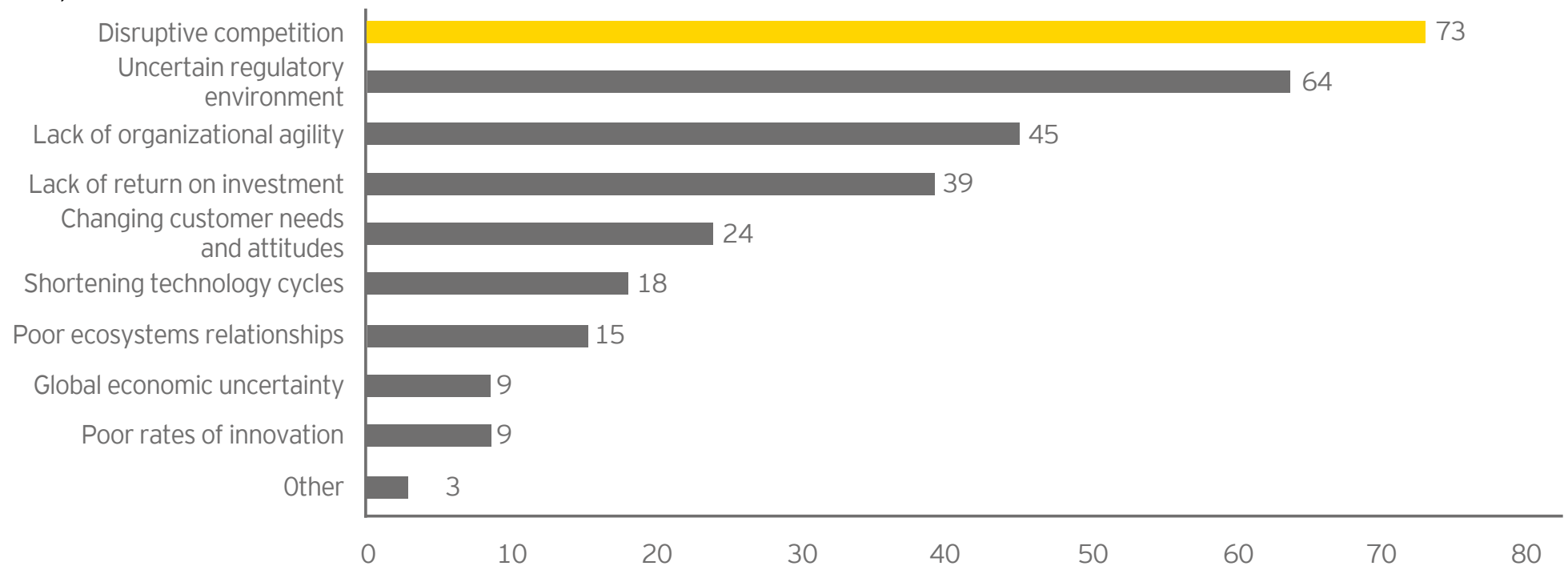
**e) Discussion:** Keeping the aforementioned changes of the value chain in mind, what are the opportunities and inherent risks for mobile network operators (MNOs)?

## Exercise 1: Mobile equipment & IT value chain

- Risks:
  - High revenue services could be reduced due to cannibalization or even lost completely to other market players
- Opportunities:
  - Collaborative business models to share costs and develop new customer value propositions
  - Customer satisfaction is raised by addressing niches

Q. What are the most significant challenges facing the industry?  
(Top three responses.)

% respondents



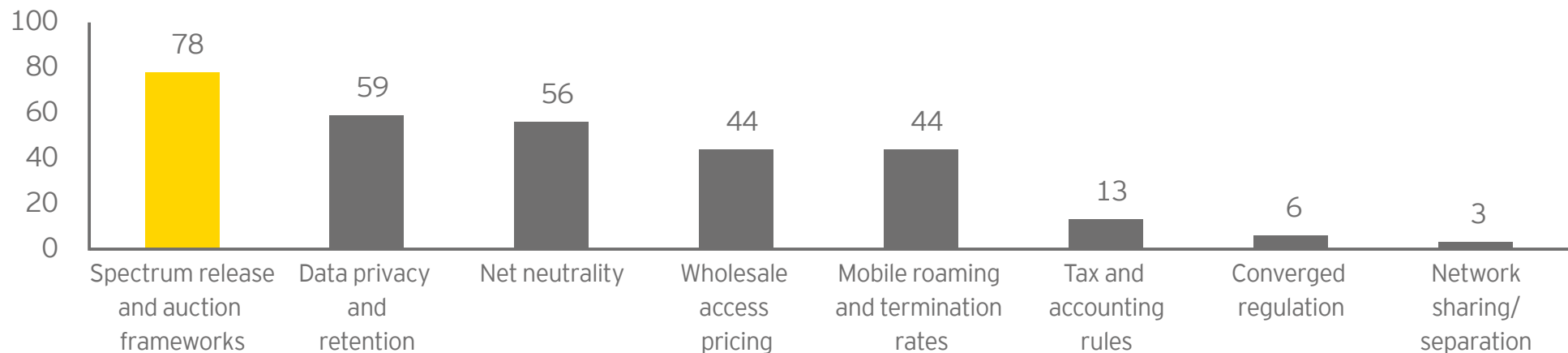
Source: Global telecommunications study: navigating the road to 2020. E&Y, 2015)



# Top regulatory concerns for the telcos

Q. Which regulatory issues will be most likely to impact the industry in the next two to three years? (Please select three.)

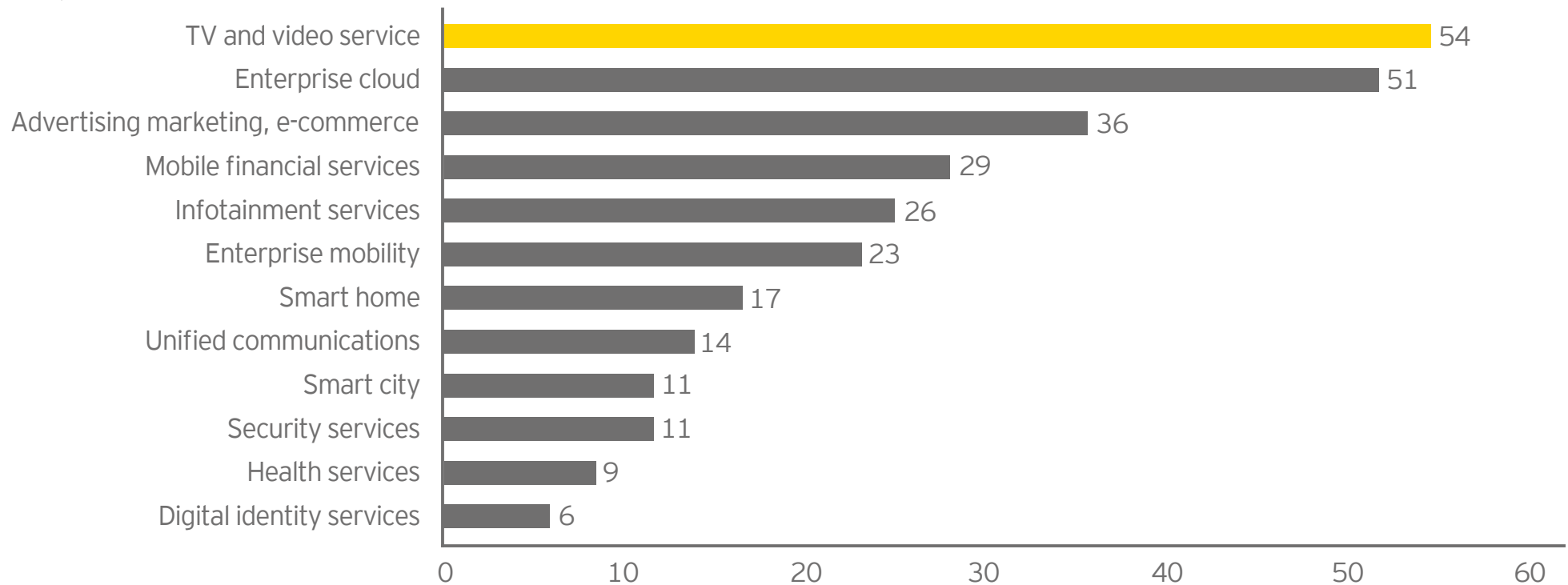
% respondents



Source: Global telecommunications study: navigating the road to 2020. E&Y, 2015)

Q. Which digital services represent the best opportunities for incremental revenue growth? (Top three responses.)

% respondents



Source: Global telecommunications study: navigating the road to 2020. E&Y, 2015)

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a) Explain the phenomena of Mobility.

## What is mobility?

Lat. *mobilitas*:

- (1) Flexibility, velocity, motion;  
and as “*mobilitas animi*”: (mental) fitness
- (2) But also (and quite ambivalent to (1)) changeability,  
inconstancy, unstableness



[SkuStowPets1998]

- Social implications

**Mobility not just “humans’ independence from geographical constraints”**

- Spatial Mobility
- Temporal Mobility
- Contextual Mobility

[KakihaSorens2001]

b) Name the characteristics of Mobile Economy and explain them.

What are the characteristics of the Mobile Economy?

|                           | Electronic Economy | Mobile Economy |
|---------------------------|--------------------|----------------|
| Automation / digitization | ●                  | ●              |
| Time flexibility          | ●                  | ●              |
| Interactivity             | ●                  | ●              |
| Individualization         | ●                  | ●              |
| Location independence     |                    | ●              |
| Personal sphere           |                    | ●              |
| Continuous reachability   |                    | ●              |
| Context sensitivity       |                    | ●              |

Based on [ReicMeieFrem2002]



- Automation / digitization
  - Value proposition of Internet services is provided electronically (digital)
- Time flexibility
  - Internet services are accessible 24 hours per day
- Interactivity
  - Users are integrated into the provision of Internet services
- Individualization
  - Personalisation of Internet services according to individual user preferences

Based on [ReicMeieFrem2002]

- **Location independence**
  - **Provision of mobile services is independent of a user's current location**
  - **Examples**
    - **Mobile E-Mail Services**
    - **Mobile Information Services**
    - **Mobile Sales Force Services**
    - ...

Based on [ReicMeieFrem 2002]

- **Personal sphere**
  - **Mobile devices as personal accessories**
    - **Mobile device is part of a user's personal sphere such as keys, data books, clothes, etc.**
    - **Users carry mobile devices with them most of time**

- Continuous reachability
  - Location independent network access
  - Users are instantly addressable.
  - Always-on-Functionality

[Based on ReicMeieFrem2002]

- **Context sensitivity**  
(Detection and evaluation user's environment information)
  - **Local context**  
(user's current place / time)
  - **Action context**  
(user's current place / time combined with geo data)
  - **Time context**  
(user's current time combined with time relevant information)
  - **Interests specific context**  
(local, action and time context combined with personal user preferences)

# Overview of mobile economy

Mobile Economy 2013

<https://www.youtube.com/watch?v=wOryfTLTc1o>

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- a) Name the different players of M-Commerce markets.



- Players: \*
  - Device manufacturers
  - Infrastructure manufacturers
  - Network operators
  - Mobile virtual network operators
  - Service providers
  - Content providers and OTT
  - Customers

\* One possible segmentation!

## *Exercise 3*

# **M-Commerce Market**

b) Describe the functions of these players.

- Mobile device manufacturers
  - Manufacture and distribute mobile terminals
  - Examples: Apple, Nokia, Sony Ericsson, Samsung, HTC, RIM, earlier Siemens, ...



- Mobile device manufacturers
  - Frequently in partnerships (e.g. distribution via mobile network-operator, i.e. operator branded (SIM-locked or individualized) devices)
  - Almost all mobile device manufacturers are global organisations.
  - Currently, ...
    - More lifestyle products for different target groups rush into the market (e.g. special designs, with high resolution cameras, mp3-players etc.).
    - Break-up of traditional syndicates, e.g. in the area of operating systems

- Infrastructure manufacturers/providers
  - Produce and provide infrastructure, necessary for network operation, such as GSM base stations.
  - Examples: Nokia Siemens Networks (Motorola), Ericsson, ZTE, Huawei, ...



- Infrastructure manufacturers/providers
  - Important interaction between infrastructure and terminals.
  - Currently new orders because of LTE, but soon also for 5G

- Network operators
  - Operate mobile networks and provide access
  - E.g. Telekom, Vodafone, E-Plus, O<sub>2</sub>, Orange, ...
  - Competition on national and international level



## Definition:

A **mobile virtual network operator** (MVNO) is a company that does not own a licensed frequency spectrum and wireless infrastructure, but resells wireless services under their own brand name, using the network of another mobile network operator.

## Explanation:

- An MVNO's roles and relationship to the mobile phone operator vary by market.
- In general, an MVNO is an entity or company that works independently of the operator and can set its own tariff structures.

Based on [Wikipedia2013]



- Provide different kinds of services, e.g.
  - Billing and customer management
  - Acquisition of customers
  - Advertising campaigns
  - Server-hosting
  - Communication management
  - ...
- Term rarely used since MVNOs came up.

## ■ Content providers

### Examples

- Banks
- Shops
- Media-companies
- Game Provider
- ...



- OTT – Over The Top services
  - delivery of audio, video, and other media *over the Internet*
  - no involvement of a multiple-system operator in the control or distribution of the content
  - Examples: Movie streaming (e.g. Netflix), messaging services (e.g. Whatsapp)

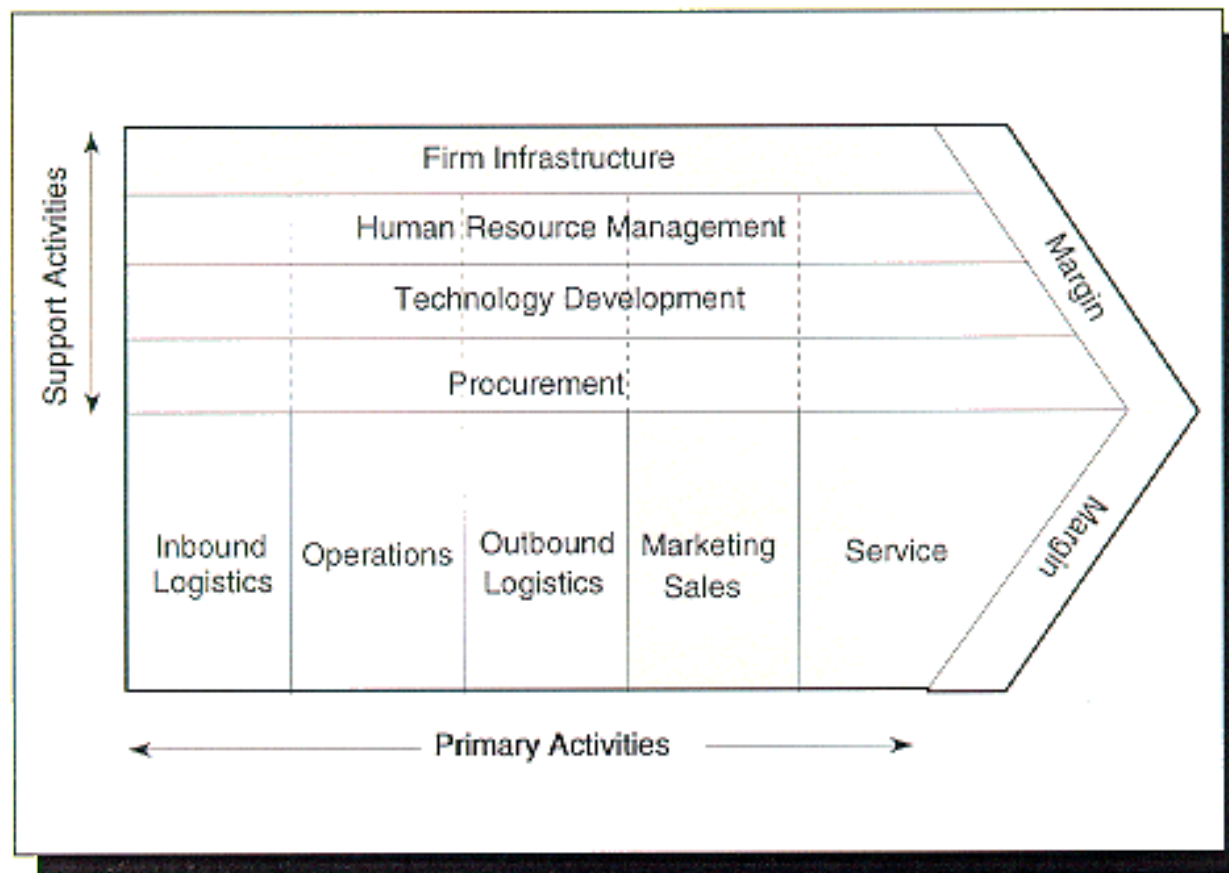
- Use...
  - infrastructure,
  - network,
  - devices,
  - service and
  - information
- High market power because of full market penetration [Bundesnetzag2013]
- Customers are...
  - Private customers
  - Corporate customers



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- Explain the “classical value chain” by Porter.

- Classical value chain (Porter 1985)



[Porter1985]

- Illustrates the combination of value-adding activities for the creation of market products
- Input-output orientation of the different value chain elements
- Suitable for linear value creation
- Value Creation: Selling value of the market product greater than purchase costs



b) What are the characteristics of a distributed value creation?

- Distributed value creation involves several actors at the same time
- Non-linear sequence of value creational activities
- E.g. mobile intermediary network

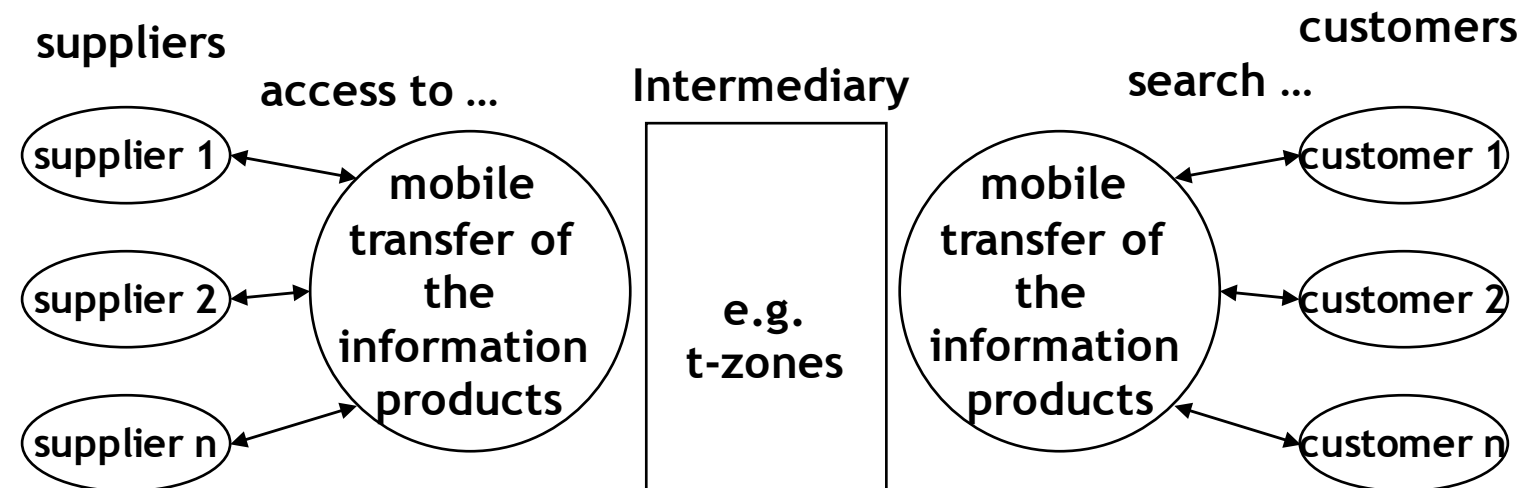
## Value network

[ReicMeieFrem2002]

### Network Marketing

- Acquisition of network members (information product customers and suppliers)
- Promotional activities
- Charging

### Networked Mobile Intermediary Service Production

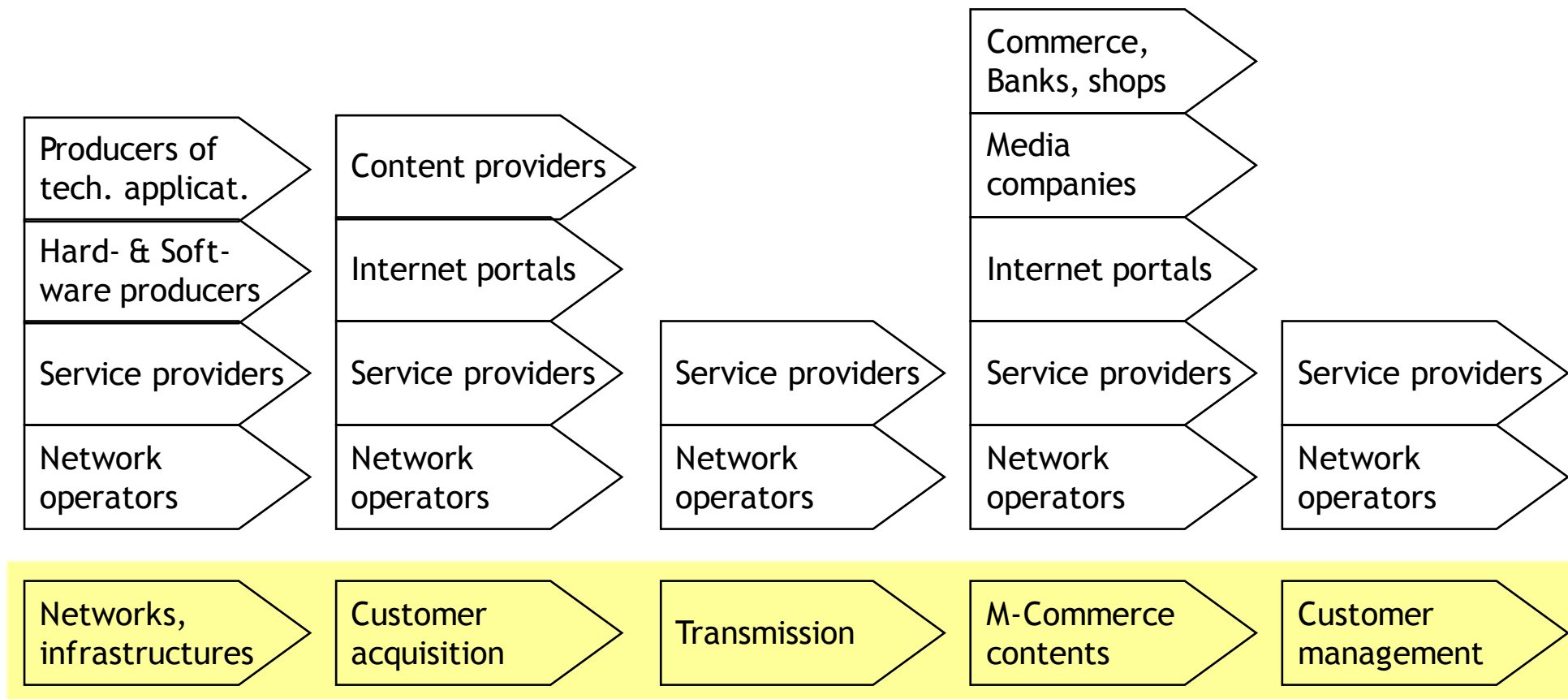


### Mobile Network Infrastructure

- Maintenance, administration of the technical infrastructure
- Maintenance, administration of the database
- Maintenance, administration of the mobile network
- Design, administration of the mobile internet presentation
- Programming of the service process

- The presented classification is just **one possibility**
- Further example:  
Mobile value chain [PicotNeuburg2002]

- M-value chain



[PicotNeuburg2002]

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a) Define the term Business model.

- A business model is the abstract description of a business.
- A business model consists of three main parts:
  1. Value Proposition (Nutzenversprechen)
  2. Value Creation Architecture (Wertschöpfungsarchitektur)
  3. Revenue Model (Ertragsmodell)

**[Based on Stähler2001]**

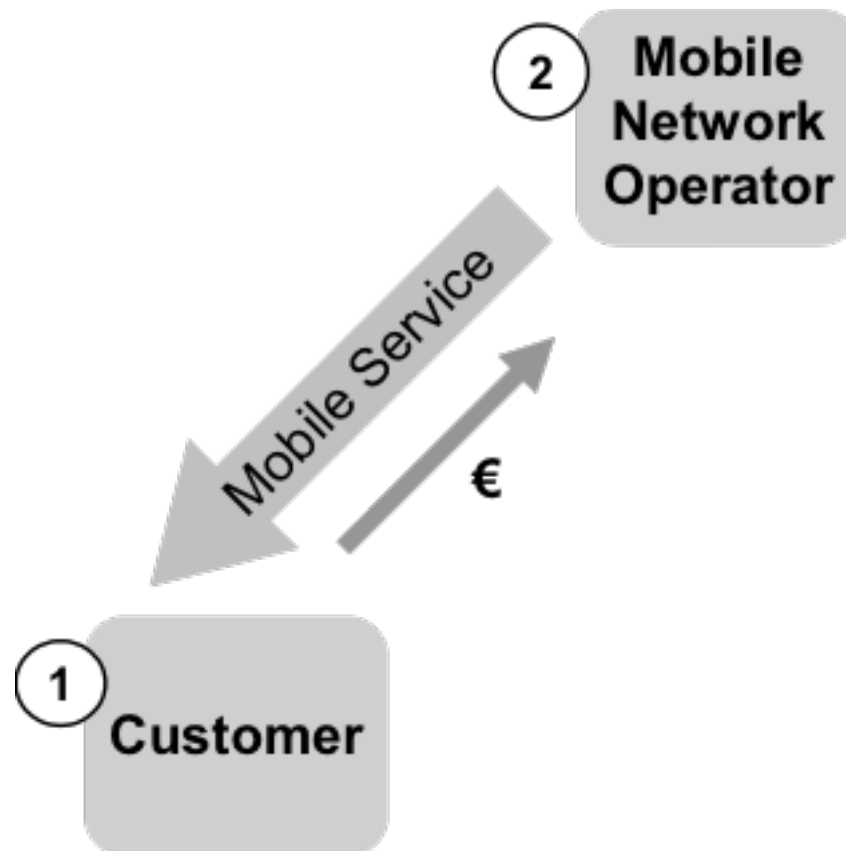


## ***Exercise 5***

# **Business Models**

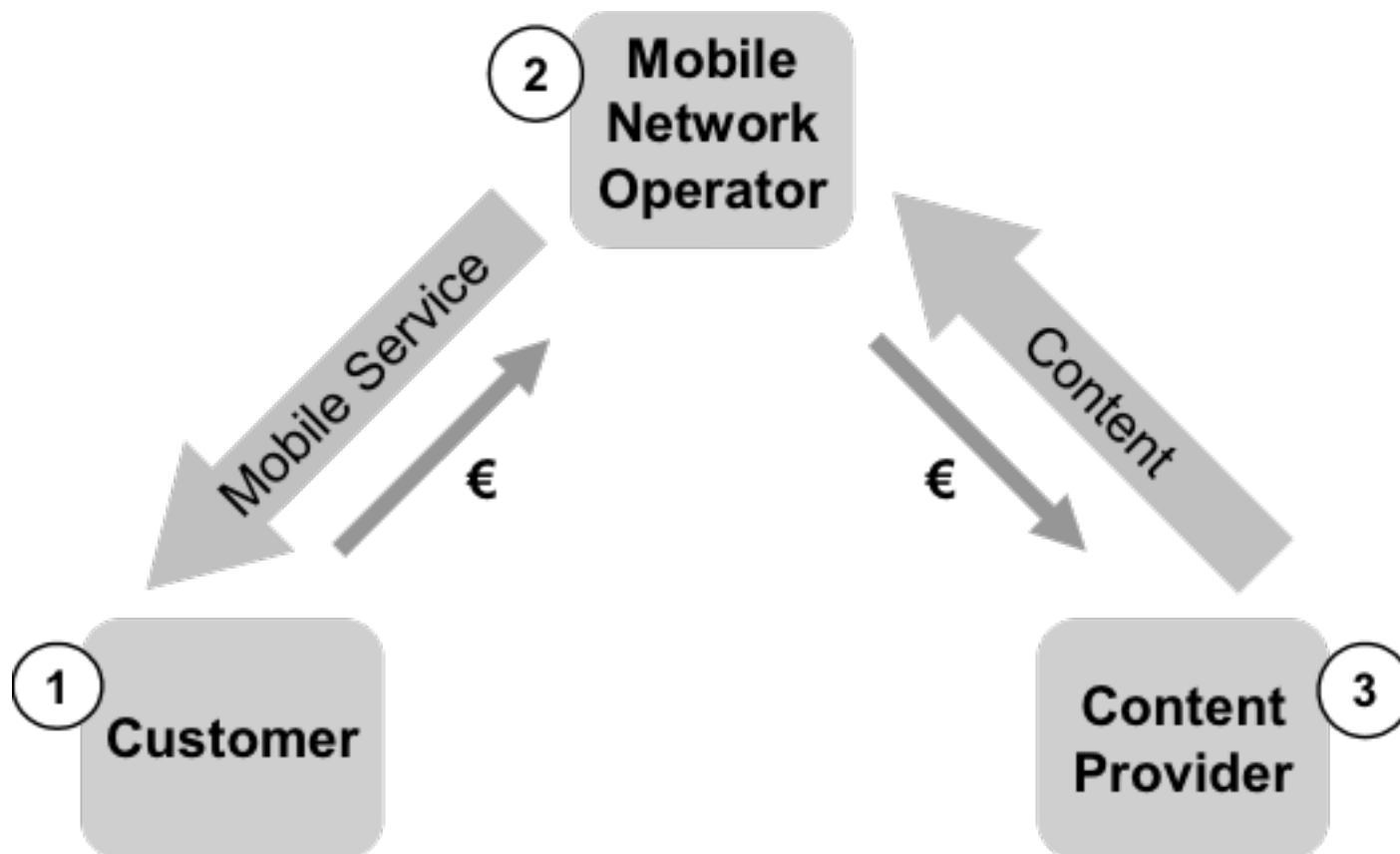
- Outline a classic business model for a mobile service (stakeholders, money and service flows).

- Classical business model (CBM) I:



- Classical business model I:
  - Two parties: Customer, mobile network operator
  - Operator provides communication services and possibly contents to the customer.
  - Possibly the operator manufactures these contents himself. Providing contents is not his core competence.

- Classical business model II:



- Classical business model II:
  - Three parties: Customer, mobile network operator, content provider.
  - Operator purchases content (from the content provider) and passes it on to the customer.
  - Content Provision is not the core competence of the network operator.

- c) Name a new business model for a mobile service and describe why it is capable of competing.

- New business model
  - “Reverse” approach: Instead of charging the customer, the service provider contacts the customer and offers free access.
  - Sponsoring of interesting (profitable) customers by advertising service providers



- a) Describe the stakeholders/entities in the business model architecture
- b) What is the value that is being provided to the customers?
- c) What are the interactions between the entities?
- d) Electronic vs. mobile business(?)

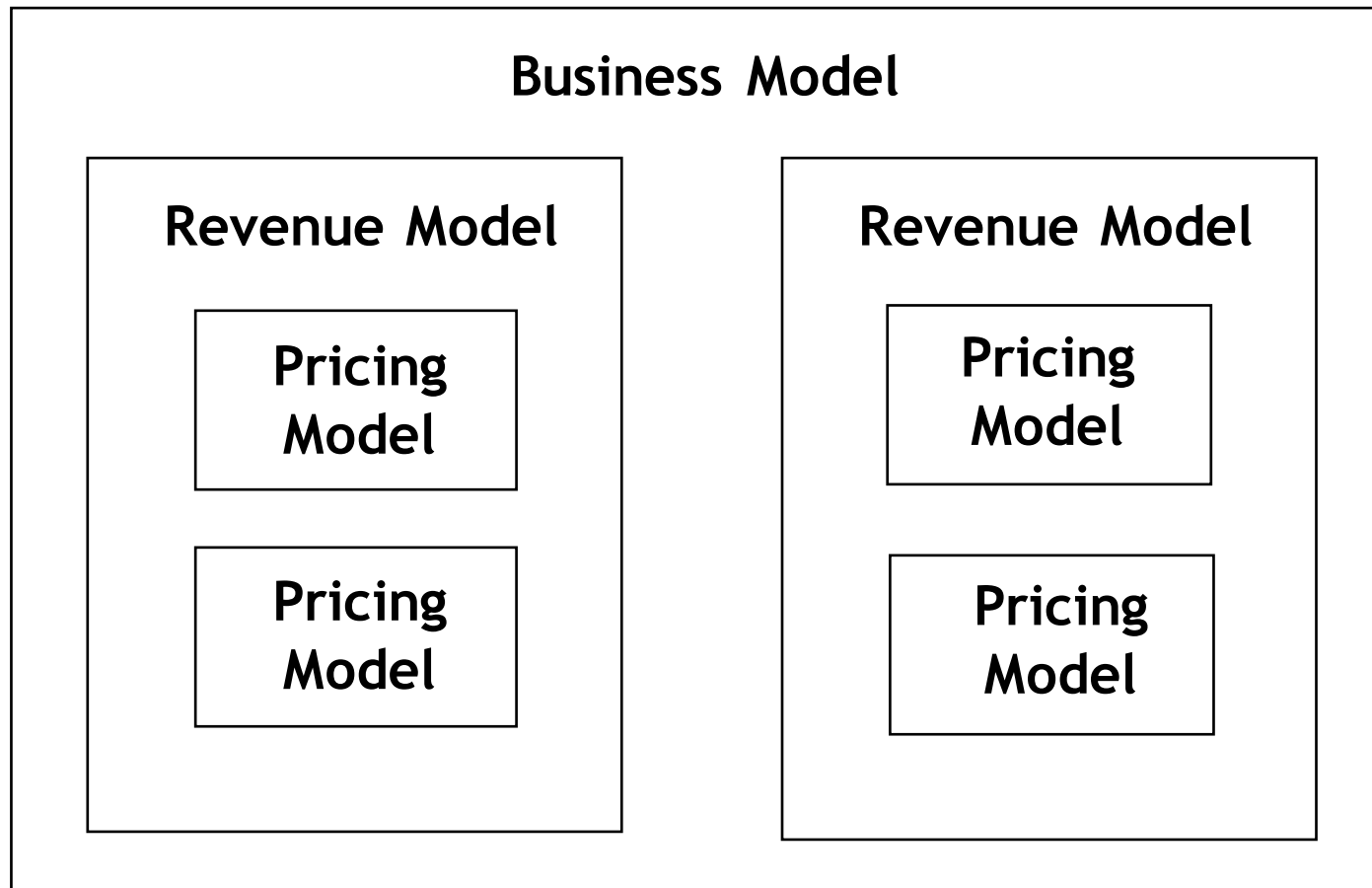


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## ***Exercise 6***

# **Pricing Models**

- a) Put the terms business model, revenue model and price model in context of each other.



## Example

## ***Exercise 6***

# **Pricing Models**

- b) Name the similarities and differences between a price model in M-Commerce and E-Commerce.

- M-Commerce Commonalities with E-Commerce
  - Network effects imply a penetration strategy in order to build an installed base
  - High price transparency implies little space for pricing decisions
  - Heterogeneity/differences in Willingness-to-Pay (WTP) encourage differential pricing
  - Low transaction costs facilitate flexible price adjustments and variable pricing mechanisms

- Differences to E-Commerce
  - Cooperation of equipment manufacturer and operators allows new revenue models
  - Very low WTP for internet services, higher WTP for mobile services
  - Mobility, availability, localization and identification allow new forms of product and price differentiation
  - Services may be offered just-in-time on the mobile phone (e.g. flights) ➔ variable pricing mechanisms.

- c) Explain the difference between product and price differentiation. Give one example for each, in the context of M-Commerce.

- Product differentiation
  - Offering variations of the same product to different consumer segments.
  - Example: Different types of cell phones
  
- Price differentiation
  - Offering the same product (or products with small variations) to different consumer segments at different prices.
  - Example: Mobile Tariffs



d) Name at least two requirements for price differentiation.

- Segmentation / separation must be possible
- Different willingness-to-pay among segments

e) What chances result from price differentiation especially for M-Commerce?

- Many tools at hand in order to individualise mobile information products and thereby ensuring separation of segments



- a) Revenue model
- b) Pricing model/method

- This set of slides is based upon the following Economic Basics lectures:
  - **Lecture 5:** E-Commerce vs. M-Commerce
  - **Lecture 6:** Market Structure and Value Creation
  - **Lecture 7:** Business Models



mobile   
business  
■■■■

**Thank you!**

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