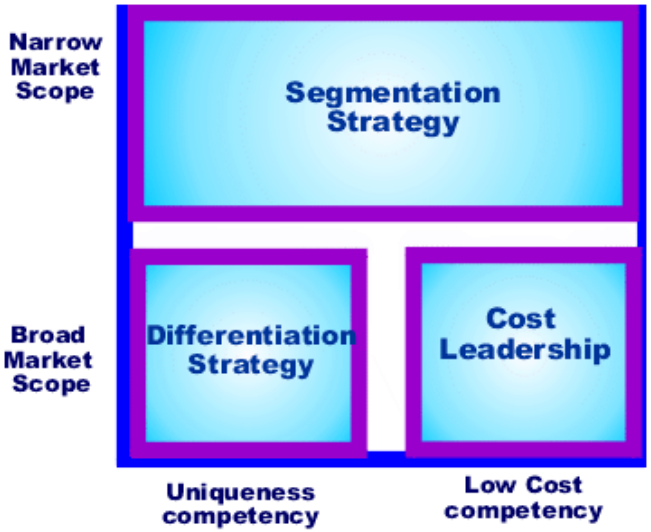
Competition and Strategies

(Courcoubetis&Weber: Chapter 6.4)

Generic Business Strategies

- Michael Porter (1980) suggested three generic strategies in positioning products or services.
- Cost leadership may lead to a beneficial circle: high market share ⇒ supply-side economy of scale ⇒ volume purchase discounts ⇒ sustainable cost leadership
- Differentiation leadership may enable higher prices ⇒ higher profits ⇒ more R&D ⇒ more differentiation ⇒ sustainable brand leadership

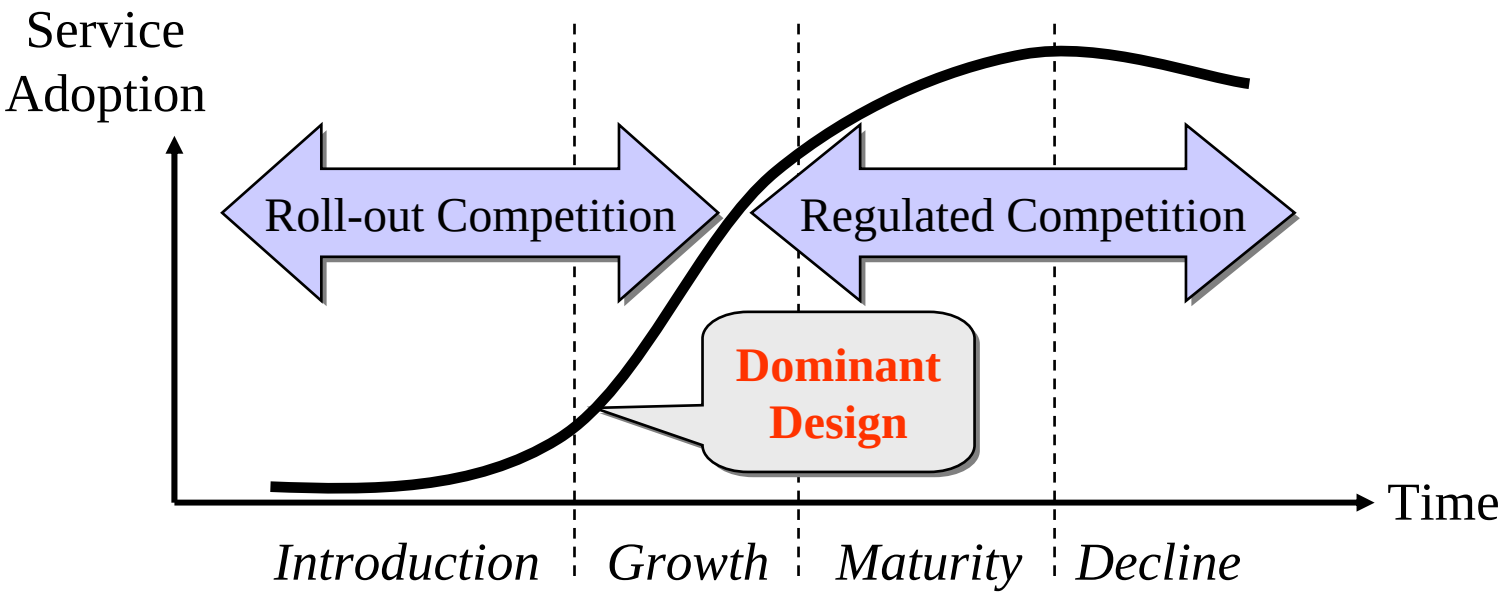


Case: Finnish flat-rate packet data subscriptions – product positioning and pricing (in 2006)

Cost minimization (e.g. Saunalahti Dataetu) = 10€ / month
- best effort services - low prices
- no access if significant other network load
- restricted transmission rates
- no special customer support
- no special add-on content or services provided
- less business-oriented support (e.g. roaming)

Service differentiation (e.g. Elisa Business Data)>30€/month
- high quality services - high prices
- exclusive or prioritized access
- high transmission rates, no restrictions
- add-on service packages, e.g. Vodafone Push-Email
- specialized customer support for business users
- roaming capabilities, data card options, Vodafone co-operation…

Competition and Service Life Cycle



- Regulator can intervene when sufficient market data exists
- Dominant design and market shares are often established before regulatory intervention ⇒ early competition is often guided by the non-optimal legacy regulation (e.g. VoIP)

Network Effect and Network Externality

- The *network effect* is a characteristic that causes a good or service to have a value to a potential customer dependent on the number of customers already owning that good or using that service.

- One consequence of a *network effect* is that the purchase of a good by one individual indirectly benefits others who own the good. This type of side-effect in a transaction is known as an *externality* in economics, and externalities arising from network effects are known as *network externalities*.

Source: Wikipedia

Competition and Network Effect

- Network effect is *direct* when it is generated through a direct physical effect of the number of purchasers on the quality of the product (e.g. Internet subscription)
- Network effect is *indirect* when complementary goods become more plentiful and lower in price as the number of users of the good increases (e.g. PCs get cheaper when more Internet subscriptions are sold)
- Network is *literal* when it is physical and can be legally owned by somebody (e.g. Internet router network)
- Network is *virtual* when it is metaphorical and human-oriented (e.g. speakers of English language)

Source: Liebowitz, Margolis, 1994

Competition and Network Effect

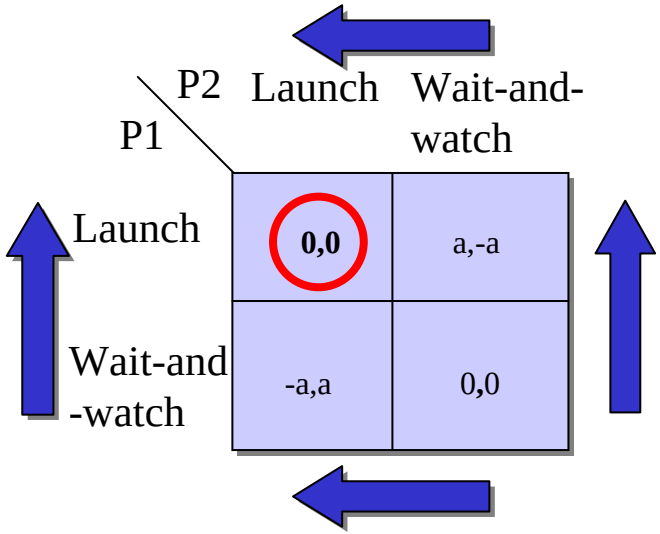
Distance \ Physicality	*Literal*	*Virtual*
Indirect	GSM handsets	Experts for Nokia handset UI
Direct	SMS messaging service	Finnish speaking SMS users

- Network effect is strongest when *direct* and *literal* (e.g. SMS service)
  - ⇒ End-to-end interoperability more important than differentiation
  - ⇒ Scale economy drives ⇒ players become big
  - ⇒ Competition oligopolistic ⇒ regulator likely to intervene
- Network effect is weaker when *indirect* (e.g. handsets or digital content)
  - ⇒ Only partial interoperability required (client-server)
  - ⇒ Differentiation can bring advantages ⇒ fragmentation
  - ⇒ Social surplus can be maximized despite fragmentation
  - ⇒ Regulator less likely to intervene

Game Theory

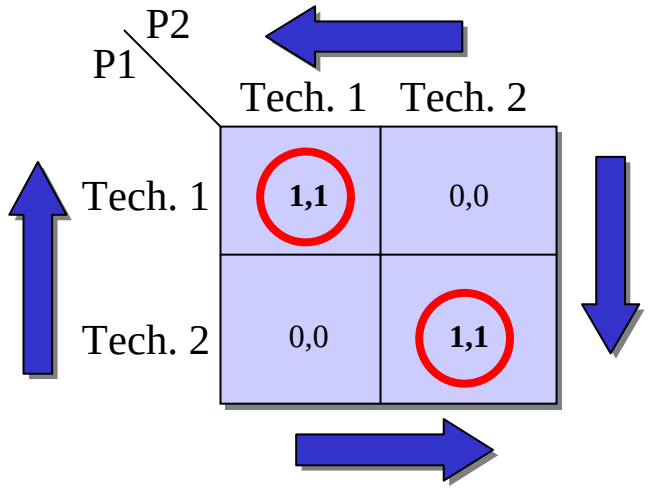
Two-Player Nash Equilibrium: Examples in Mobile Industry

New service roll-out decision
(first mover advantage)



One Nash Equilibrium

Technology choice decision
(network effect in interconnect)



Two Nash Equilibriums

Game Theory

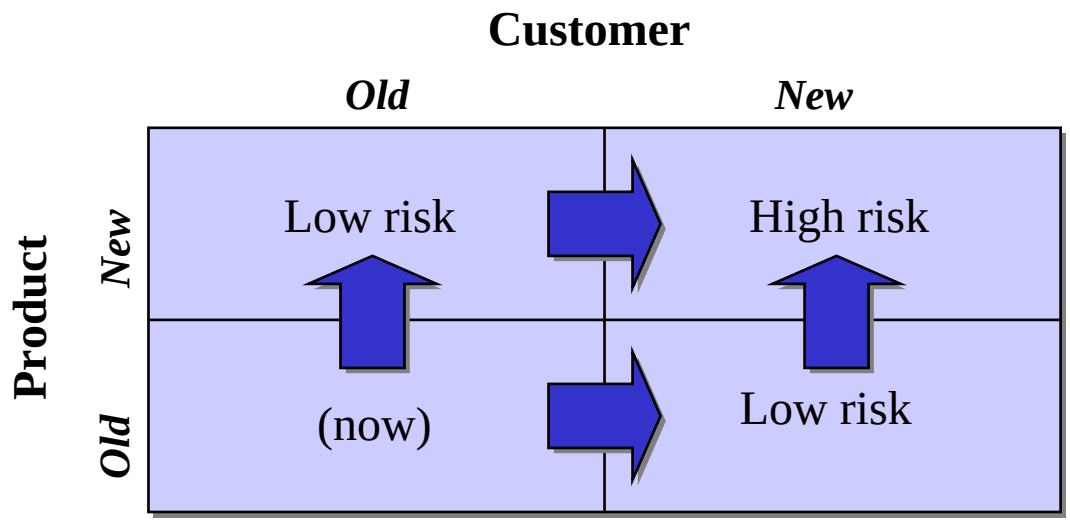
Models for a small number of players

- Bertrand model for one-step competition (ref. MOB game)
  - **price** as a strategic variable (prices posted at the same time)
  - quantities selected by customers preferring cheaper
  - minimum of all the firms' prices determines market price
- Cournot model for one-step competition
  - **quantity** as a strategic variable (quantities posted at the same time)
  - market price depends on and adjusts for the market quantity
  - all quantity sold at the same price
- Stackelberg model for two-step competition
  - players post quantity/price one after another
  - leadership

Modeling remains simplistic from the practical telecom viewpoint!

Market Entry Strategies

Incumbent's desire for risk control

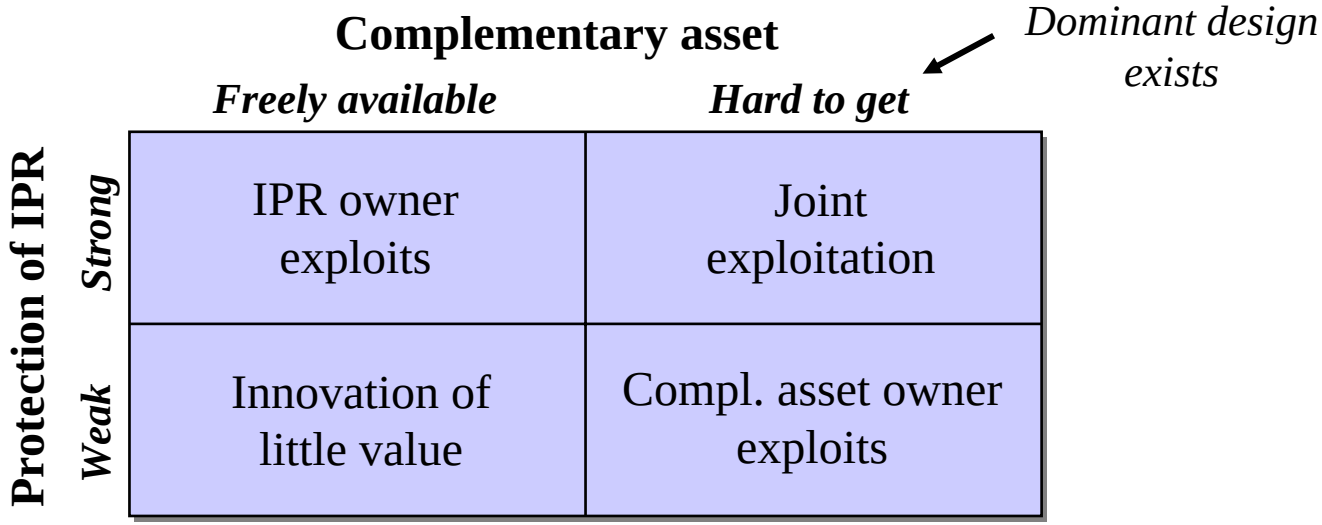


- Incumbent has more to lose ⇒ often takes limited risks only
- New product category and new customer segment involve risks
- "One risk at a time" helps managing risks
- Sometimes competitive time pressure forces taking both risks at the same time

Source: Teece, 2001 (modified)

Market Entry Strategies

Innovator's need for complementary assets



- Complementary assets turn an innovation into commercial success (e.g. browser war between Netscape and Microsoft)
- Innovator should as early as possible
  - identify the required complementary assets (e.g. sales channel, technology)
  - identify toughest competition: imitators vs. complementary asset owners
  - define strategy with respect to complementary assets
  - in case of "too heavy" innovation ⇒ sell IPR immediately

Source: Teece, 2001 (modified)

Market Entry Strategies

Example: Mobile Virtual Network Operator

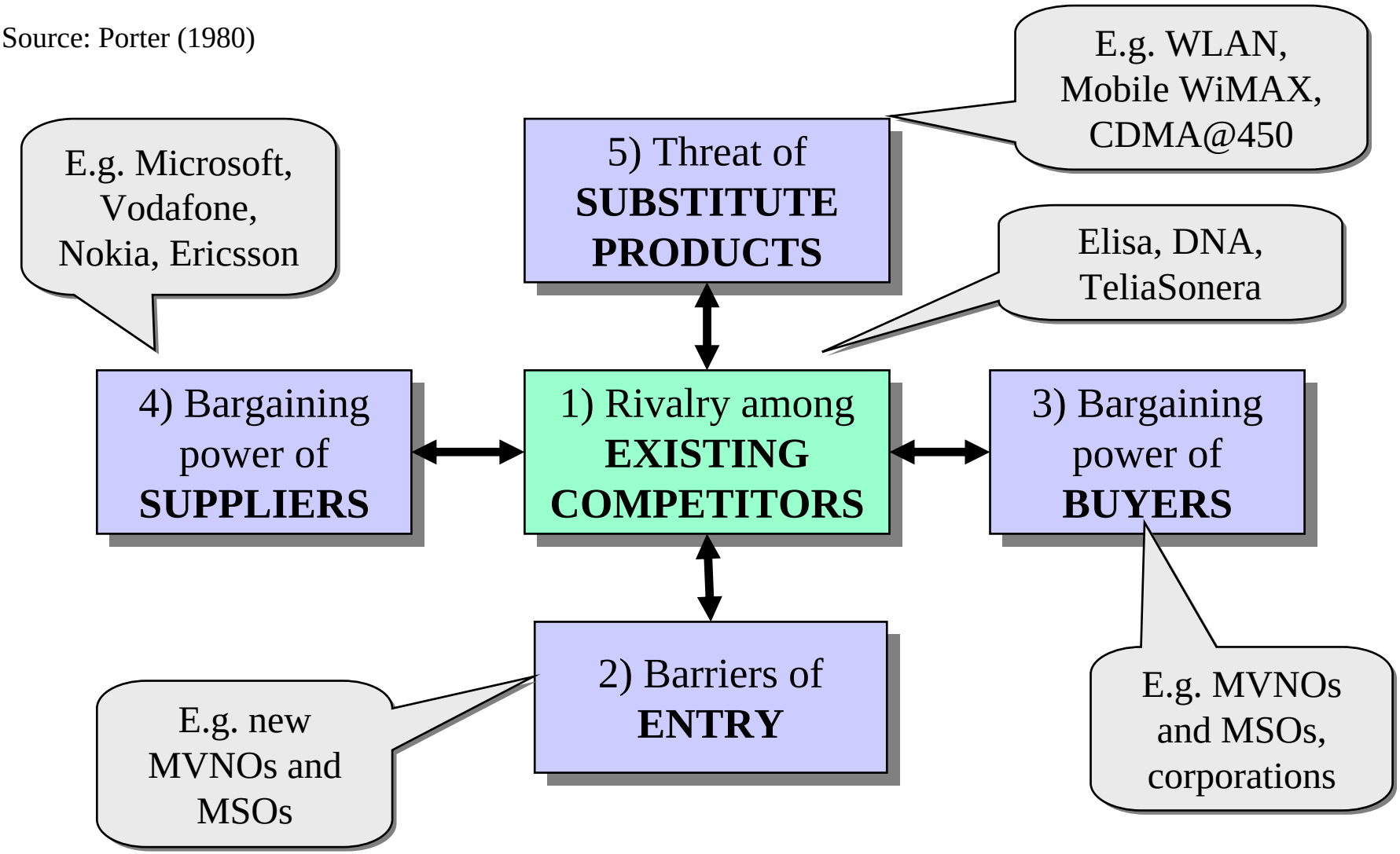
	Price	Focus	Differentiate	Reselling	Clustering
Source of roaming contracts	Local MNO	Local MNO	Local MNO	Self	Foreign MNO
Source of service platforms	Local MNO	Local MNO	Self	Self	Foreign MNO
Importance of content partners	Low	Low	High	Low	High
Importance of new services	Low	Medium	High	Medium	High
Importance of own brand	Medium	High	High	Low	High
Feasible number of subscribers	High	Low	Low/medium	High	Medium
Feasible ARPU	Low	High	High	Low	Medium
Typical initial target segment	Students	Minorities	Early adopters	Other MVNO	Business users

Kiiski & Hämmäinen, 2004
(http://www.netlab.tkk.fi/tutkimus/lead/leaddocs/KiiskiHammainen_MVNO.pdf)

Porter's 5 Forces

Cellular packet data operators in Finland

Source: Porter (1980)



Porter's 5 Forces

1) Rivalry among existing operators

Key factors:

1. Lack of differentiation or switching costs (e.g. number portability.) Now MS-SIM bundling.
2. High exit barriers (e.g. difficulty of mergers)
3. Capacity augmented in large increments (e.g. high cost of site visits $\Rightarrow$ few visits $\Rightarrow$ large increments)
4. Slow industry growth (e.g. mature market in Finland)
5. High strategic states (e.g. foreign alliances)
6. High fixed or storage costs
7. Numerous or equally balanced competitors

Porter's 5 Forces

2) Barriers of Entry

Key factors:

1. Government policy (e.g. number and conditions of licenses)
2. Capital requirements (e.g. cost of radio coverage)
3. Economies of scale (e.g. cost of service platform)
4. Switching cost of customers (reduced by number portability)
5. Access to distribution channels (operator-specific retail)
6. Product differentiation (only for new value-added services)
7. Cost disadvantages independent of scales
   - favorable locations (BTS towers)
   - learning curve (competent staff)
   - (proprietary)
   - (favorable access to raw materials)
   - (government subsidies)

Porter's 5 Forces

3) Bargaining power of buyers

Key factors:

1. Products are standard or undifferentiated (e.g. cellular packet data is turning into a bulk product)
2. Buyer purchases are a significant portion of the buyer's total costs (e.g. MNO is a large portion of MVNOs/MSOs budget)
3. Buyer purchases large volumes relative to the seller's sales
4. Buyer has full information
5. Buyer faces few switching costs (e.g. MVNO/MSO has difficulty in changing MNO)
6. Product is unimportant to the quality of the buyers' products or services (e.g. cellular packet data radio capacity is important to MVNO/MSO)

Porter's 5 Forces

4) Bargaining power of suppliers

Key factors:

1. Few suppliers (e.g. few cellular data infra suppliers)
2. The supplier group's products are differentiated or it has built up switching costs (e.g. cellular data infra switching cost is high)
3. Supplier's product is an important input to the buyers business (e.g. cellular data infra is important)
4. Industry is not an important customer of the supplier group (e.g. cellular data operators are important to infra suppliers)
5. The supplier group poses a credible threat of forward integration
6. Not obliged to contend with other substituted products

Porter's 5 Forces

5) Threat of substitute products

Key factors:

1. Substitute products
   - Mobile: e.g. WLAN, WiMAX, CDMA@450
   - Fixed: e.g. xDSL
2. Cheaper access to mobile data services and mobile Internet (e.g. WLAN)
3. Pricing of substitute product very aggressive
4. Is the mobile handset good enough terminal for accessing data and Internet?
5. Switching costs (e.g. handsets)