Success Factors for European Leadership in Mobile Communications

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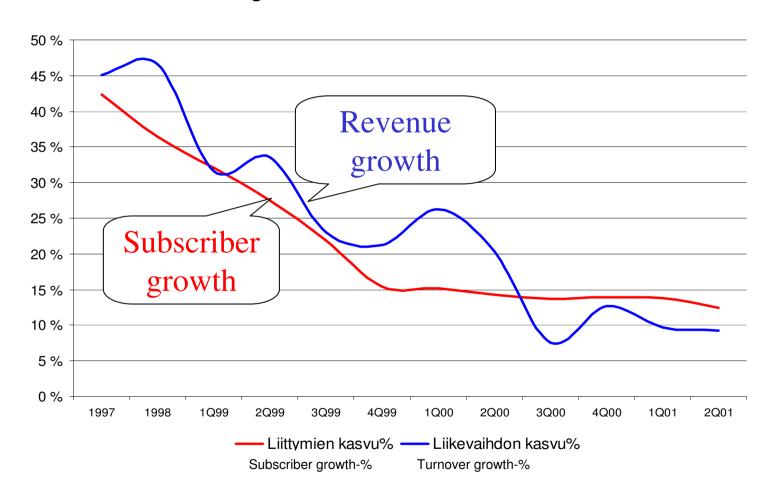
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Changes in mobile market structure

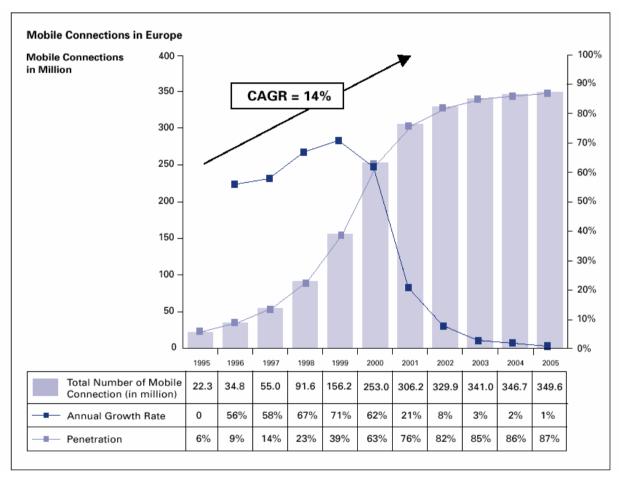
- Traditional mobile market is saturating
- Mobile market growth will be 5-12%, like in any "normal" industry
- Competition is increasing, incumbents are forced to make some room to entrants
- Market structure and roles are getting more complex

Approaching "normal" business growth rates

Annual growth rate of Finnish mobile market

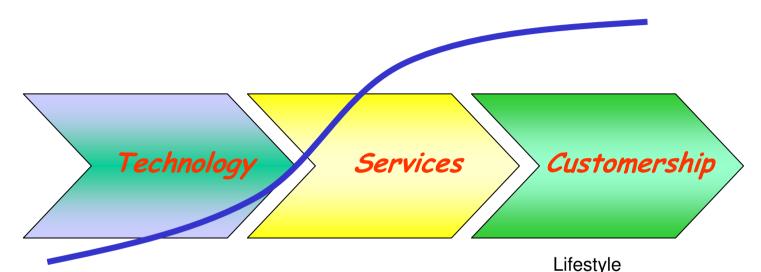


Saturation approaches in all of Europe



Source: Durlacher/Eqviteq UMTS Report 2000

Business model evolution is a major success factor in a "normal growth" market



Functionality
Features
One-size-fits-all
Mass market

Standard defines the service

Solutions
Applications
Generic segmentation
Mass customisation

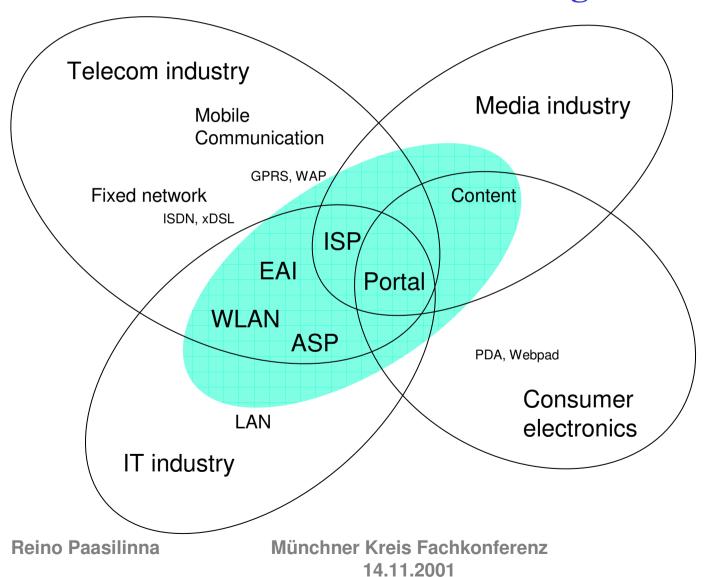
Operator defines the service

Processes
One-to-one-segmentation
Niche markets

Differentiation

Customer defines the service

Convergent marketplace increasingly important - but still loss-making



Europe vs. USA and Japan: 2G mobile

Europe

- Europe-wide harmonised standard and harmonised radio spectrum.
- Resulted in the great global success of GSM.

Japan

- National standards on PDC and PHS on national spectrum.
- Spectrum foreseen to become congested around 2002.

• USA

- Multistandard solutions on ITU 3G spectrum via auctions.
- Resulted in loss of economy of scale and delay in creation of mass markets.

Europe vs. USA and Japan: 3G mobile

Europe

- Strong focus on UMTS standardisation and harmonising spectrum.
- Resulting in UMTS to be the global IMT2000 standard on ITU spectrum available.

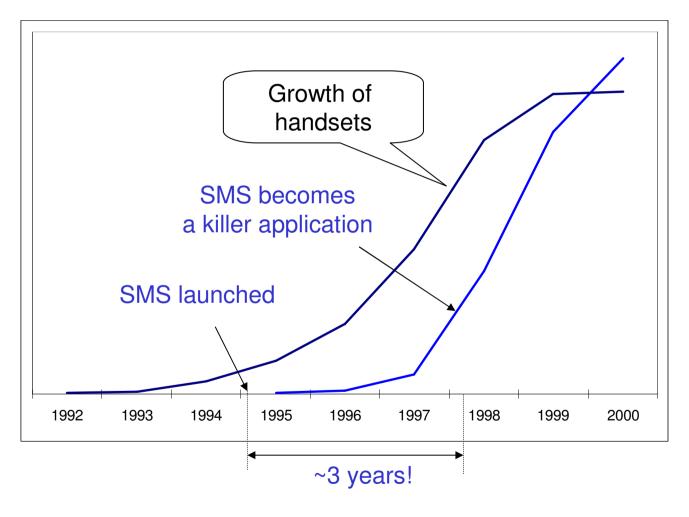
Japan

- Efforts to take 3G lead overseas based on de-facto ARIB-standard.
- Resulted in the first commercial 3G service launch in the world on October 1, 2001.

• USA

- Delays, partly because 3G spectrum not available before 2004 and partly because of competing standards situation (cdma2000 and W-CDMA)
- Results in delays and operators now focusing on GSM EDGE "3G solution".

Miracles take time - if they occur at all

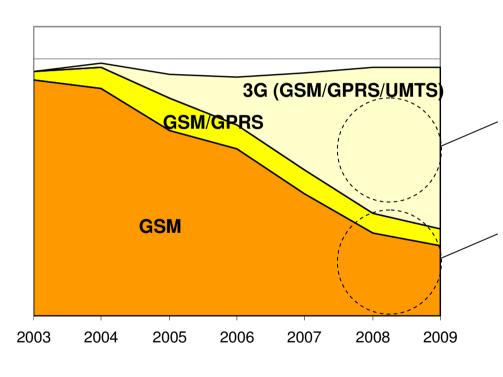


SMS made its breakthrough in a high growth phase, where handset base renewed quickly.

And it still took some time!

"3G" does not guarantee network-based business growth

Subscriber Forecast



Even though most of the subscribers are regarded as "3G" subscribers, large part of their ARPU is still based on 2-2,5G networks ("backbone")

Heavy investments should be placed on 3G, but operator should still maintain 2-2,5G investments Result: double investments but not significant increase is expected in ARPU during first years.

Source: Radiolinja

Some strategic issues

Timing

- commercial availability of network technologies and terminals
- optimisation of network and IT investments

Renewability

 how quickly the critical "technical" mass is achieved (terminal base upgrade)

Customer acceptance

- influence of macroeconomy in renewability
- willingness to adopt (and pay for) new services

Role of the operator changes, partnerships will increase

- Mobile operator will no longer dominate the service value chain. There is a strong pressure to decrease protectionism and to open up interfaces to different kind of partners
 - "Telia is content distributor, not content provider. We can of course cooperate with content providers." Marianne Nivert, CEO, Telia (Taloussanomat 19.10.2001)

Shift in mobile industry paradigm is imminent

Yesterday

- growth market (subscriber growth 30-100+% p.a.)
- new terminal generation with new features every 18 months, sales targeted to newcomers
- new terminals and new services penetrate market instantly (wide community of potential users encourage services usage)

Today & tomorrow

- mature market (subscriber growth 0-15% p.a.)
- new terminal generation with new features every 12-18 months, sales should be targeted to existing customers
- new terminals and new services penetrate market slowly. Customers get cautious (enhanced by declining macroeconomic atmosphere) against increasing pressure to invest new terminals => terminal change is delayed

Regulatory climate to catalyse success

- Light, supportive regulatory regime
- No new obligations, i.e. existing legislation sufficient
- No auction that money is out of investments (delay in roll-out)
- Moderate spectrum fees to cover regulators' real costs only

Finnish mobile market specifics

- High mobile penetration
 - 3,5 M subs out of 5 M inhabitants (~75%)
- High internet access penetration
- High SMS usage
 - 1 billion SMS messages in 2000
- Technology-aware consumers
- High adaptation of new services
- One of the lowest priced markets
- Still, ARPU EUR 50...60 per month



Perhaps most competitive mobile market

Case Finland: 3G licensing regime

Basis

- National Committee to prepare the UMTS introduction for Finland
- Early action to ensure good success possibilities for the industry and to benefit the users

Light and transparent Licensing Regime

- Comparative bidding
- Licenses free of charge with moderate frequency fees
- No coverage obligations (left for market to decide)
- National 3G/3G roaming based on commercial contracts
- National 3G/2G roaming: prefer contracts, but regulated (conditions)
- Other rights & obligations in the regulations not in the Licenses
 - Multiple objectives & criteria defined in Telecommunications <u>Market</u> Act and Competition Act

First UMTS licenses in the world

- 18 March 1999 four licenses granted in Finland to:
 - Radiolinja
 - Sonera
 - Suomen 3gee
 - Telia Mobile
- No special criteria for 3G mobile network license applicants
 - No Roll-out or Coverage or Investment obligations (...but to follow applications)
 - Facilities and Infrastructure sharing on commercial basis
 - obligations in special cases
- A clear signal The industry and the users to begin service by 1.1.2002
- No auction all available money to investments benefiting the industry and end users

Conclusions

- We might see the future, but it is changing all the time. Delays in technology and terminals cause uncertainties.
- Even fundamentals may change.
- Regulators should carefully consider their actions.
- "Traditional" mobile operator business is now mature business. Sources for new significant rapid growth are still undiscovered.
- New services won't penetrate as quickly as earlier due to slow relative renewal of the terminal base.
- Terminal replacement speed may still be slowing down.
- Convergent marketplace is promising but business models are somewhat blurred. Role of a mobile operator is definitely changing closer to the customer.