
Business models of mobile operators 2.0

45 min + 20 min Q&A

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Accomplishments and arguments in the mobile context

I was the first person in the world to argue – on an academic level, that

- Email will become a killer application in mobile
- The SMS is a barrier to mobile growth
- The business model of mobile operators is inefficient and mobile will migrate **toward** flat rate pricing models.

=> Hence the title business models of mobile operators 2.0, However note that change is not limited to the operators

Central to my arguments is a new understanding (a new paradigm) which,

- Is built on the latest findings of several scientific disciplines and focuses on networking
- Will question our traditional understanding of communication.

Japan's success with the mobile Internet and path dependence.

- The context in Japan was different and it was possible for the Japanese to make rational choices, which in the western context would have been irrational.
 - ❑ The Japanese did not have a messaging media in their mobile => in 1999 they chose email to all handsets (all of the population)
 - ❑ The Japanese did not have a SIM => content billing was built on a monthly flat rate business model
- Scientific grounding
 - ❑ Path dependence
http://en.wikipedia.org/wiki/Path_dependence
 - ❑ Bounded rationality
http://en.wikipedia.org/wiki/Bounded_rationality
 - ❑ Herbert Simon, Nobel prize winner in economics
http://en.wikipedia.org/wiki/Herbert_Simon



Is the world digital? – the difficulty of change!

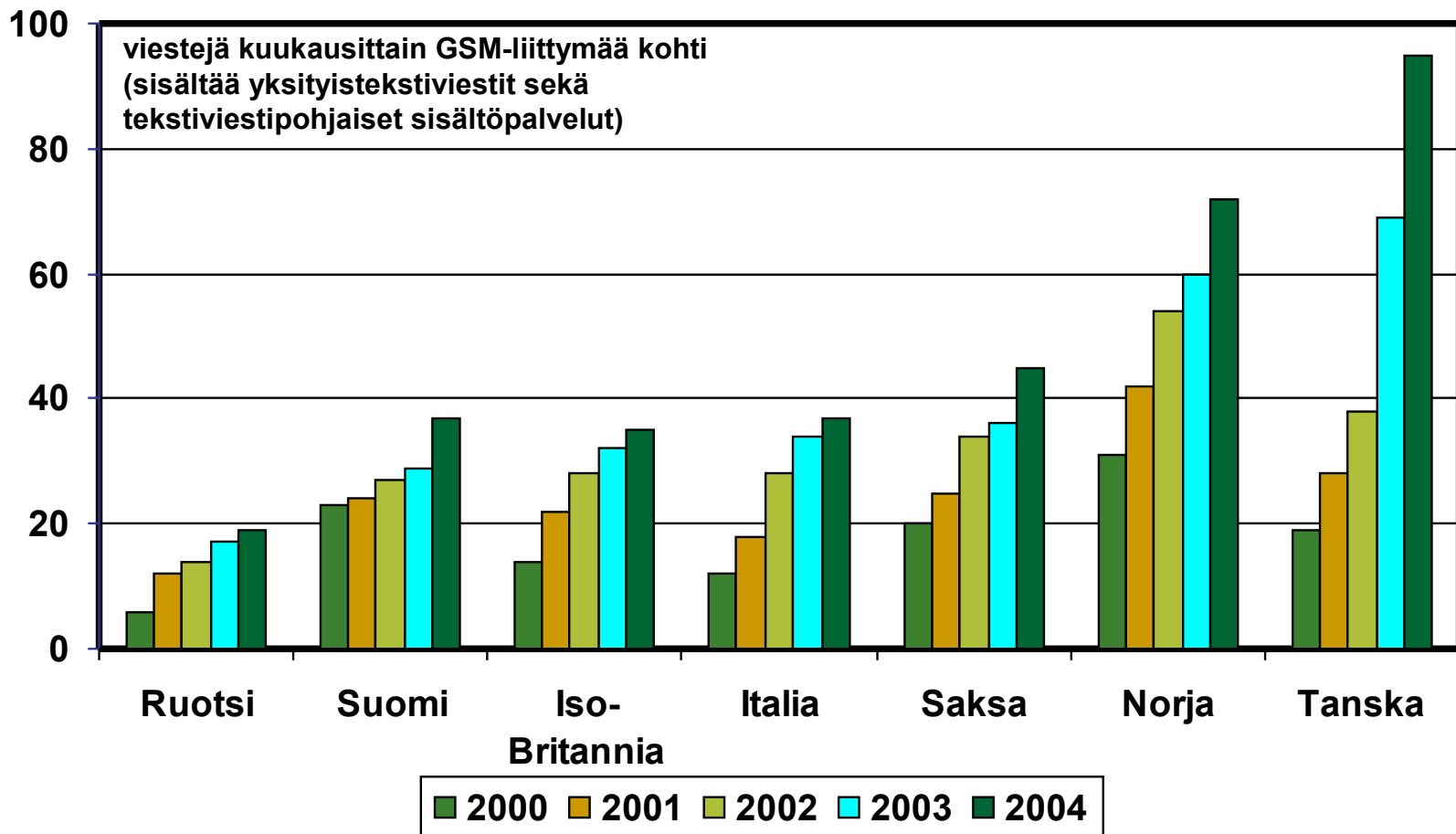
- The central property of the Internet is not that it is digital nor the fact that it is built using ip protocols. The central property of the Internet is in it's scale free structure. This structure exists in nature and outside of the virtual world.
- Try change! Replace the word "digital" with some other word. We have benefitted so much from the "digital" that we dare not ask if there is something better, that we might - in the future - profit from!
 - Book: Who Moved My Cheese
http://en.wikipedia.org/wiki/Who_Moved_My_Cheese
 - Book: How Revolutionary was the digital revolution? Stanford University press 2006, ed. Zysman, Newman

Western Union did not see the importance of the telephone. Is it possible that we might not understand the relevance of the Internet?

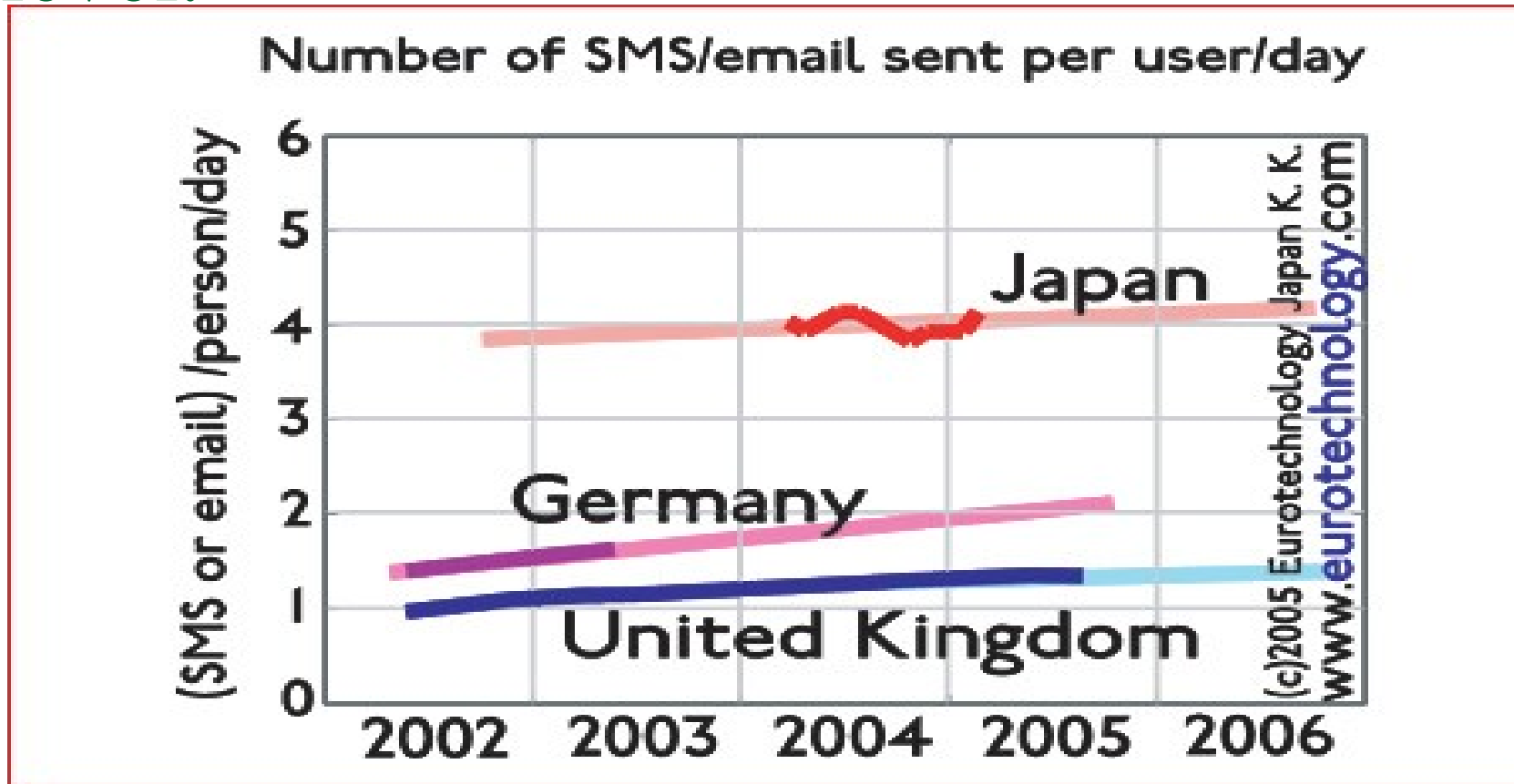
- Clayton Christensen (Harvard): "Innovators dilemma" and "Seeing what's next". The fate of Western Union:
 - Processes, resources and values encouraged in investing in present customers (long distance telegraph)
 - The phone in its early stage was a short distance media
 - Western Union saw, that the phones's performance in long distance connections was improving, but they continued investing in the present
 - When the future of the phone was clear, it was too late for Western Union.
-

The SMS Connects people inefficiently(?)!

The popularity of the SMS in some countries – how would you challenge this?



Simple! Look into Japan, it is at a different level.



- Change is difficult. We still continue to measure the amount of SMS messages. Why do we not measure the amount of email, instant messaging etc?

How to question SMS? – Challenge the core perceived strengths of the SMS

■ People love the SMS

- Tell me, what part of the SMS protocol do you love? Conclusion: people do not love the SMS, people love text based messaging and its immediacy. This need can be fulfilled with e.g. email, instant messaging etc.

■ Over 2 billion (2 000 000 000) SMS messages are sent daily. You can not change that – its like the Betamax/VHS – case, an established standard will not change

- True I am locked in! If you have SMS (only), I can only communicate with you with SMS (network externality).
- One can allways build gateways. Technically this has been possible for years.
- The operator's business model does not benefit from a gateway. One should get the income from the sender of the email. Note! In the US (some operators) the receiver pays also for incomming SMS => this logic makes the gateway a business case and profitable to the operator.

■ Will email, challenge, SMS and MMS?

=> yes Internet will be available on the mobile => I agree, tell me then, what has the SMS got to do with the Internet – nothing! What about the MMS?



The key difference is to focus on the deviation not on the average!

- We have measured averages, but communication is not about averages!
 - Key to communication is the deviation! Focus on the ends. Look for the super communicators! How many phone numbers have you got on your phone? How many messages do you send per day to how many people? The Internet revolution makes it possible for the individual to take (not equal to replace) the position of traditional mass media (e.g. radio television)
 - Communication is about how information spreads in a network and how efficiently (speed and coverage). For this reason we have to look into mathematics (the new science of networks)
-

The secret of the mobile internet is in its structure!

- Hypothesis:

The mobile internet has contained no elements, which network efficiently (in a scale free sense). By adding elements, which network efficiently (e.g. mobile email, WLAN, browsers, search engines, flat rate tariffs) success can be achieved. (Ville Saarikoski, PhD thesis December 2006)

Paradigm change made easy

- Is this fair?:
 - Grandma pays 25 Euroa for a megabyte broadband Internet connection and uses it for the occasional email and browsing.
 - The teenage boy – the grand son -, plays, shares photo's, downloads programmes, listens to music, views video's etc. The usage is perhaps 10 000 or 100 000 fold
- The secret is in the structure. **The ability to create structure can be given to anyone, anywhere in the network. Flat rate pricing simply increases the probability, that anyone, anywhere might become a super communicator, a super node!**
- Therefore the migration toward flat rate pricing models are inevitable also in mobile
 - Some of the first trials with flat rate led to miss use (the operators felt it was miss use), user experience (e.g. in international data roaming) continue to lead to excessive bills, which leads to awareness and non use. Nevertheless the market is migrating **toward** packaging and flat rate.

How the latest discoveries in several disciplines of Science supports these arguments

Paradigm change in networking (mathematics and the problem of SIX degrees)

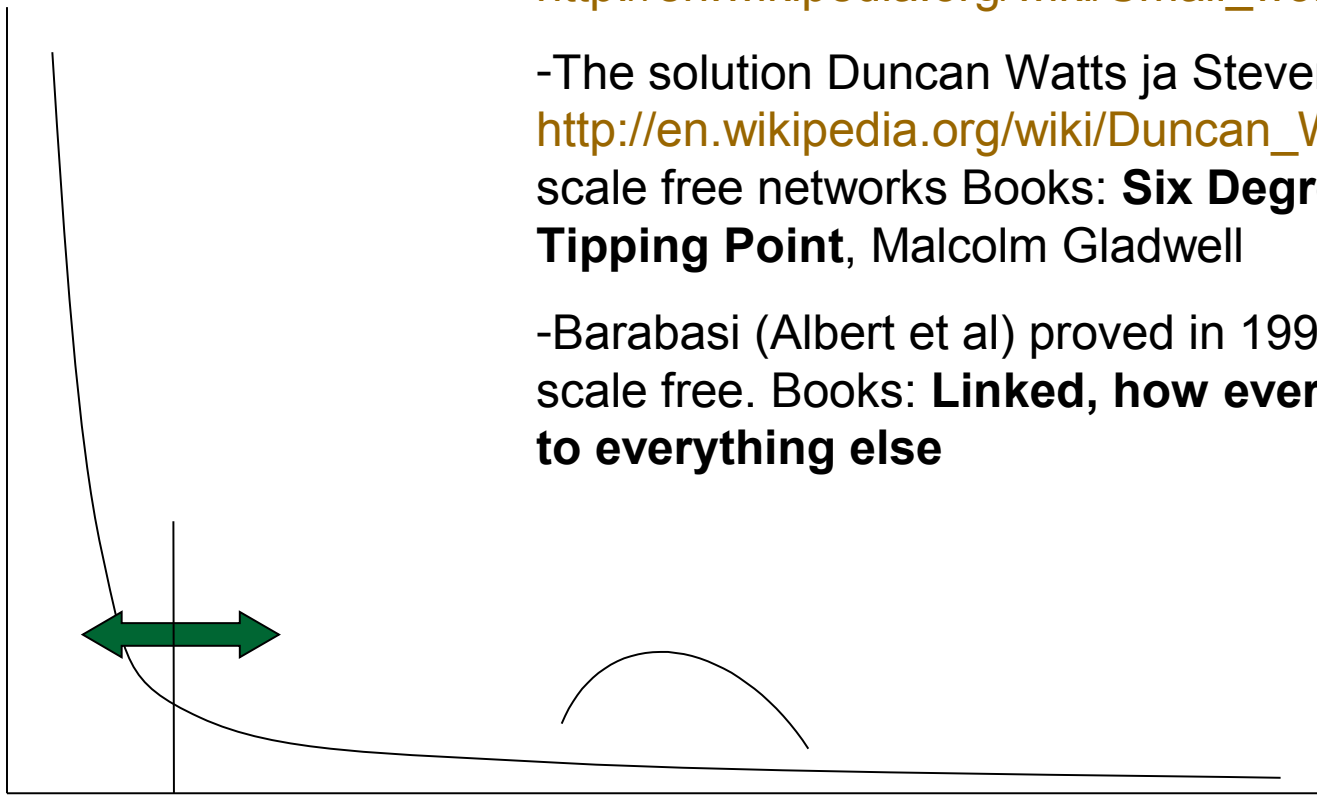
- Milgramin “small world” test in the 1970’s

http://en.wikipedia.org/wiki/Small_world_experiment

- The solution Duncan Watts ja Steven Strogatz

http://en.wikipedia.org/wiki/Duncan_Watts , self organized , scale free networks Books: **Six Degrees**, Duncan Watts and **Tipping Point**, Malcolm Gladwell

- Barabasi (Albert et al) proved in 1999, that the Internet is scale free. Books: **Linked, how everything is connected to everything else**



Spinning the Web from an individual node

LinkedIn: Your Network - Mozilla Firefox

Tiedosto Suojakaa Näytä Sivuhistoria Kirjanmerkit Työkalut Ohje

http://www.linkedin.com/network2trk=nh_network_all

Alotussivu Uutisotk

Connections	Count
1 Your Connections Your trusted friends and colleagues	6
2 Two degrees away Friends of friends; each connected to one of your connections	300+
3 Three degrees away Reach these users through a friend and one of their friends	27,300+
Total users you can contact through an Introduction	27,700+

27,704 new people in your network since November 9

The LinkedIn Network

The total of all LinkedIn users, who can be contacted directly through InMail.

Total users you can [contact directly](#) — [try a search now!](#)

9,000,000+

More About Your Network

REGIONAL ACCESS

Top locations in your network:

Percentage	Location
30%	1. Finland
11%	2. United Kingdom
8%	3. San Francisco Bay Area
4%	4. Netherlands
3%	5. France

Your region: **Finland**; 8,400+ users

Your connections are in 1 location, but your network gives you access to **263 additional locations**, including:

- Greater New York City Area
- India
- Greater Seattle Area

Since November 9, your network **has expanded** to include these locations:

- United Kingdom
- San Francisco Bay Area
- Netherlands

Fastest growing location your network:

- Finland (8399 new)
- United Kingdom (3014)
- San Francisco Bay Area (2215 new)

INDUSTRY ACCESS

Top Industries in your network:

Percentage	Industry
18%	1. Telecommunications
14%	2. Information Technology Services
10%	3. Computer Software
6%	4. Management Consulting
4%	5. Wireless

Valmis

Käynnistä Saapuneet - Microsof... LinkedIn: Your Netwo... esitelmiä tulevat ja pl...

Start February (?) 2007

Present situation September 14 2007

LinkedIn: Your Network - Windows Internet Explorer

http://www.linkedin.com/network2trk=nh_network_all

File Edit View Favorites Tools Help

myglobalsearch Failed to retrieve buttons from MyGlobalSearch. Retry

delicio.us TAG

LinkedIn: Your Network

Welcome, ville [Sign Out]

Account & Settings | Inbox | Expand Your Network

Home People Jobs & Hiring Services Answers My Profile My Contacts

Keyword Search Name Search Reference Search Your Network

Search People Enter keyword, name, company or title Go Advanced Search

Your Network

Here you see statistics about your network, including how many users you can reach through your connections. Your network grows every time you add a connection — [Invite connections now](#).

Your Network of Trusted Professionals

You are at the center of your network. Your connections can introduce you to 696,500+ professionals — here's how your network breaks down:

Connections	Count
1 Your Connections Your trusted friends and colleagues	131
2 Two degrees away Friends of friends; each connected to one of your connections	8,800+
3 Three degrees away Reach these users through a friend and one of their friends	687,500+
Total users you can contact through an Introduction	696,500+

7,448 new people in your network since September 11

The LinkedIn Network

The total of all LinkedIn users, who can be contacted directly through InMail.

Total users you can [contact directly](#) — [try a search now!](#)

14,000,000+

More About Your Network

REGIONAL ACCESS

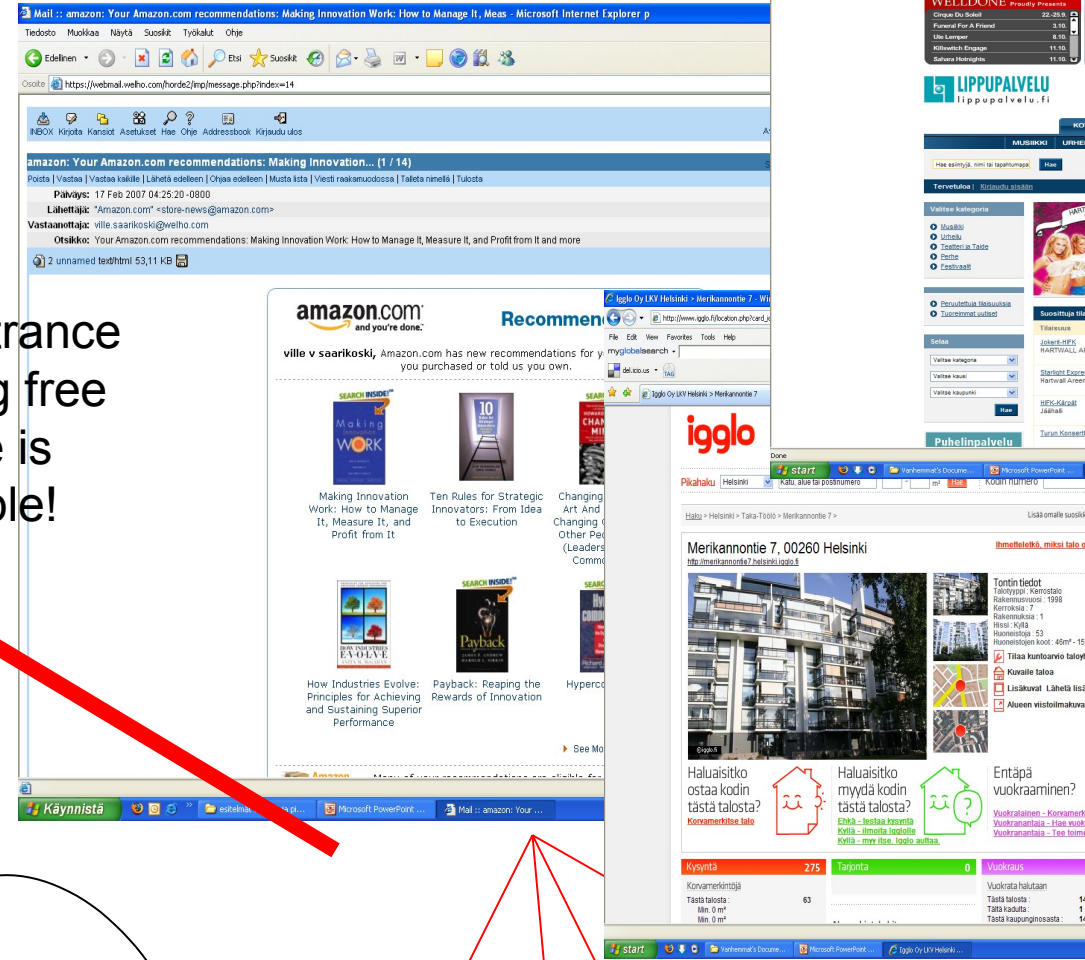
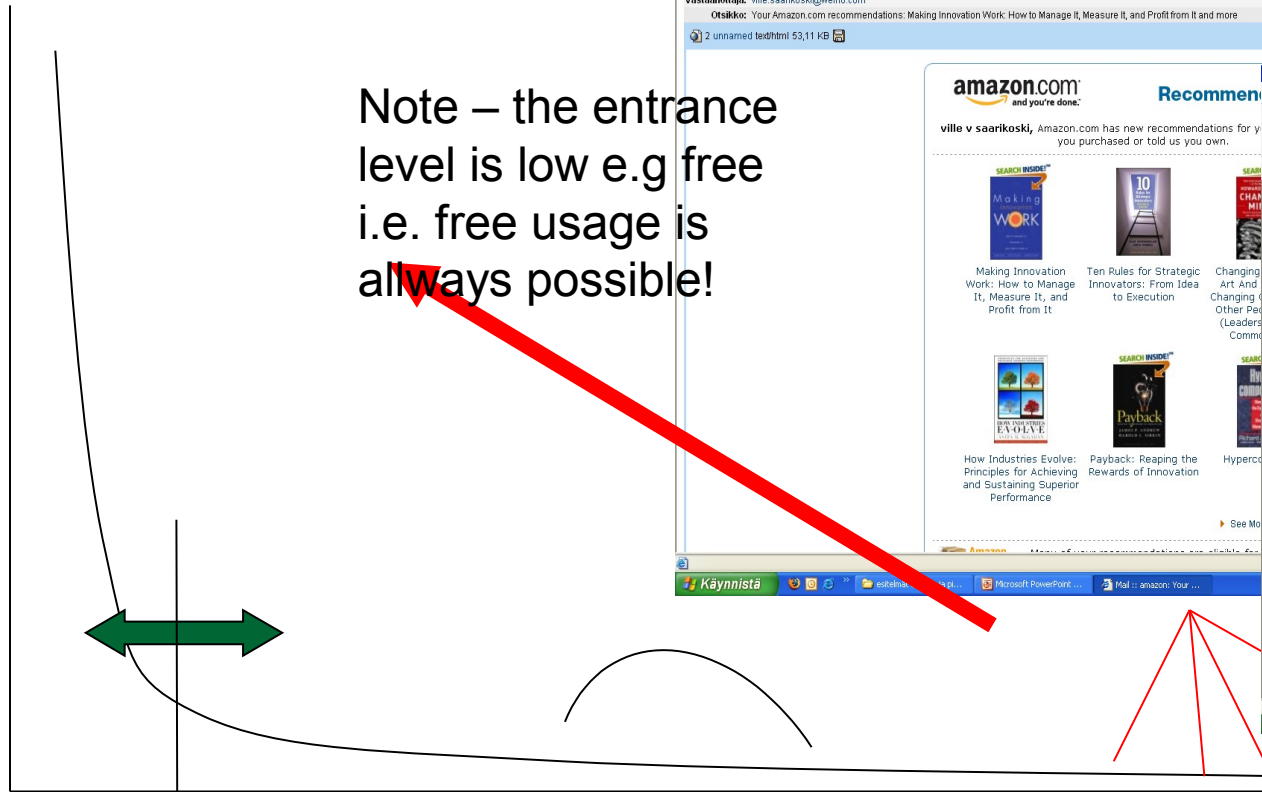
12% 1. San Francisco Bay Area

Done Internet 100%

www.linkedin.com

Create scale free communities and a business model on top – also into the mobile environment

Mobile 2.0 (operator and manufacturer) Connect the mobile into scale free environments (applications and network layer)



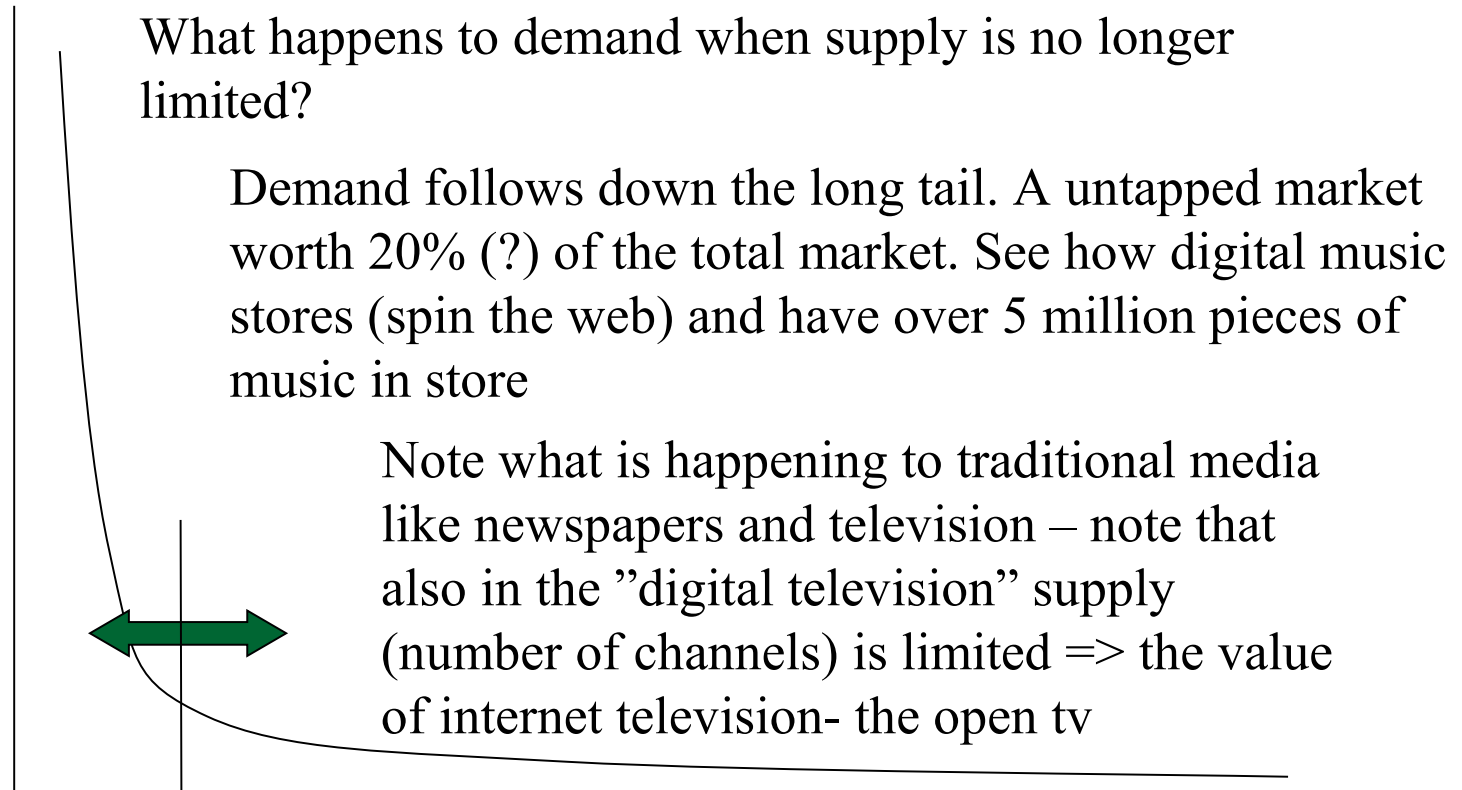
Note on the network layer open wlan's, potential in Europe 70 million ADSL (Fon <http://www.fon.com/en/>, openSpark <http://www.sparknet.fi/>)



Note the speed and scalability of scale free networks

Added: October 18, 2008
From [700123Boy](#)
to 700123Boy
Category [Music](#)
Tags [Kirkka](#) [Hengalloon](#) [Eurovision 1994](#) [more](#)
Embed: `<object width="426" height="350"><param name="`
Playlists
All Videos
The singing "Hengalloon"
02:38
Kirkka - Hengalloon
02:33
From [700123Boy](#)
Views: 8523
Now Playing
Finland 1994
02:34
From [Hengalloon](#)
Views: 583

Paradigm change in networking explained with an economic rationale – Chris Andersson The Long Tail - book



- ▶ 70s/80s Pop
- ▶ Alt/Modern Rock
- ▶ Ambient
- ▶ Americana
- ▶ Blues
- ▶ Classic Rock

Classical (19 ishetystä)

- ▶ 1 FM - Otto's Baroque Music
- ▶ 1 FM - Otto's Classical Music
- ▶ Classic FM
- ▶ Classical Guitar on Sky.fm
- ▶ Classical Guitar on Sky.fm
- ▶ Classical WGBH 89.7 - HD2
- ▶ ClassicalMusicAmerica
- ▶ IranianRadio.com - Traditional
- ▶ Magnature Classical
- ▶ Mostly Classical on Sky.fm
- ▶ Mostly Classical on Sky.fm
- ▶ radioClassical
- ▶ radioClassical
- ▶ radioClassical
- ▶ WCFE
- ▶ Whisperings
- ▶ Whisperings
- ▶ FAIRadio.net 2
- ▶ Mademera.fm

▶ Country

▶ Ectec

▶ Electronica

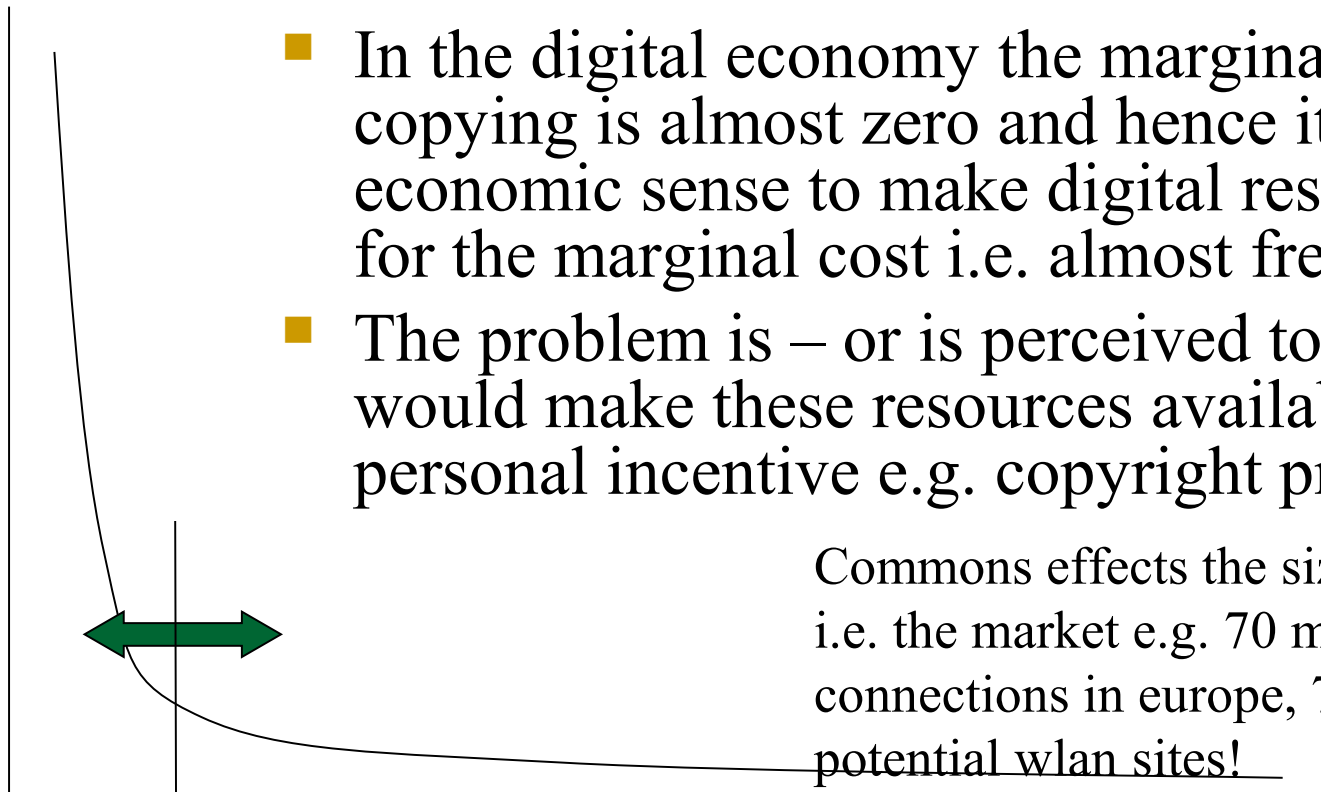
- 128 kb/s Classical Baroque
- 128 kb/s Otto's Classical selection
- 96 kb/s 24/7 light classical (popular) music choice.
- 128 kb/s A mix of Classical, Spanish, and Flamenco guitar...
- 24 kb/s A mix of Classical, Spanish, and Flamenco guitar...
- 128 kb/s WGBH Classical HD
- 56 kb/s Since 2000, unique & relaxing!
- 128 kb/s Persian Traditional Music (Sonati)
- 128 kb/s Renaissance and baroque - direct from the art...
- 128 kb/s Relax... it's good for you!
- 24 kb/s Relax... it's good for you!
- 128 kb/s Cutting-edge mix of modern classical with your ...
- 64 kb/s Cutting-edge mix of modern classical with your ...
- 32 kb/s Cutting-edge mix of modern classical with your ...
- 96 kb/s The Classical Station - commercial free, 24 hour...
- 64 kb/s Solo Piano Radio - Music to Quiet Your World
- 56 kb/s Solo Piano Radio - Music to Quiet Your World
- 32 kb/s An instrumental journey of new age, piano, an...
- 64 kb/s Mix of 20th Century classical, Jazz and Ambient

What happens to demand when supply is not limited (Economics, Andersson)?

Why is the curve a Long Tail?
(Mathematics, Strogatz, Watts, Barabasi –
spinning the web from an individual node

How do you influence the size of the market
(the Long Tail)? Is the phenomenon local,
national or global?

The Dilemma of the commons (Lawrence Lessig) – in Finnish ”Jokamiehen oikeus” (every mans right) ”luo resurssiniittyjä” (create resource fields)



- In the digital economy the marginal price of copying is almost zero and hence it makes economic sense to make digital resources available for the marginal cost i.e. almost free
- The problem is – or is perceived to be in: who would make these resources available if there is no personal incentive e.g. copyright protection

Commons effects the size of the axis
i.e. the market e.g. 70 million adsl
connections in europe, 70 million
potential wlan sites!

A paradigm change in networking – explained with a rationale of Law

- Some recent reorganisations of rights
 - Creative Commons, restructuring of copyright Lawrence Lessig. Copy left instead of copyright
 - Number portability
 - Non licensed frequencies (WLAN)

Yochai Benkler, Some economics of wireless communications. Harvard law of Technology Volume 16 Number 1 Fall 2002
 - One might conclude that as technology develops further some resources can be placed into a commons to achieve efficiency at the level of society
 - Yochai Benkler comments “Sharing and shared efforts become more feasible, because of developments in technology” (compare with open source and the availability of distributed computing power) *The Wealth of Networks: How Social Production Transforms Markets and Freedom*
-



The new paradigm – networking in the information economy

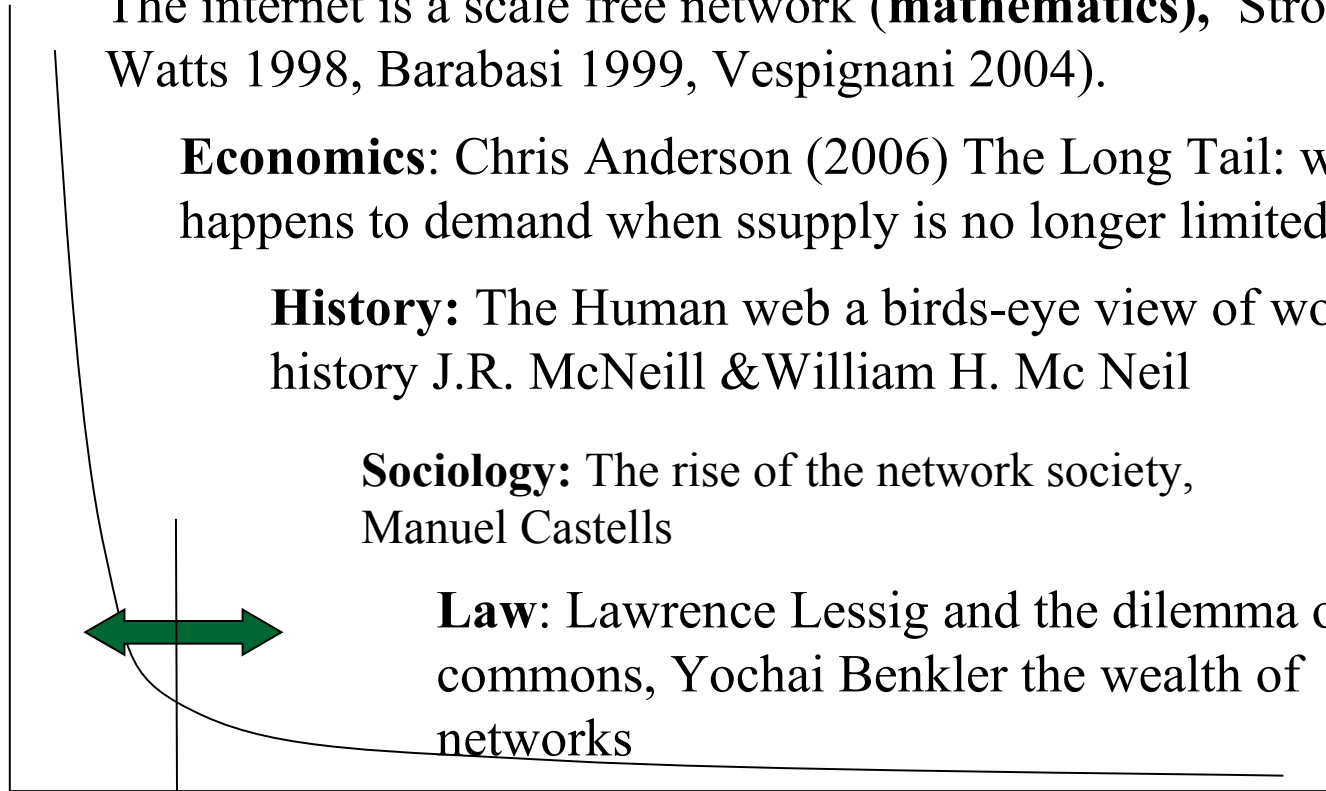
The internet is a scale free network (**mathematics**), Strogatz, Watts 1998, Barabasi 1999, Vespignani 2004).

Economics: Chris Anderson (2006) The Long Tail: what happens to demand when supply is no longer limited?

History: The Human web a birds-eye view of world history J.R. McNeill & William H. Mc Neil

Sociology: The rise of the network society, Manuel Castells

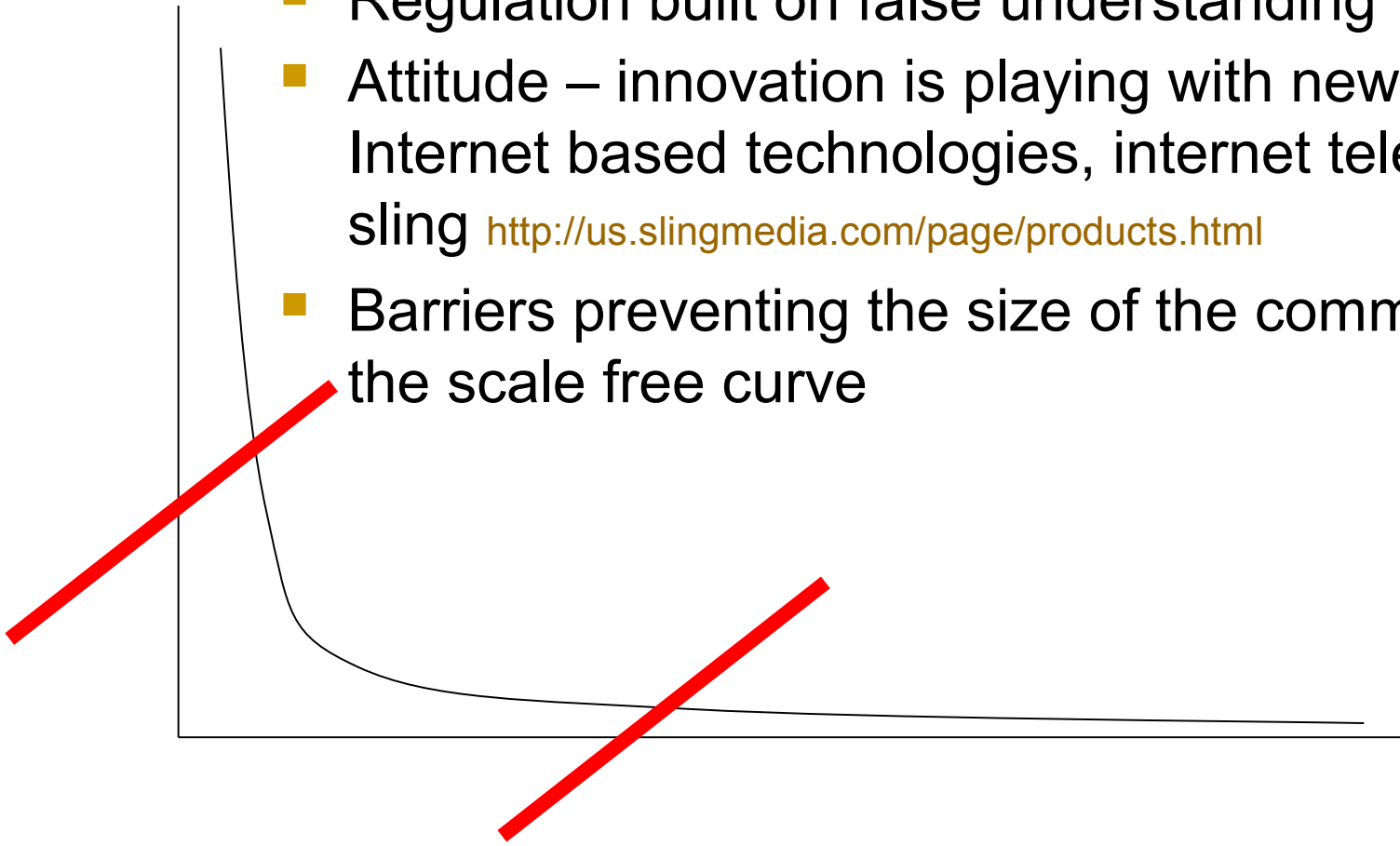
Law: Lawrence Lessig and the dilemma of the commons, Yochai Benkler the wealth of networks



Identifying barriers

Barriers

- Lack of understanding
- Regulation built on false understanding
- Attitude – innovation is playing with new ideas, eg. Internet based technologies, internet television, see sling <http://us.slingmedia.com/page/products.html>
- Barriers preventing the size of the commons or cutting the scale free curve



Example of barriers

- Already 6 million SMS based tram tickets have been sold in Helsinki see www.plusdial.fi
 - But not a single one to a foreigner (The SMS relies on the numbering of the home network building e.g. panEuropean services is not that easy)

Thank You!

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