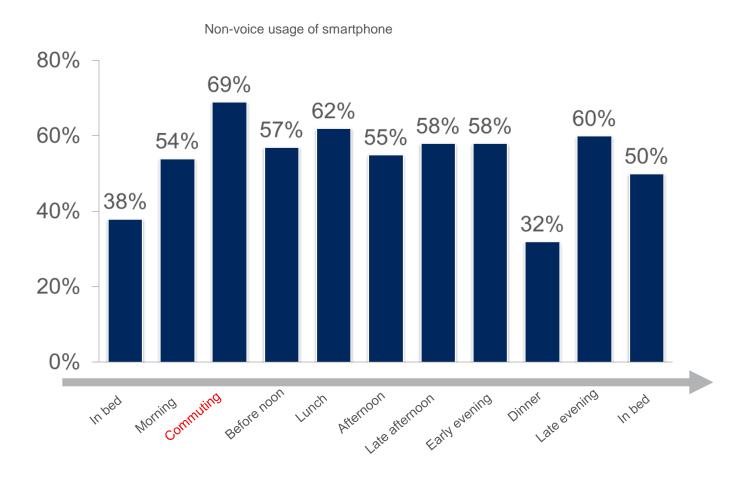


MOBILE BROADBAND A GROWTH ENGINE

Greger Blennerud
Head of marketing – mobile broadband
Business unit networks

STICKY USAGE PATTERN





158 MILLION SOLD IN Q2





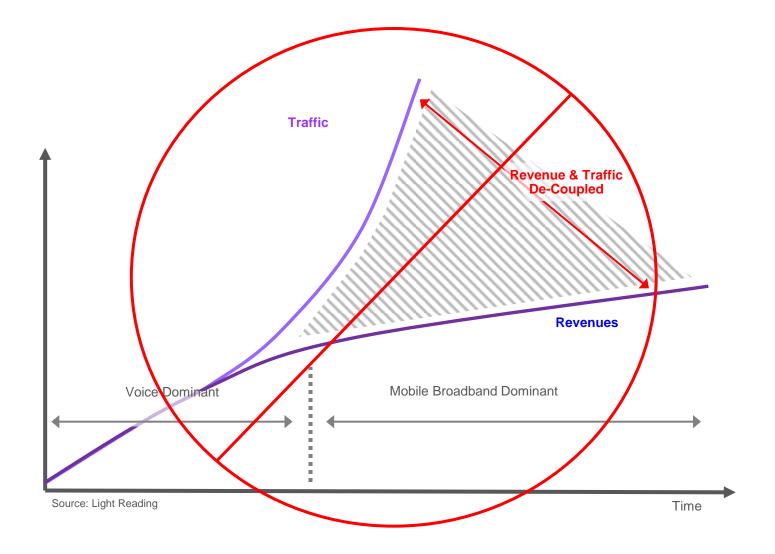




YOY

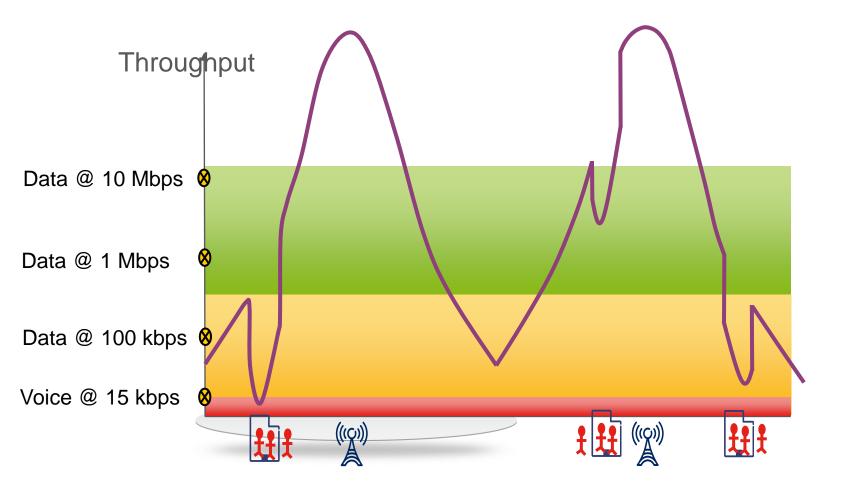
MYTH OR A REAL ISSUE??





COVERAGE AND PERFORMANCE VARIATIONS





IMPLICATIONS FROM RADIO BASICS



Signal strength measure: Decibel (dB). Doubling the signal strength equals an increase with 3 dB, x4 equals 3 + 3 = 6 dB, x8 equals 3 + 3 = 9 dB etc

Rule 1: Power and spectrum are the limiting resources, linking coverage and capacity

Rule 2: To double the throughput you need to double the received signal strength

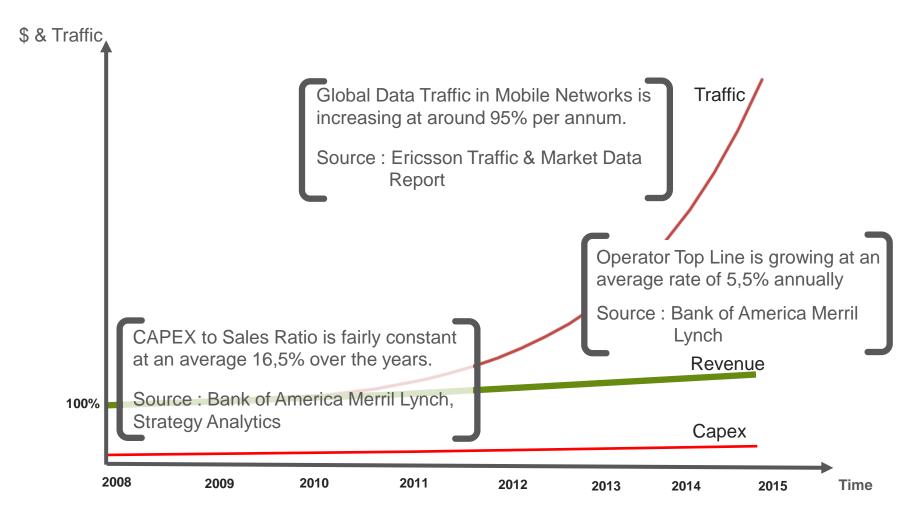
Rule 3: To get 10 Mbps downlink you need at least 1 Mbps uplink (and vice versa)

Rule 4: Double the number of sites and you gain 6 dB

Example calculation: MBB with uplink of 10 Mbps and downlink of 1 Mbps "everywhere" requires x8 more base station than voice @ same coverage.

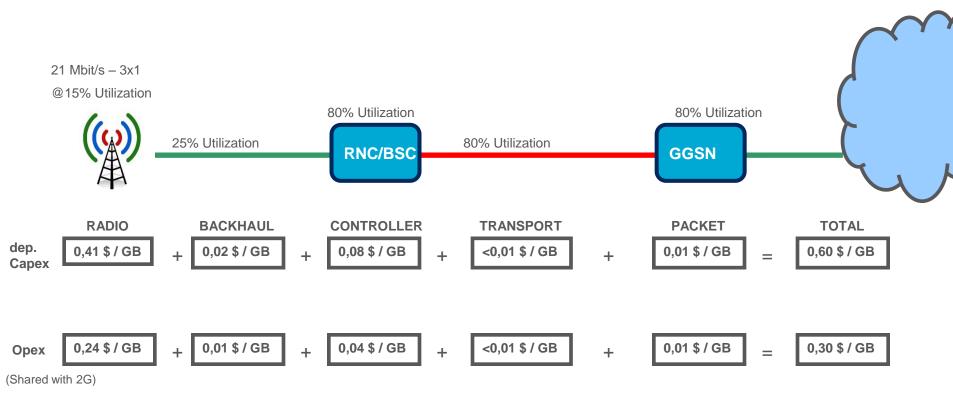
NO MYTH, FACTS





Cost to Revenue Gap indicate growing margins

FULLY ALLOCATED NW COST

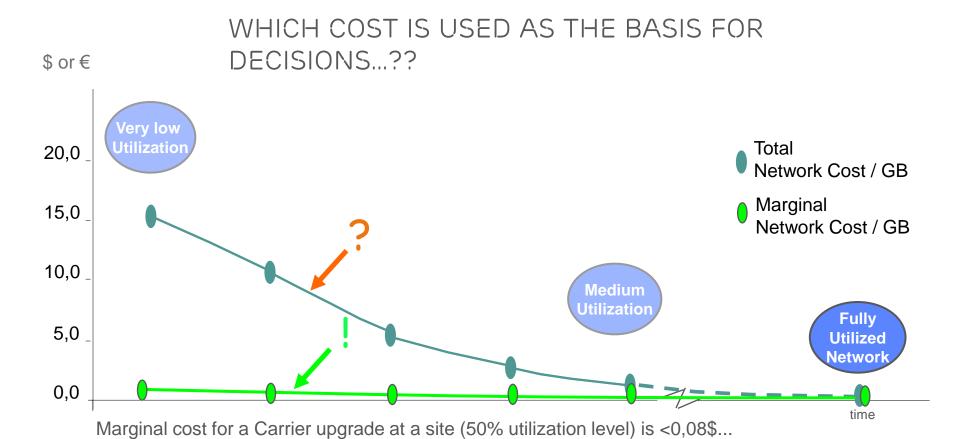


SUM <1 \$ / GB

Entire shared 2G/3G network, opex and dep. capex ends up below 1\$ per GB in a network with an average of

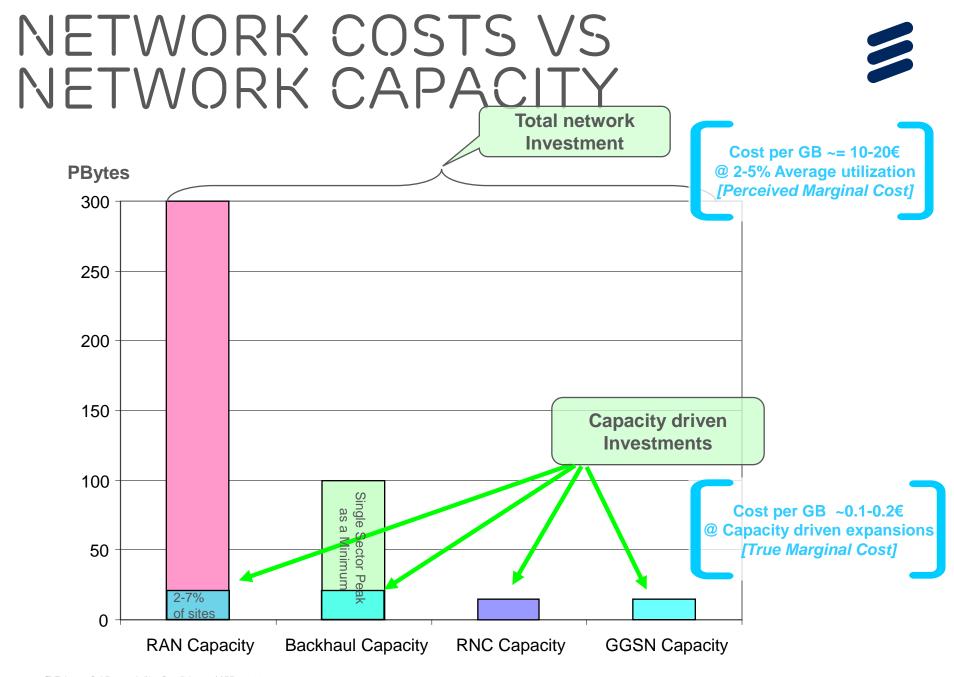
TOTAL VS MARGINAL COST?





Total NW cost per GB is useful as a benchmark... "At what level will I meet my target EBITDA"

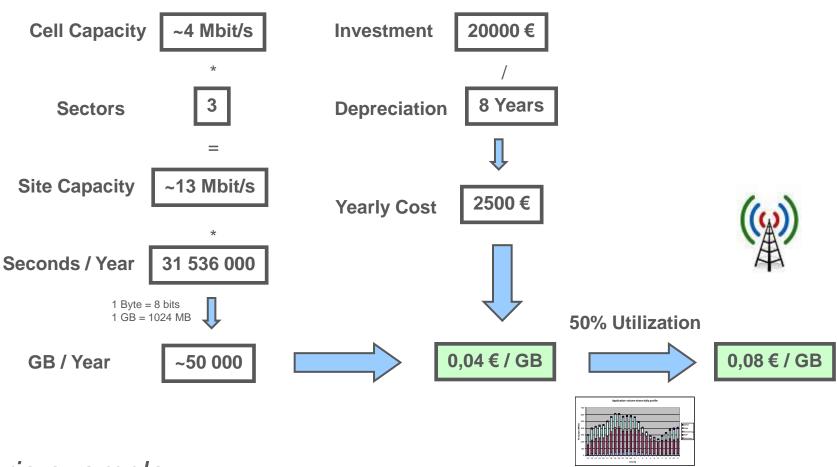
=> Over all objective... FILL UP THE PIPE!!



COST CALCULATION

MARGINAL COST @ 7.2 MBIT/S - CARRIER UPGRADE





Generic example

COPING WITH TRAFFIC



- Step 1: Add carrier on site (using existing available spectrum)
- Step 2: Improve spectrum efficiency (e.g. 7.2 Mbps to 21 Mbps) requires updates in terminal fleet...
- Step 3: Use additional spectrum if available
- Step 4: Increase network density, "Cell Splitting"
 - Sectorization (3 -> 4,5 or 6 sectors)
 - Add Macro site
 - Add small Cell(s) where required HetNet
 - Add "free capacity" from WiFi if available Needs control mechanism

WORST CASE situation... Example:

New Site Build 100,000€ (@ 25 years) = 4000€ per year

Full Macro Cabinet 80,000€ (@ 8 years) = 10000€ per year

Assuming only 2 sectors really required * 3 carriers * 7 Mbps = 42 Mbps. CAPEX Cost per GB at 50% load is < 0,18€

The REAL issue is finding the site....!!

MEETING THE CHALLENGES 5



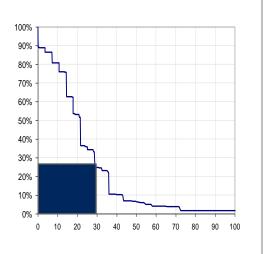


Approximately 3 small cells per Macro Site In Urban environment

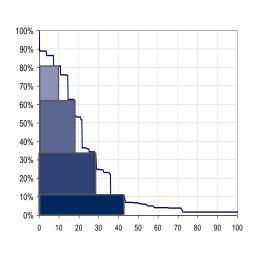
THE OPPORTUNITY!



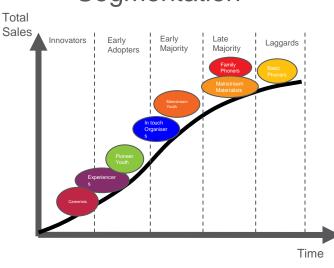




Tiered Pricing



Segmentation

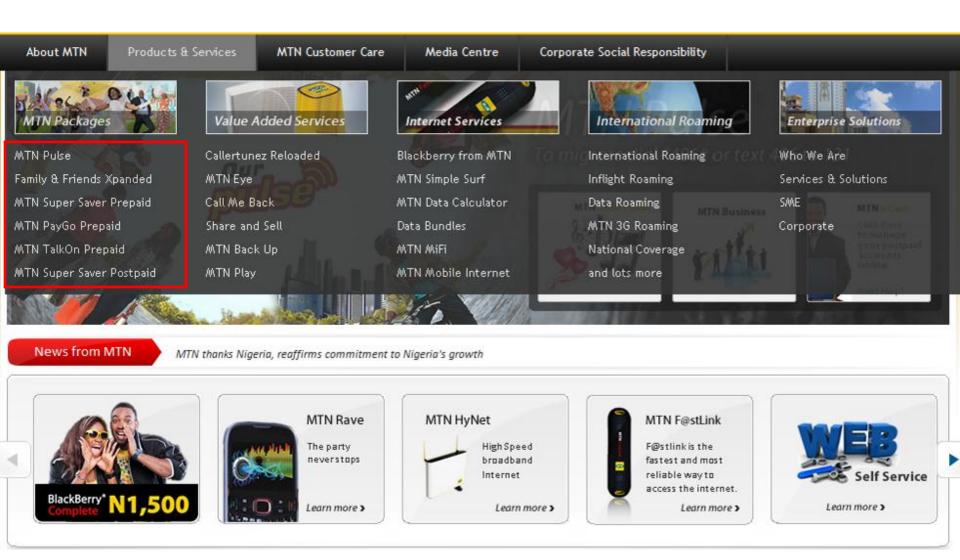


* Consumer Lab: Segmentation Model

^{*} Consumer Lab: Price Elasticity

SEGMENTATION





SEGMENT EXAMPLE





What is MTN Pulse



The MTN Pulse tariff plan has been specially designed to help you satisfy your need to stand out in the world. With MTN Pulse, you will be on the cutting edge of modern telecommunications and can enjoy a world of FUN, CREATIVITY and FREEDOM.



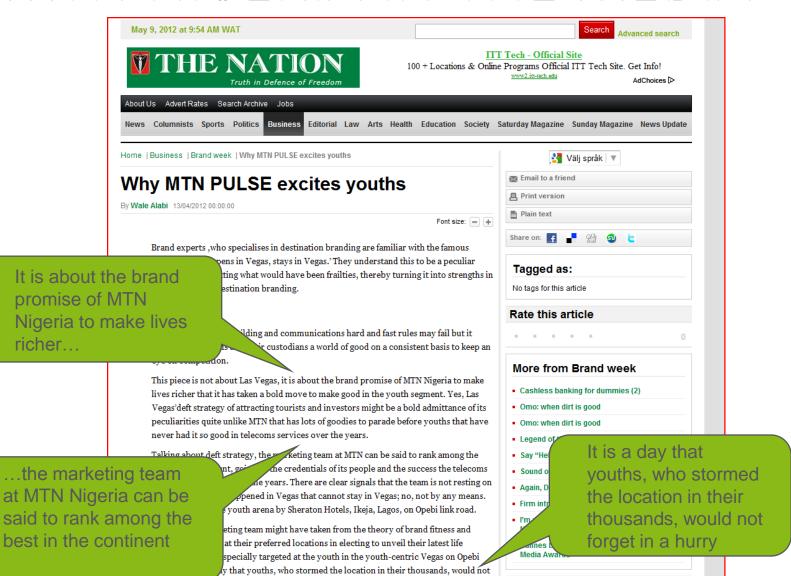




MTN Products & Services MTN Packages MTN Pulse MTN Family & Friends Xpanded MTN Super Saver Prepaid MTN Super Saver Postpaid MTN PayGo MTN TalkOn MTN Bundles MTN Happy Hour Value Added Services Internet Services International Roaming **Enterprise Solutions** MTN Airtime Phones and Devices

MTN NIGERIA IN THE MEDIA





LONG TERM GROWTH REQUIRES INCREASING SHARE OF WALLET (&TIME)

Clearly communicated Value...



UNPLUG! MONETIZING DATA...





INCENTIVIST

Loyalty initiatives based on user behavior and experience



HERE & NOW

Proactive & ad hoc offerings based on time, place & situation



ONE-TRICK-PONY

Precise offerings that attract untapped segments to discover mobile broadband



ADD ON

More devices, services and alternative subscription models



MANAGEMENT

Capitalize on untapped needs in B2B



INVISIBLE

Winning in the Networked Society and M2M

UNPLUG! MONETIZING DATA...





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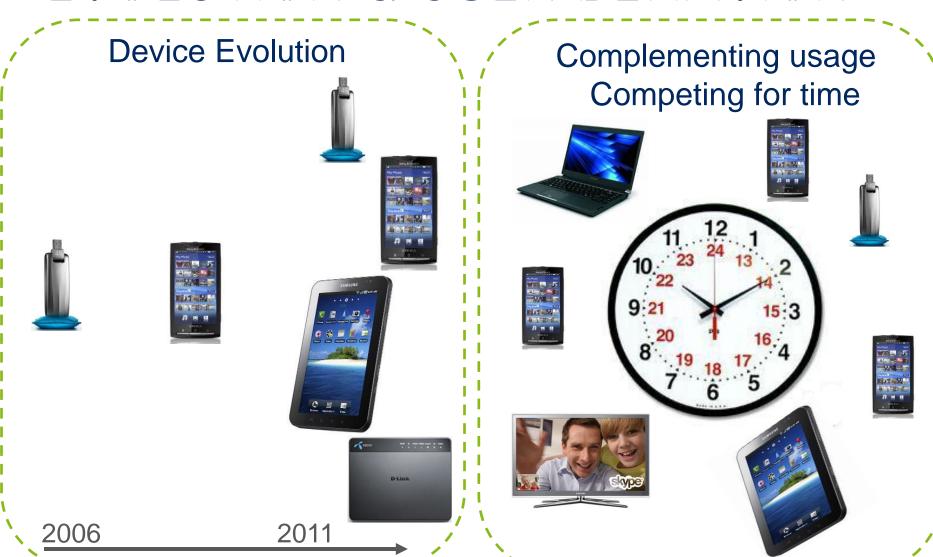
Capitalize on untapped needs in B2B



INVISIBLE

Winning in the Networked Society and M2M

ONE, TWO OR MORE SCREENS SEVOLUTION & USER BEHAVIOR



FOUR SCREENS AND CLOUD ECOSYSTEM













OS Platforms and Cloud tying devices and usage together

We are seeing a shift from one device to many devices connected together, anytime, anyplace











Owning the User "end 2 end"...



John Boynton
EVP and CMO, Rogers Communications

MY DEVICES: ROGERS EXAMPLE



Data Share Plan

- > Plan includes both data and voice
- Different post- paid options available
- One plan to connect up to five mobile devices by sharing data from mobile phone plan
- Option to add device cost \$11.93/device/month For example tablets, dongles, mobile hotspots and laptops could be added
- > Requires Voice plan, minimum 200 minutes

Plan	Minutes I	Minutes Included Data Included		
\$57.35/month±	200	1GB + Unlimited Social Networking to 7 Popular Sites5		
		Add an additional 1 GB for \$15/month		
© \$67.35/month±	300	1GB + Unlimited Social Networking to 7 Popular Sites5		
		Add an additional 1 GB for \$15/month		
Example: rogers.co	I	The second secon		

60% of people not owning a tablet agree that tablets will transform the way we live, work and play 42% plan to purchase a tablet within the next year 69% claim they take their tablet everywhere they go

(Rogers reported ARPU ~ \$62)

Source: rogers.com

SHARE EVERYTHING! VERIZON EXAMPLE



> Share Plan

- Users choose Device and Data plan
- Devices have separate monthly fee
- Mix with selection of data plan
- > Up to 10 devices

> Examples:

- > 2 SmartPhones + 6GB = 160\$/Month
- > SmartPhone + Tabet + 8GB = 140\$/Month

Source: rogers.com



Step 1	Step 2			
Monthly Line Access (per device)	Shared Minutes	Shared Messages	Shared Data	Monthly Account Access (shared with up to 10 devices)
Smartphones - \$40 Basic Phones - \$30 Jetpacks/USBs/ Notebooks/Netbooks - \$20 Tablets - \$10	Unlimited	Unlimited	1 GB	\$50
	Unlimited	Unlimited	2 GB	\$60
	Unlimited	Unlimited	4 GB	\$70
	Unlimited	Unlimited	6 GB	\$80
	Unlimited	Unlimited	8 GB	\$90
	Unlimited	Unlimited	10 GB	\$100

1-800 DATA



Is there a two sided way of paying?

- > Zero Rated Services
- Accessing premium content (video) that doesn't hit the cap Mobile operators get new revenue stream
- Partnerships enables preferential delivery –
 QoS functionality
- Netflix, HBO, Vudu, Spotify
- > Will regulators allow it?



"We are getting those phone calls. The content guys are asking for it "

- AT&T CEO Randall Stephenson

Shared Data	Monthly Account Access (shared with up to 10 devices)
1 GB	\$50
2 GB	\$60
4 GB	\$70
6 GB	\$80
8 GB	\$90
10 GB	\$100

Source: rogers.com

LTE FWT - TELE2 EXAMPLE



> Large Pro and 4G

- > Up to 32 or 80Mbps
- > 199 or 399SEK
- > 20GB or Unlimited

Fast or very fast?

Choose from Large Pro and 4G. With Large Pro, everyone in the office downloading files and working toward larger systems in the 32 Mbit / s - for only 79 SEK / month until the New Year. If you choose 4G do you pay also just 79 SEK / month until the New Year - and may use an unlimited amount of data for up to 80 Mbit / s A 4G router is part of both subscriptions and you can easily upgrade the Large Pro to 4G later.



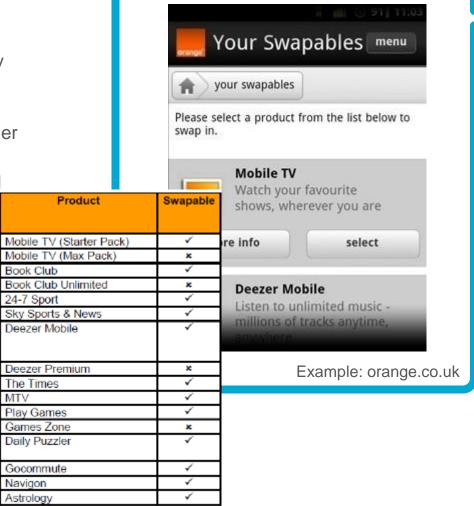
Source: tele2.se

MY SERVICES: ORANGE EXAMPLE



› Orange Swapables

- Total 12 Swapables today, but availability depends on the mobile phone model (Deezer, Sky Sports TV, The Times)
- 1 included in base packages (2 in panther package)
- Swapables can be chosen and changed every month
- Some Swapables are also available as add-ons in the price range £3-9.99 per month



Sources: orange.co.uk, mainline.uk.com

STC UP/CROSS SELL STRATEGY

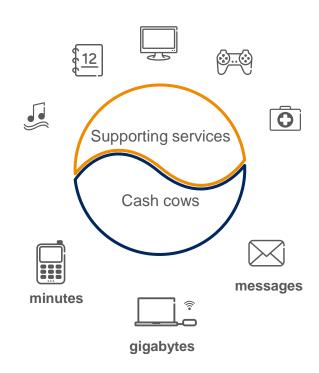


Strategy Detail:

 One-Stop-Shop: Attract customers to self-care portal where they can top-up MBB subscriptions and discover personalized offer for additional services. Upselling and Cross selling

> Benefits:

- Differentiate to competition on added value and customer experience instead of price
- MBB subscriptions self-care drives
 6M Users daily on STC Portal
- Expect 100 M€/year in extra revenue
- > STC Top Line growth 7,5%



STC SmartPhone ARPU nearly 3 times competition

SELLING AN EXPERIENCE





WHERE DO WE SPEND OUR MARKETING EFFORTS?



Communicating Value



Capturing Value



MONETIZING DATA...





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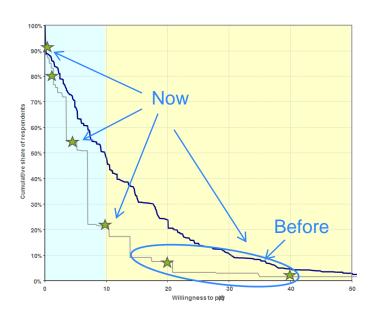


INVISIBLE

Winning in the Networked Society and M2M

TELKOMSEL, BEYOND TIERED PRICING





Approximately 40% of subscribers are on Social Networking Packages EBITDA level for this service is >60%, even Using Total NW Cost as the base.



- Social Networking Package
 - A selection of Social Media Networks are available for unlimited usage within package time frame.
 - Day, Week or Monthly prepaid packages
 - Works on ANY Data enabled phone
 - Separate option offering only NimBuzz access available for as little as 0,05€ per day.

DIFFERENTIATION TOOLBOX



How to differentiate

Maximum Bandwidth per user

Maximum Bandwidth per Application

LIMIT

Maximum Bit Rate for a bearer Throttling of specific applications

Per User admission priority

Throughput per User

PRIORITIZE

Resource admission via ARP Throughput control via THP

Guaranteed Bit Rate per Application

Minimum Bit Rate per User

GUARANTEE

Dedicated GBR Bearers Minimum Bit Rate scheduling

Content Optimization

Content Caching

ACCELERATE

CDN - Caching & Optimization

Enforcement – Handled e2e in the Network

DIFFERENTIATION TOOLBOX



How to differentiate

Maximum Bandwidth per user Maximum
Bandwidth
per Application

Per User admission priority

Throughput per User

Guaranteed Bit Rate per Application

Minimum Bit Rate per User

Content Optimization

Content Caching

Smartpipe Control

At Bearer establishment (static/dynamic)

Dedicated Bearers

At Bearer Modification

IP Flow Control

When to differentiate

Fair Usage Policy

Time

Location

Terminal type

Detected Service

User interaction

...

Enforcement

Negotiation

PACKAGE - SOCIAL NETWORKING



How to differentiate

Maximum Bandwidth per user Maximum
Bandwidth
per Application

Per User admission priority

Throughput per User

Guaranteed Bit Rate per Application

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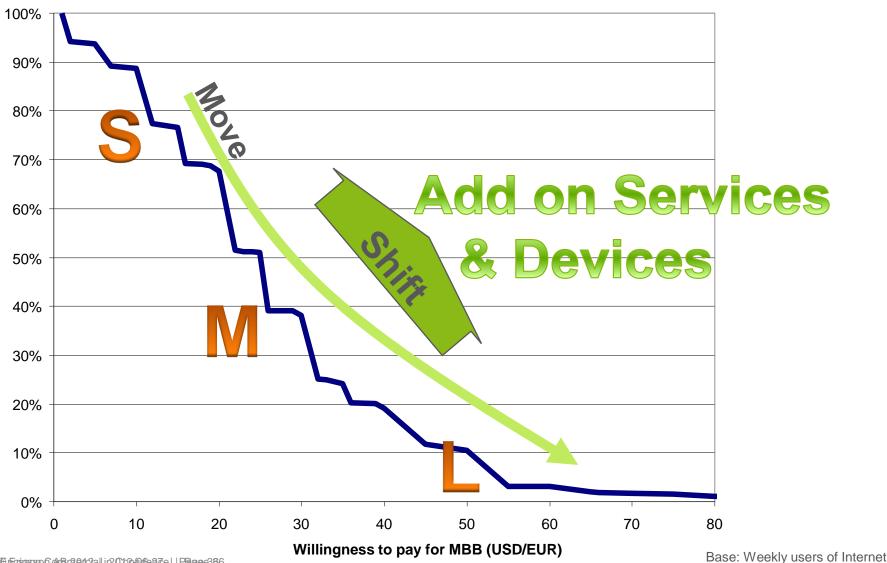
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Enforcement

Negotiation

PRICE POSITIONING... GENERATING LONG TERM GROWTH!







ERICSSON