

# Portability of names and numbers

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## Introduction

- Introduction
- Competition, portability and churn
- Number portability:
  - Fixed
  - Mobile
- Internet names and addresses
- Conclusions

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## Definitions

- **Number portability** is the ability or the means by which a user is able to retain their number while taking service from a different operator
- **Churn** is a measure of the rate at which customers change to another supplier

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## Fixed ladder of investment

- New entrants gradually build out networks:
  - international gateway
  - major exchanges
  - local exchanges
  - local loops
- They use Carrier Selection and Carrier Pre-Selection
- Eventually, they need access to numbers
- Number portability is essential to allow customers to keep their existing numbers

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## The value of numbers

- Only users create the value
- They propagate the numbers to:
  - customers and suppliers
  - colleagues
  - family
  - friends
- They generate the inbound traffic

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## Business customers

- Demand for number portability is high
- There is reluctance to switch providers without portability
- The potentially high costs of not porting numbers:
  - Reprinting business cards and other stationary
  - Repainting signage, vans and trucks
- Having to persuade people to change numbers in:
  - PDAs, mail packages, electronic diaries
  - databases
  - mobile phones

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## Special number ranges

- Specific codes are usually assigned for:
  - Toll-free or freephone (e.g., 1-800 in the North American area and 0800 in the UK)
  - Premium Rate (e.g., 1-900 in the USA and 900 in Germany)
  - Short codes
- The simplest solution is:
  - a central database
  - individual calls to the number are translated to a “real” telephone number
  - then the call is completed
- Number portability enhances the value of these numbers by making it possible for subscribers to move to other operators
- Competition drives down the cost and improves the quality of these services

## Number as tariff indicator

- Historically, numbers indicated the price of a call
- In many developed countries numbering and tariff schemes have become too complex for people to use them in this way
- Some schemes are flat-rate so the identification is irrelevant
- Number portability means that geographic, network and service-based numbering schemes may no longer make sense

## Uncompetitive mobile markets

- Extremely complex tariff schemes
- Very high termination rates
- Outrageous roaming charges
- Blocking of alternative technologies
- 3D on Mobile Number Portability:
  - deny
  - delay
  - degrade

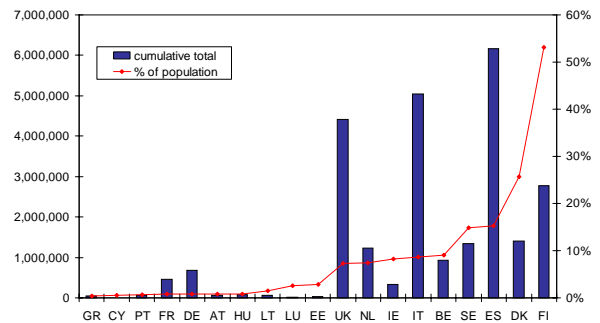
## Entry on the mobile market

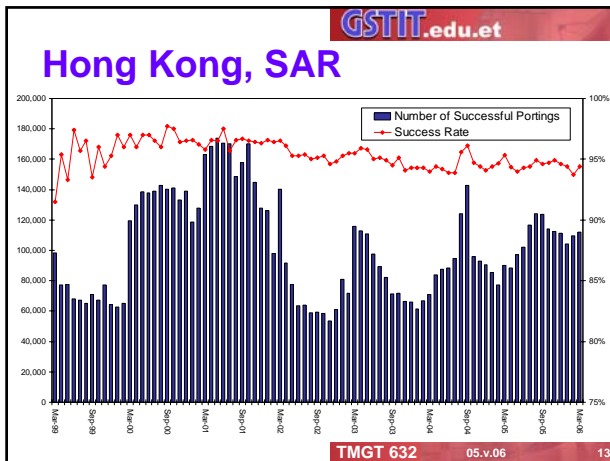
- Many existing customers will have mobile numbers
- New entrant operators will wish to compete for their business
- Customers want to keep their existing numbers
- Business customers are especially keen to retain existing numbers because of the cost of informing their customers
- MNP is a prerequisite for true competition

## European Union directive

- Many countries have had portability for a long time
- Obligation requiring portability since 25 July 2003:
  - geographic numbers
  - non-geographic numbers
- Technology neutrality, so NP applies to 2G and 3G
- Portability between fixed and mobile:
  - Denmark and Switzerland have legal provisions
  - but extensively delayed
  - one major problem is high mobile termination rates
- However, no legal obligations on:
  - user identifiers
  - domain names
  - IP addresses

## Mobile numbers ported





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## Bahrain - TRA

- "It is counter to the goal of increasing benefits to customers and would be unfair to businesses if they were required to incur these costs because number portability was not available."
- "Appeals by incumbents against the introduction of number portability have consistently failed; competition commissions and appeal courts have found in favour of the competitive benefits to the consumer."
- "As a result of its own studies and considerations the TRA is satisfied that available evidence consistently points to the competition enhancing benefits of MNP and considers that MNP may be especially important in a maturing market that is currently served by a single operator"
- "It is accordingly the position of the TRA that it should require the implementation of MNP within Bahrain."

<http://www.tra.gov.bh/>

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## Churn is good

- The ability to switch supplier is a sign of a properly functioning market
- High churn rates indicate poor quality of service and inadequate customer care
- Operators try to lock customers in with:
  - handset "subsidies"
  - network specific handset designs
  - tariff schemes
  - walled gardens
- But these are unattractive to customers
- They also invite responses from NRAs and NCAs

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## A widening ecosystem

- Range of networks:
  - GSM, CDMA, UMTS
  - WLL (CDMA and PAS), Wi-Fi, Wi-MAX
  - DAB, DVB, DMB
  - fixed broadband (with Wi-Fi)
- Range of services:
  - messaging, voice, videotelephony
  - streamed content
  - location based services
- Range of devices:
  - PC, PDA
  - games console
  - set-top box

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## A range of identities

- Telephone number(s)
  - real
  - temporary (e.g., local SIM card)
  - virtual
- Handset and SIM card (IMEI, IMSI, etc)
- IP addresses (fixed, temporary or mapped)
- Personal:
  - social security, passport, identity cards
  - credit cards
  - frequent flyer

Some are needed to block or open access to adult content

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## Payments

- Often tied to numbers
- Inaccuracy of bills
- Premium rate "scams"
- Mobile phone can also be a banking instrument
- Purchases:
  - added to monthly bill
  - deducted from stored value
  - treated as a credit card transaction

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## Internet identifiers

- Many people adopt non-portable identifiers from their ISP and ASP
- Electronic mail addresses:  
(e.g., fred@hotmail.com or fred@ethionet.et)
- Instant messaging identifiers  
(ICQ 1077801 or skype://fred)
- Social networking software  
(fred@myspace.com)

## Internet domain names

- In many countries registration of a domain name is restricted and complex
- Often the charges are high or even unaffordable
- National ICT strategies should ease registration and create competition amongst Internet registries to lower the cost
- People and businesses should be encouraged to register a domain name
- With your own domain name you are independent from ISPs and ASPs
- Domain names should be portable to other ISPs, subject to applicable contract law

## IP addresses

- For personal use an IP address can be assigned dynamically
- For a server, a fixed address is essential
- However, it need not be a permanent IP address
- For a business network, changing the IP addresses is time-consuming and disruptive

## Customers need

- Trans-national services:
  - without roaming charges
- Convergence:
  - Fixed and mobile
  - PSTN and Internet
- Control of their identities:
  - they created the value
  - they make the calls
  - they disseminate the identifiers and so generate all the inbound traffic

## Conclusions

- Competition is more talked about than experienced
- Operators have delayed number portability, but never managed to avoid it
- Increasing use of Internet identifiers requires
  - vigilance on competitiveness
  - policies to encourage people and businesses to register their own domain names

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