

Number portability

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Introduction

- Introduction
- Competition, portability and churn
- Number portability:
 - fixed
 - mobile
- Internet names and addresses
- Conclusions



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



Fixed ladder of investment

- New entrants gradually build out networks:
 - international gateway
 - major exchanges
 - local exchanges
 - local loops
- By regulation they use:
 - Carrier Selection (CS)
 - Carrier Pre-Selection (CPS)
 - Number portability
- Eventually, they need access to numbers
- Number portability is *essential* to allow customers to change supplier with the least cost and inconvenience



The value of numbers

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



Business customers

- Demand for number portability is very high
- Reluctance to switch providers *without* portability
- Potentially considerable costs of changing numbers:
 - reprinting business cards and other stationary
 - repainting signage, vans and trucks
 - loss of business
- Having to persuade people to change numbers stored in:
 - PDAs, electronic mail software, electronic diaries
 - databases
 - mobile phones



Special number ranges

- Specific codes are usually assigned for:
 - toll-free or freephone
 - premium rate
 - short codes on mobile networks
- The simplest solution on an intelligent network is:
 - a central database
 - individual calls and SMS to the number are translated to a “real” telephone number
 - then the call is completed
- Number portability enhances the competition to supply these services
- Competition drives down the cost and improves the quality of these services
- Portability is a pre-requisite of competition



Numbers as a tariff indicator

- Historically, numbers indicated the price of a call
- In many countries numbering and tariff schemes have been made so complex that few people can accurately predict the cost of calls
- Some calling plans are flat-rate, so the identification is no longer relevant
- Increasingly number portability means that geographic, network and service-based numbering schemes no longer make any 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

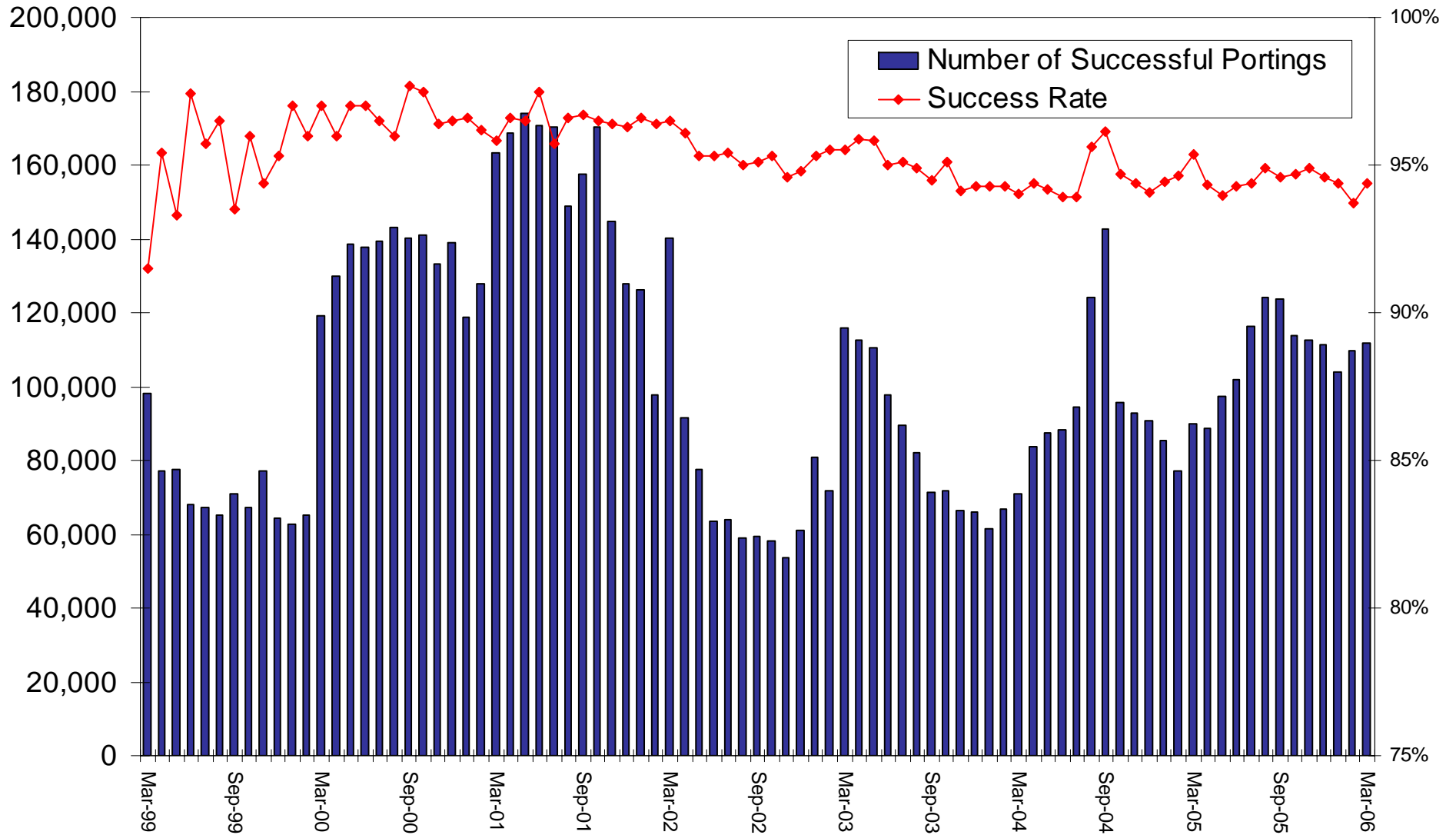


Entry onto the mobile market

- Many customers will have existing mobile numbers, especially the more lucrative subscribers
- New entrant operators will wish to compete for their business
- Customers want to keep their existing numbers, especially businesses which can exercise buyer power
- MNP is a *prerequisite* for competition



Hong Kong, SAR

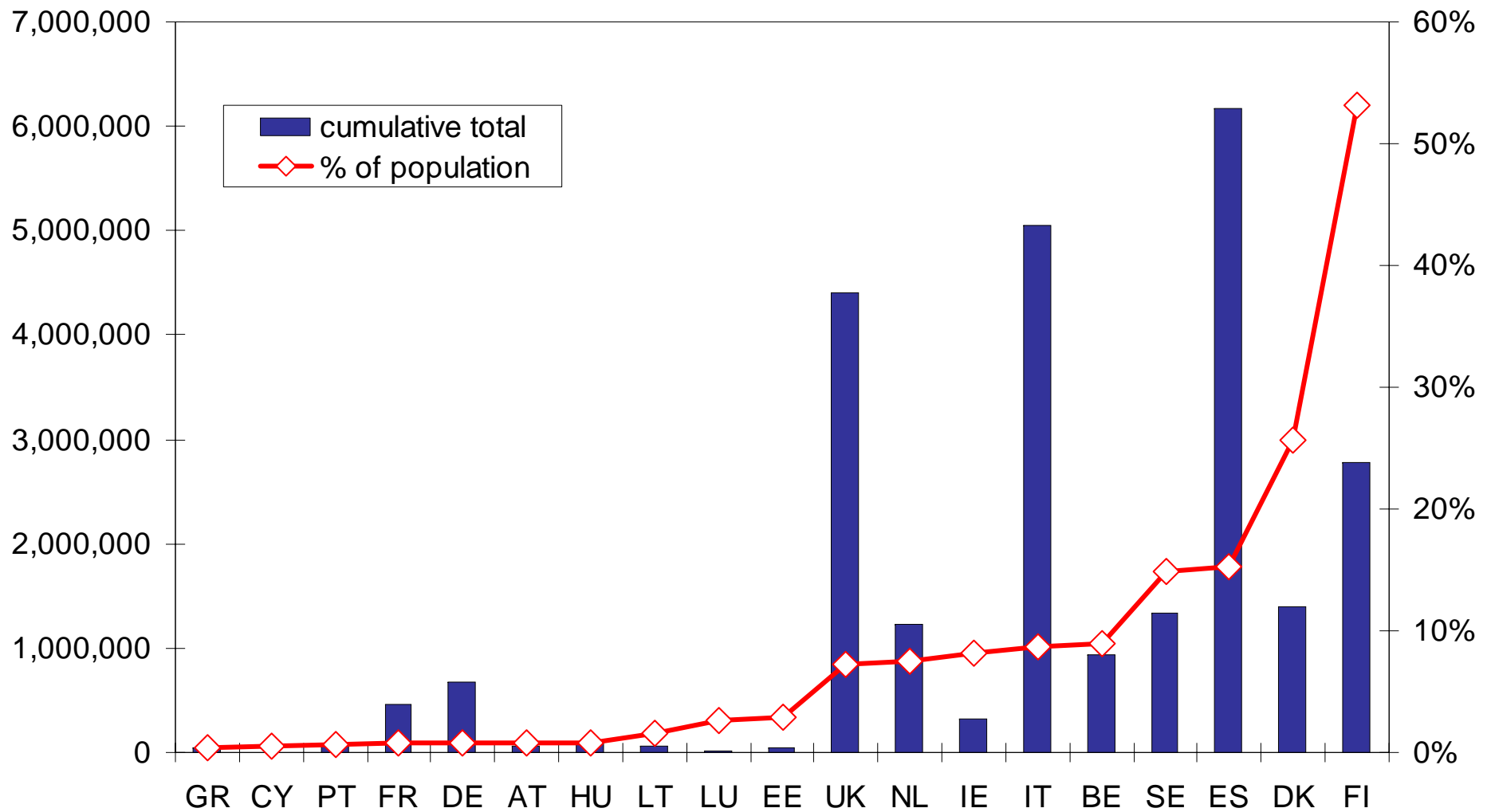


European Union – MNP

- Many countries have had MNP for a long time
- EU legal obligation requiring MNP since 25 July 2003:
 - geographic numbers
 - non-geographic numbers
- Technology neutrality, so MNP 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 specific legal obligations on Internet:
 - user identifiers
 - domain names
 - IP addresses



Mobile numbers ported in the EU



MNP effects

- South Korea:
 - fierce competition
 - many new special offers for customers
- United States of America:
 - bitter resistance by operators
 - then fierce competition:
 - to retain existing customers
 - to attract new customers



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.org.bh/>



Churn is good (to an extent)

- The ability to switch supplier is a sign of a properly functioning market
- Customers should be able freely to move between suppliers
- However, high churn rates indicate:
 - poor quality of service
 - inadequate customer care
- Combined with high customer acquisition costs, this makes the mobile sector very inefficient
- Operators try to lock customers in with:
 - handset “subsidies”
 - network specific handset designs
 - tariff schemes
 - walled gardens
- But these are unattractive to customers
- Such characteristics invite interventions by NRAs and NCAs



A widening name space

- 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, video-telephony
 - streamed content
 - location based services
- Range of devices:
 - PC, PDA
 - games console
 - set-top box



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



Payments

- These are often tied to numbers
- There is a long history of the inaccuracy of bills
- Premium rate “scams”
- Increasingly mobile phones can be used a banking instrument:
 - a major m-commerce initiative by the GSM Association
- Purchases can be:
 - added to monthly bill
 - deducted from stored credit
 - treated as a credit card transaction



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

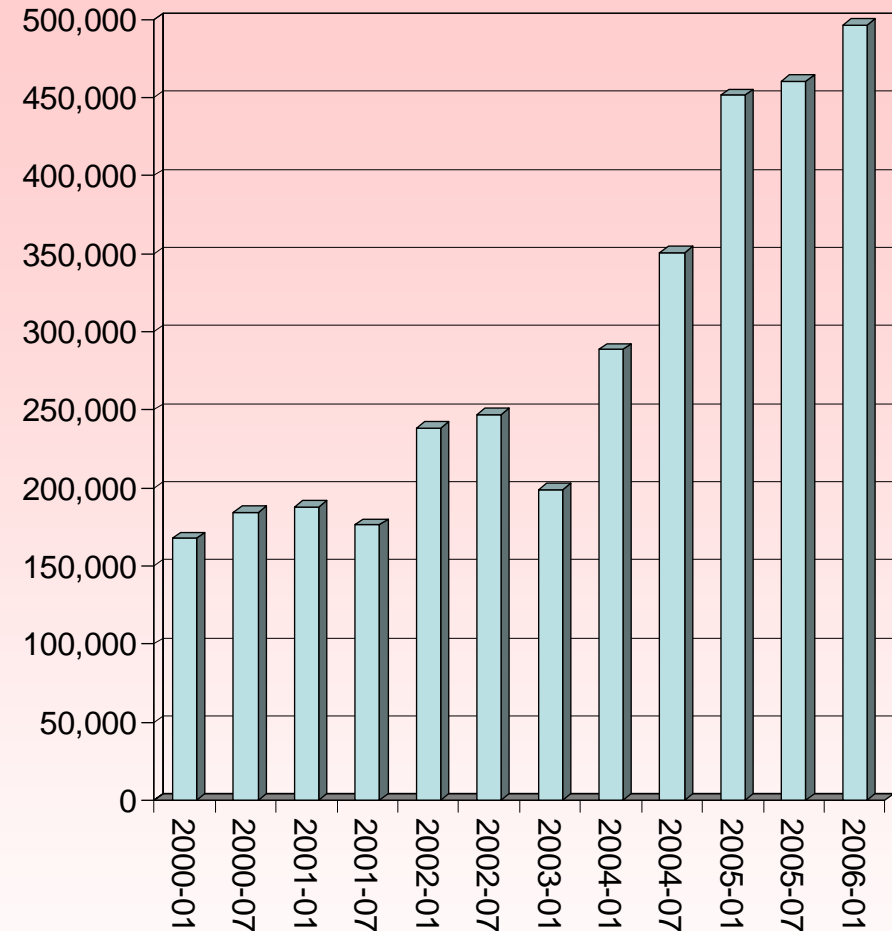
- In many countries registration of a domain name is restricted and complex
- Often the charges are high or unaffordable
- National ICT strategies should
 - ease registration
 - create competition amongst Internet registries to lower the cost
 - encourage affordable domain name hosting services
- People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



Dot ZA domain

- Relatively small number of domain names
- Caused by:
 - low uptake of broadband
 - lack of affordable Internet access

registered domains



<http://www.isc.org/index.pl?/ops/ds/>



Conclusions

- Competition is more talked about by operators than engaged in
- Operators have often delayed number portability, but have never managed to avoid it
- Operators have managed to make portability unworkable in several countries
- Increasing use of Internet identifiers requires:
 - vigilance on competitiveness
 - policies to encourage people and businesses to register their own domain names
- Customers create the value associated with names and numbers



Looking ahead

- VoIP is an increasing issue with virtual telephone numbers in distant locations
- An ever wider range of Services over Internet Protocol
- The importance of national numbers disappears into the IP cloud
- The dialling of numbers is declining in importance as we use stored identifiers



thank you

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