



Why Efficiency Matters

The Connectivity Scorecard

Nokia Siemens Networks ThoughtShare
Efficiency Forum

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Why
efficiency
matters?

The
Connectivity
Scorecard

Challenges
in increasing
efficiency

National efficiency =
The sum of all individual
firm's efficiencies
= National productivity

Productivity is not
getting rid of employees

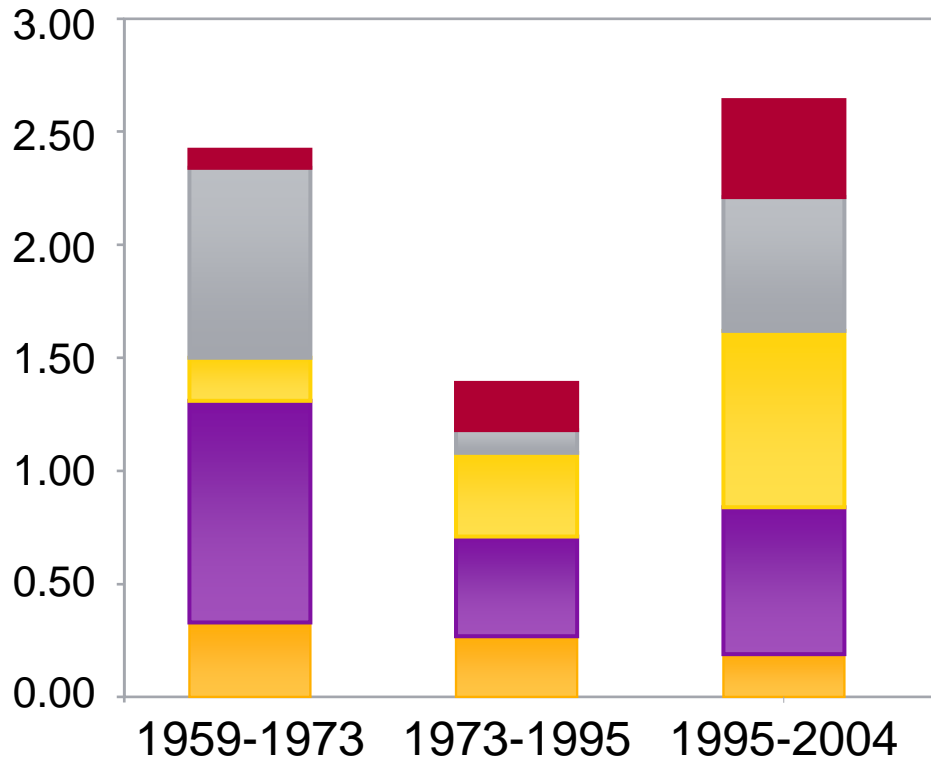
Efficiency = Productivity
= using skills and capital
to maximise production

Telecoms infrastructure
is a key element in
national productivity

Impact of ICT on US labor productivity

ICT = Telecoms and Computers, TFP = Total Factor Productivity

Annual Contribution (%)



ICT has a critical role in acceleration of US productivity growth

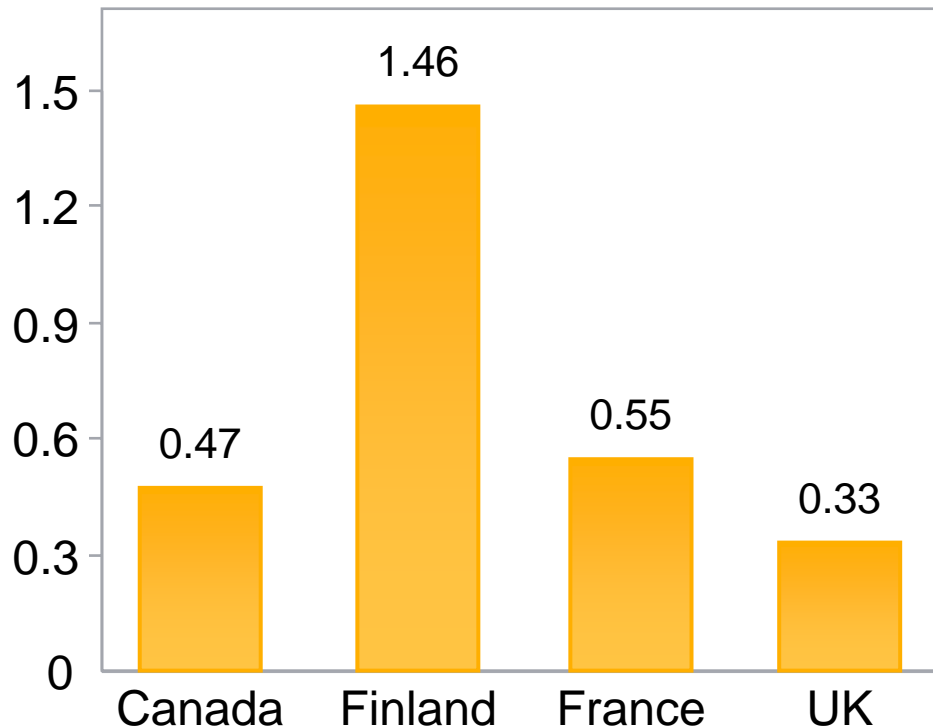
Legend:

- Labor Quality
- Other Capital Deepening
- IT Capital Deepening
- Non-IT TFP
- IT TFP

Source: Jorgenson (2005): IT accounts for 48% of labour productivity growth in 1995-04, much larger than IT share of GDP.

Relative Capital Stock in Communications Equipment (infrastructure, not usage and skills)

Communications Capital Stock per Hour Relative to US

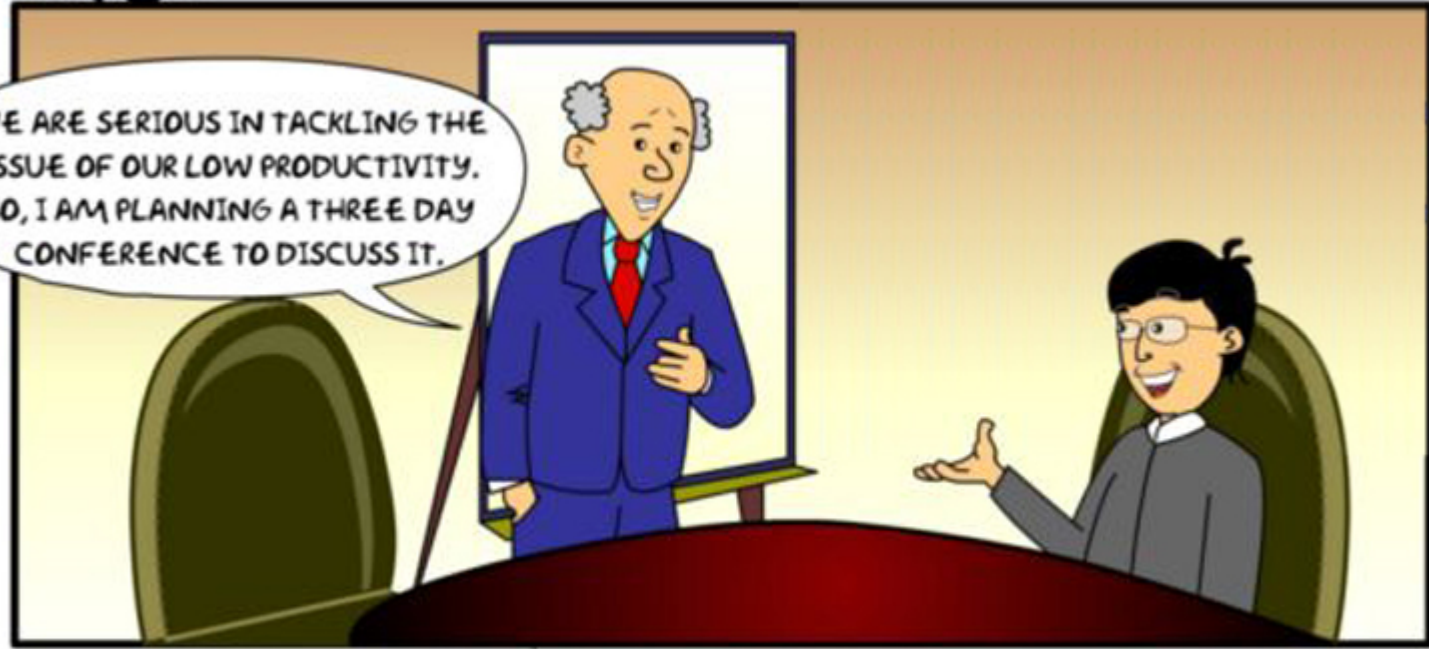


Gap in
“Communications
Equipment” capital
stock

Why does it matter to us?

ENGY

WE ARE SERIOUS IN TACKLING THE ISSUE OF OUR LOW PRODUCTIVITY. SO, I AM PLANNING A THREE DAY CONFERENCE TO DISCUSS IT.



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The Connectivity Scorecard

www.connectivityscorecard.org

Scorecard asks:

- How do we measure the capability of existing communications networks to deliver productivity enhancement and economic growth?
- How well do existing networks deliver?

What did we do and why is it different?

Account for infrastructure, usage and complementary services and skills

Emphasis

- on the business sector
- on 'smart' usage

Different measures for economies at different levels of development

Design based on "economics"

Economic growth and productivity

- Focus on "useful" connectivity
- Connectivity as a productivity tool

The Connectivity Scorecard: *Measuring ICT impact on socio-economic growth*

Innovation driven economies

	Connectivity score
United States	6.97
Sweden	6.83
Japan	6.68
Canada	6.56
UK	6.13
Finland	6.10
Australia	5.90
Germany	5.52
France	5.07
Korea	4.73
Hong Kong SAR	4.46
Italy	3.85
Spain	3.56
Hungary	3.18
Czech Republic	3.10
Poland	2.33

Resource and efficiency driven economies

	Connectivity score
Malaysia	7.59
Russia	6.60
Mexico	5.54
Brazil	5.28
South Africa	5.26
China	4.45
Philippines	3.00
India	1.83
Nigeria	1.07

No country performed especially well

– much to be done

Innovation driven economies:

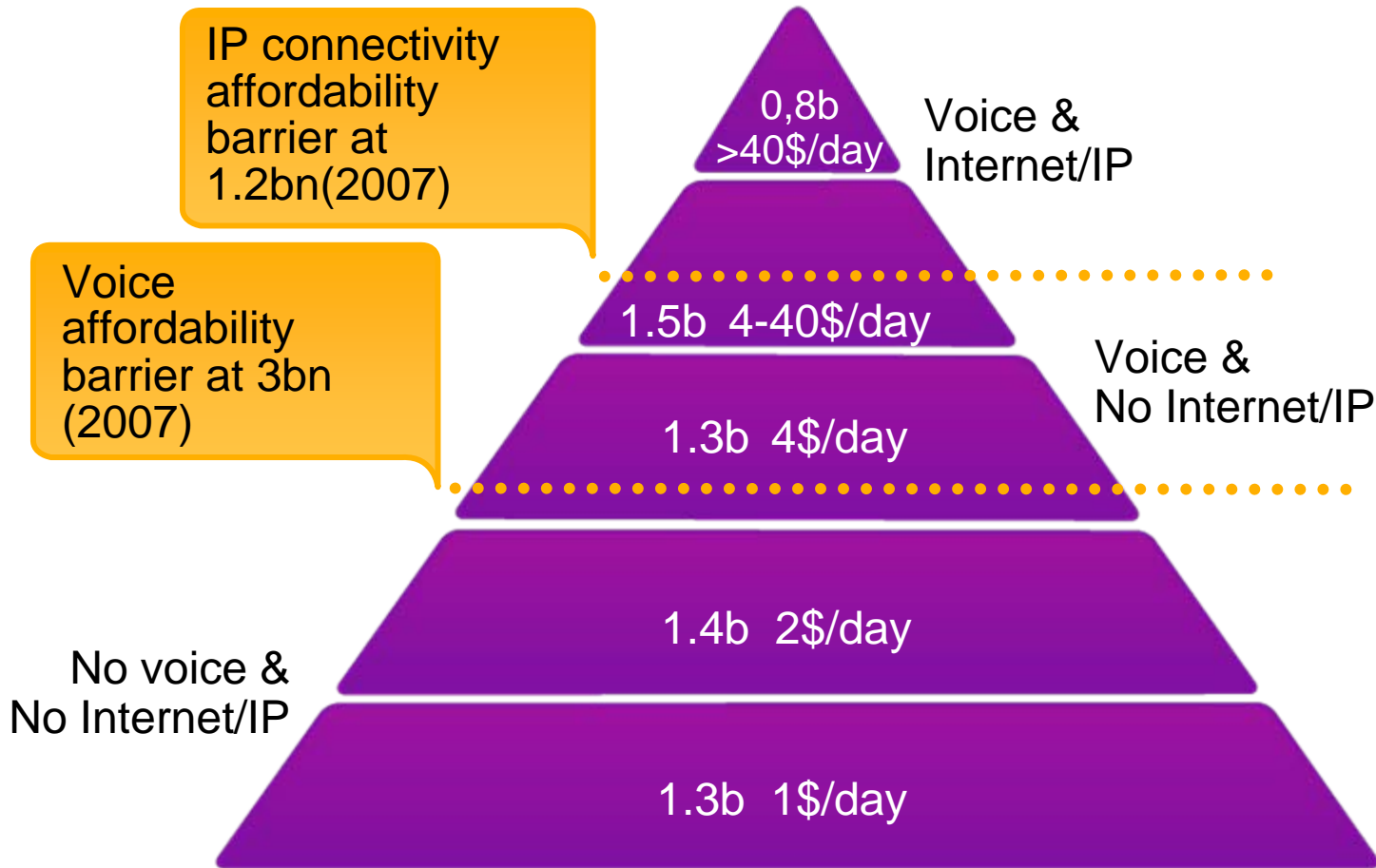
- Do not fully exploit the current telecoms revolution
- Productivity behind opportunity

Resource and efficiency driven economies:

- Lack of basic access to education and infrastructure hampers connectivity

The challenge of Universal Access

- Global Income Pyramid




Industry opportunity:

Take “**infrastructure +**” to the next level

The Communications Industry
needs to move to Connectivity 2.0

....this means attention on
Infrastructure + Applications,
Services, Skills, Smart Usage

.....That is – what drives
infrastructure to become the
productivity/growth tool?



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Challenge #1 Adding value beyond the “bit-pipe”

Internet main source of innovations

Competitive landscape in data 100-fold > voice

Data services defy national boundaries

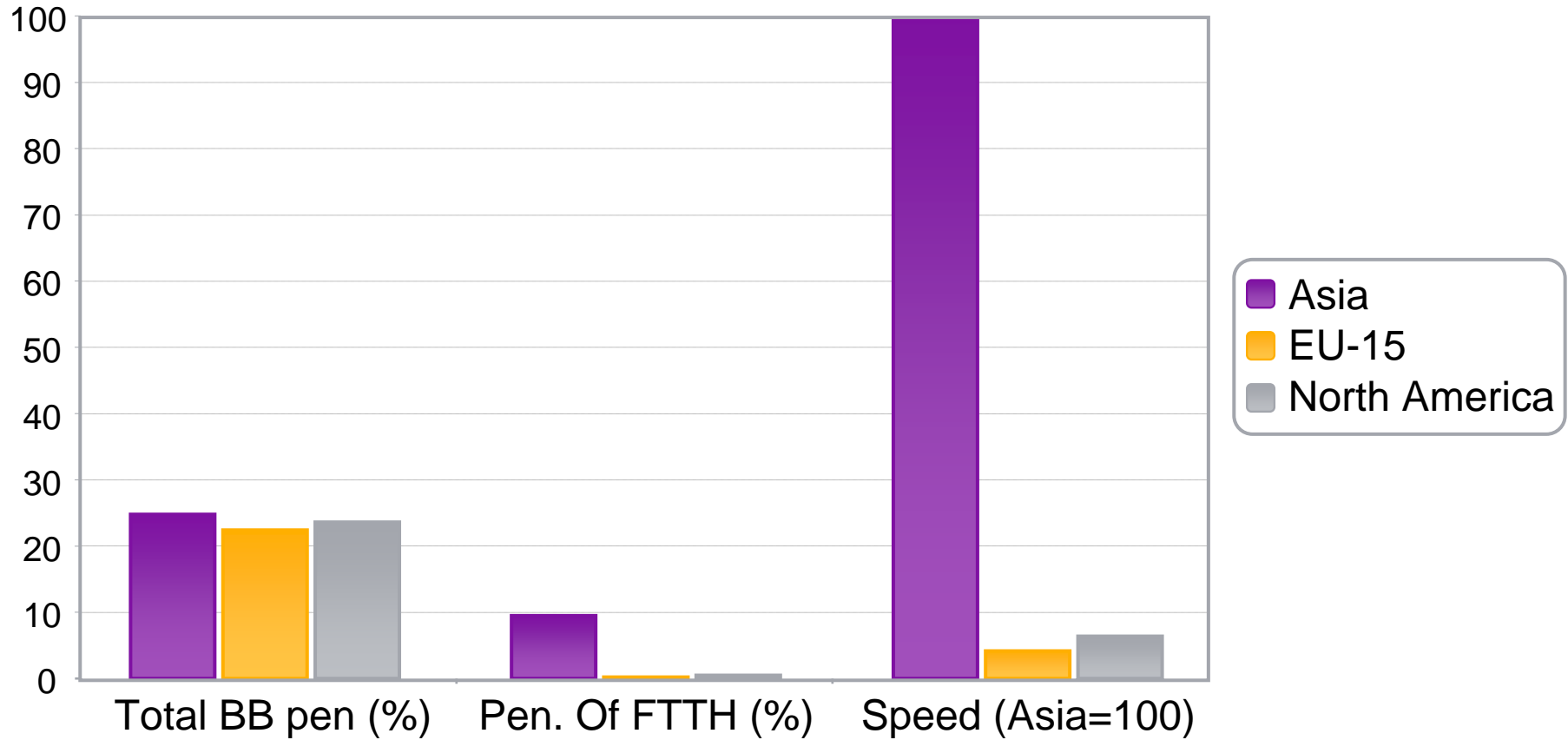
Capturing new revenue sources? (advertising, VoIP)

How can operators compete?



Challenge #2 Investment

Broadband Penetration and Broadband Speeds:
Japan and Korea versus Europe and North America



Challenge #3 - Competing technologies & regulation

“**WiMax** is being deployed as a less-expensive choice. There has to be in rural areas a public-private partnership to make that happen.

Ironically such largess is likeliest to come from a liberal administration - a growing likelihood the Sprint boss said would spell havoc for operators keen on maintaining walled-garden services.

For the telecom industry the thing that should scare it the most, if there were a Democratic administration, is the regulation of one thing - the Internet," he said, alluding to a putative open access mandate.”

Sprint Nextel CEO, Dan Hesse October 27, 2008.

Your big challenge : Convince Governments that you are **The Infrastructure**

Make work programs for the recession

These need to be
The information broadband
highway + skills

Nokia Siemens
Networks



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