It’s not just infrastructure: The 3 L’s & the Internet in South East Asia

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Internet users per 100 inhabitants 2001

- Cambodia: 0.1
- Laos: 0.2
- Vietnam: 0.5
- Indonesia: 1.9
- Philippines: 2.6
- SE Asia: 3.6
- Thailand: 5.6
- Malaysia: 24.0
- Singapore: 36.3

Internet use = Infrastructure + Affordability + Human skills
Traditional arguments for Digital Divide

**Infrastructure**

Internet subscribers as % of telephone lines, 2001

- Singapore: 100%
- Malaysia: 36%
- Thailand: 13%
- Cambodia: 11%
- Philippines: 9%
- Indonesia: 6%
- Vietnam: 4%
- Laos: 3%

Internet users are not close to level of telephone lines

Only 4% of telephone lines in Vietnam used to access the Internet!

**Affordability**

Mobile to Internet price ratio, 2001

- Singapore: 26
- Thailand: 14
- Malaysia: 14
- VietNam: 11
- Philippines: 9
- Indonesia: 9
- Laos: 4

Mobile much more expensive than Internet yet there are many more mobile than Internet users

It costs 9 times more to use a mobile than the Internet in Indonesia!
Another variable in the Digital Divide equation

Language Literacy Learning
Language

• Bi-lingual
  – Unless people are familiar with a ‘popular’ language, they cannot leverage on content (software development content, access content, web content)

• Diversity
  – The more diversity, the less relevant single-language content will be and the harder to achieve economies of scale

• Character set
  – Non-Latin alphabets are harder to adapt to computers
Bi-lingual

- If you do not understand some basic English, you will not use the Internet
- ASEAN policy of English will eventually help boost ICT access in the region
- Present advantage to Singapore, Malaysia and Philippines where English is widely understood due to historical reasons

English proficiency of Thai Internet User, 2000

- Excellent: 7%
- Good: 38%
- Fair: 43%
- Limited: 11%
- None: 1%

Source: NETEC
Diversity

• The more languages used in a country the less economy of scale in developing Internet content

• Less likely that content will be available for lesser used languages

The higher the value, the less likely it is to find 2 people that speak the same language

- Vietnam: 93
- Laos: 82
- Singapore: 21
- Malaysia: 139
- Thailand: 75
- Indonesia: 726
- Philippines: 169

Source: Ethnologue

Number of languages spoken
Countries with non-Latin alphabets face difficulties adapting to the Internet.

There are some 44 Thai consonants and around 30 vowels requiring almost 90 different letters on the keyboard (compared to 66 for English).

“There are currently no official standards for keyboard input methods for Lao characters...We cannot overstate the importance of standardizing the Lao Character Set.”—UNDP Laos
If went by literacy statistics, almost everybody should be using the Internet

Basic literacy versus computer literacy

A more reliable proxy for potential Internet users is newspaper circulation

Source: Statistics Singapore, 2000 Infocomm Literacy Survey
Nice match

Note: Logarithmic scale
Source: ITU adapted from national statistical agencies
Learning

- Educational attainment is an important indicator of Internet potential.
- Educational enrolment is an important indicator of potential users.
• 65% of Indonesian Internet users have a college degree or are in college
• 50% of Indonesians with college degree are online compared to 0.5% without
• Wiring Indonesian high schools would add another 10 million users (compared to only 2 million)

Profile of Indonesian Internet User
Source: APJII
A different approach

- Most developing countries have relatively higher levels of broadcast than IT equipment
- Leverage that to obtain information particularly for computer illiterate
- Community Internet radio concept

![Graph showing consumer durables in Laotian households: 52% Radio, 30% TV, 4% Telephone]
Conclusions

- Digital divide is not always about infrastructure or affordability.
- Literacy, language, and learning have a significant impact on Internet use.
- Not everybody has potential to use the Internet in its conventional form (via a PC).

Strategies

- Provide training
- Get schools online
- Use info-mediaries