Connecting Indonesia: A Mobile Broadband Vision

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Hasnul Suhaimi
President Director –PT XL Axiata, Tbk (XL)

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Indonesian consumers' lifestyle increasingly digital!

Example: Digital day[1] of Hafiz, a teenager in Jakarta

Activities done on a ~weekly basis

- Call girlfriend using CDMA phone on the way to school

- Uploaded downloaded music to iPod Nano
- Listened to iPod before falling asleep

- Searched for "free" music to download
- Downloaded music using 4shared

- Accessed internet from home PC
- Read sports news on detik.com

- Called girlfriend with CDMA phone on the way home

- Took a photo with friends using GSM phone
- Uploaded photo on Facebook

- Updated Facebook status on GSM phone
- Checked friends' Facebook status updates

- Exchanged SMS with girlfriend on CDMA phone

- SMSed friends on GSM phone to coordinate school work

- Went with friends to Warnet
- Browsed internet to research for school project

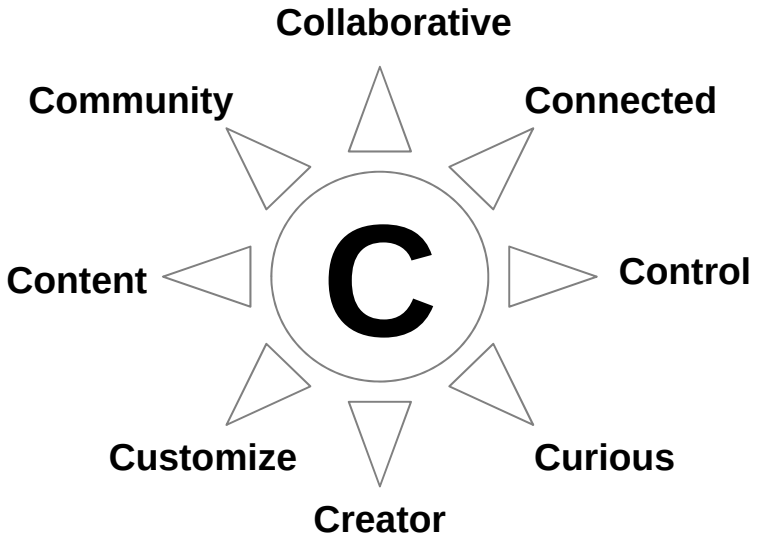
- Played counterstrike with friends at Warnet

1. Representative of Hafiz's typical digital usage on a weekday
Source: Focus group discussions, digital diary, BCG analysis

The rise of Gen-C: Generation C of Indonesians need to be always connected everywhere and every time

Generation C profile

- ***Highly influenced by technology***
- ***Consumption of media different than previous generation***
- ***More tolerance toward plurality***



Source :

Gen-C presentation by Dan Parkaz, NetGen Book (grown up digital)

Things about Gen-C

- They love creating and ‘mashing’ content
- They love capturing and sharing their lives
- They are not passive, they form ‘active communities’
- They thrive on social media sites where they can get involved in ideas and cultural conversations
- They’re in control of their own lives and are happy with complexity
- Gen C aspire to work in more creative industries with less rigid social structures

Social networking is an important part of Indonesian lifestyle

Most visited web sites are Social Networking related

Most visited web site by Indonesians

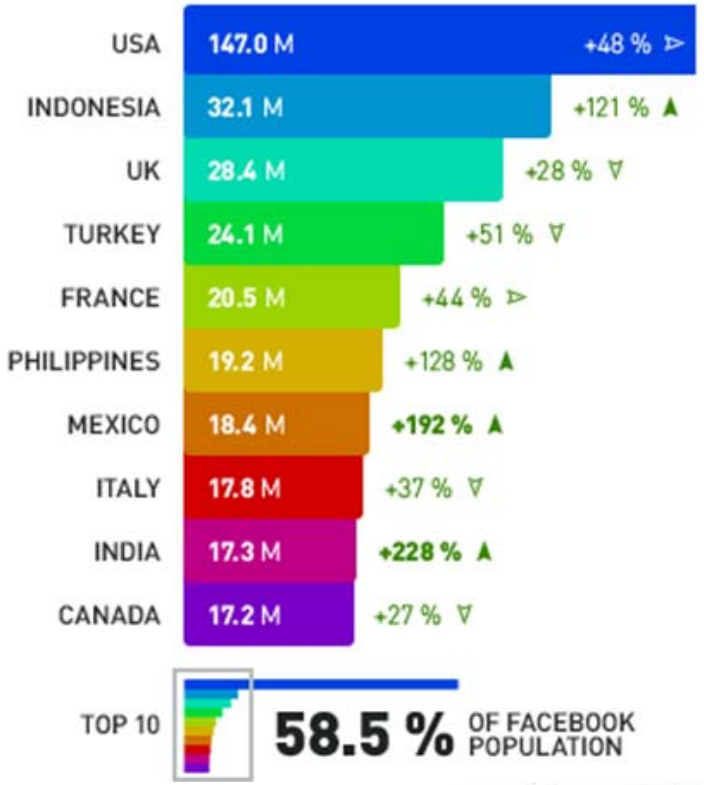
1. Facebook
2. Google.co.id
3. Google.com
4. Blogger.com
5. Yahoo! (including Yahoo chat)
6. Kaskus – Komunitas Indonesia
7. YouTube – Broadcast yourself
8. WordPress (Blogging site)
9. Detik.com
10. Twitter

Social Network related

Source: Alexa

Currently, Indonesia has the 2nd largest Facebook users

Ranking of # of Facebook users

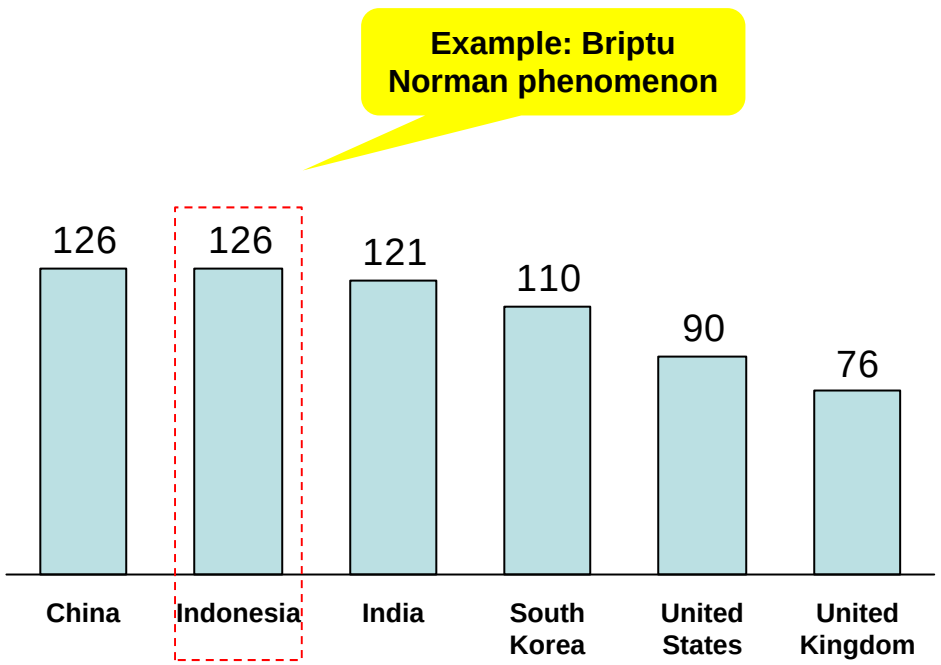


21% of world's tweet comes from Indonesia

Indonesia is home to some of the most avid consumers of online video

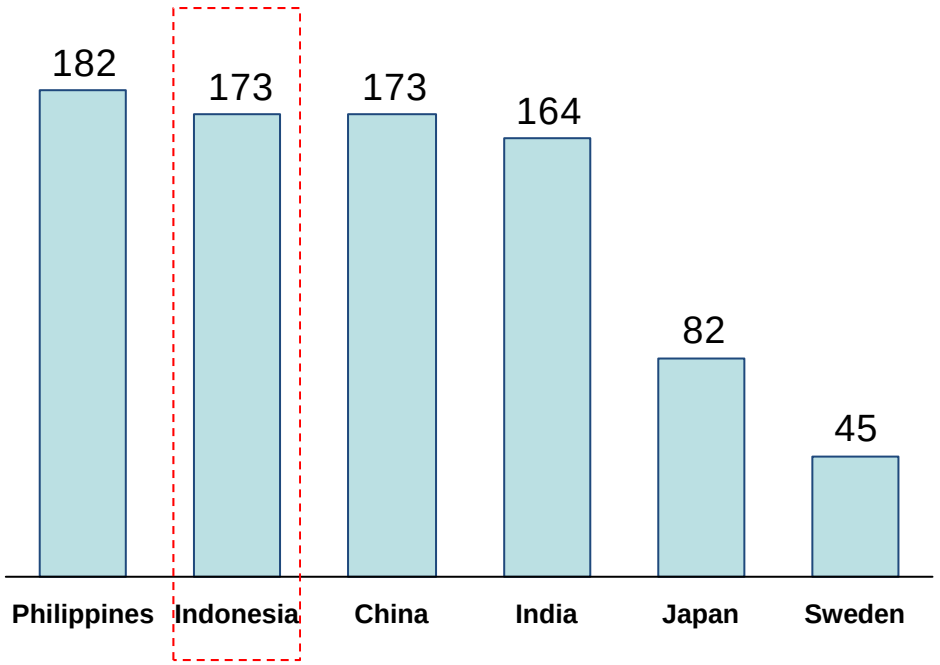
Internet users in Indonesia were 26% more likely to watch online video compared to the average global users…

Index of online video usage by market, September 2010 Nielsen survey



… and the numbers were higher for online *mobile* video, 73% more likely compared to the average global users

Index of online mobile video usage by market, September 2010 Nielsen survey



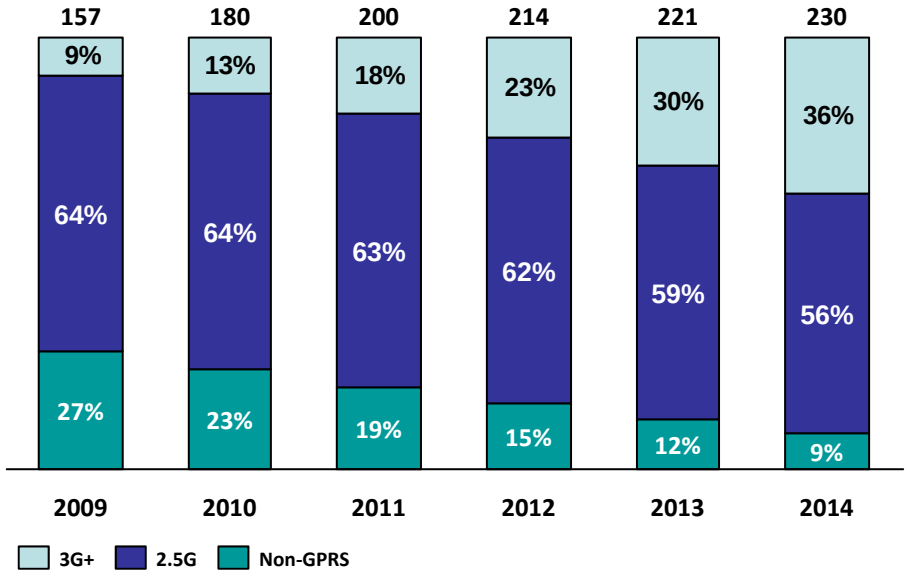
Online video (esp. mobile) will drive higher bandwidth usage in Indonesia

Source: Nielsen survey report (September 2010), http://www.pluggd.in/online-video-consumption-market-research-297/

User-friendly and cheaper Smartphones are expected to further drive the data consumption

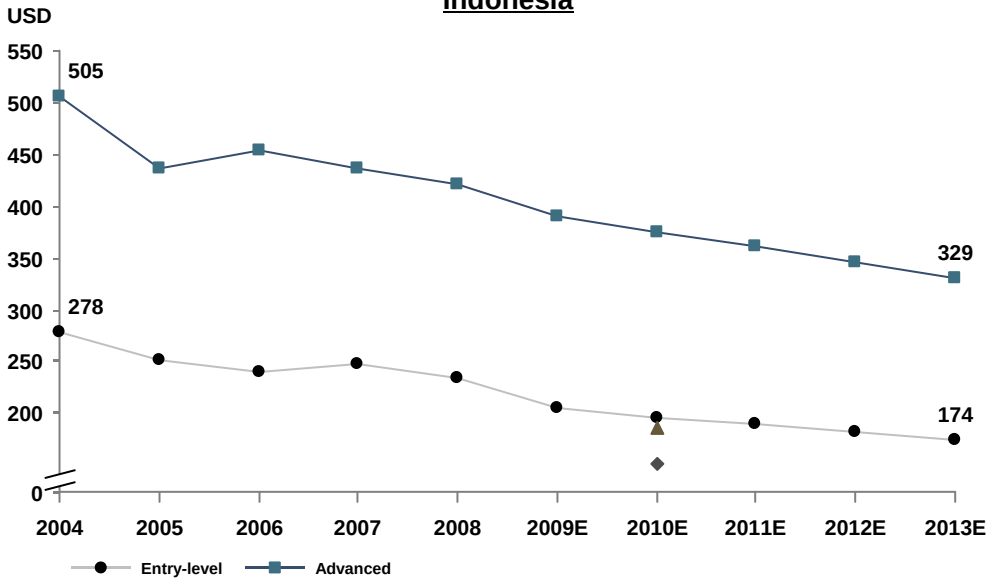
3G handset composition expected to rise…

Composition of handset in Indonesia[1] (Mn)



… supported by the trend that smart-phones price expected to decline

Average price[2] of entry-level[3] vs. enhanced smart-phones[4] in Indonesia



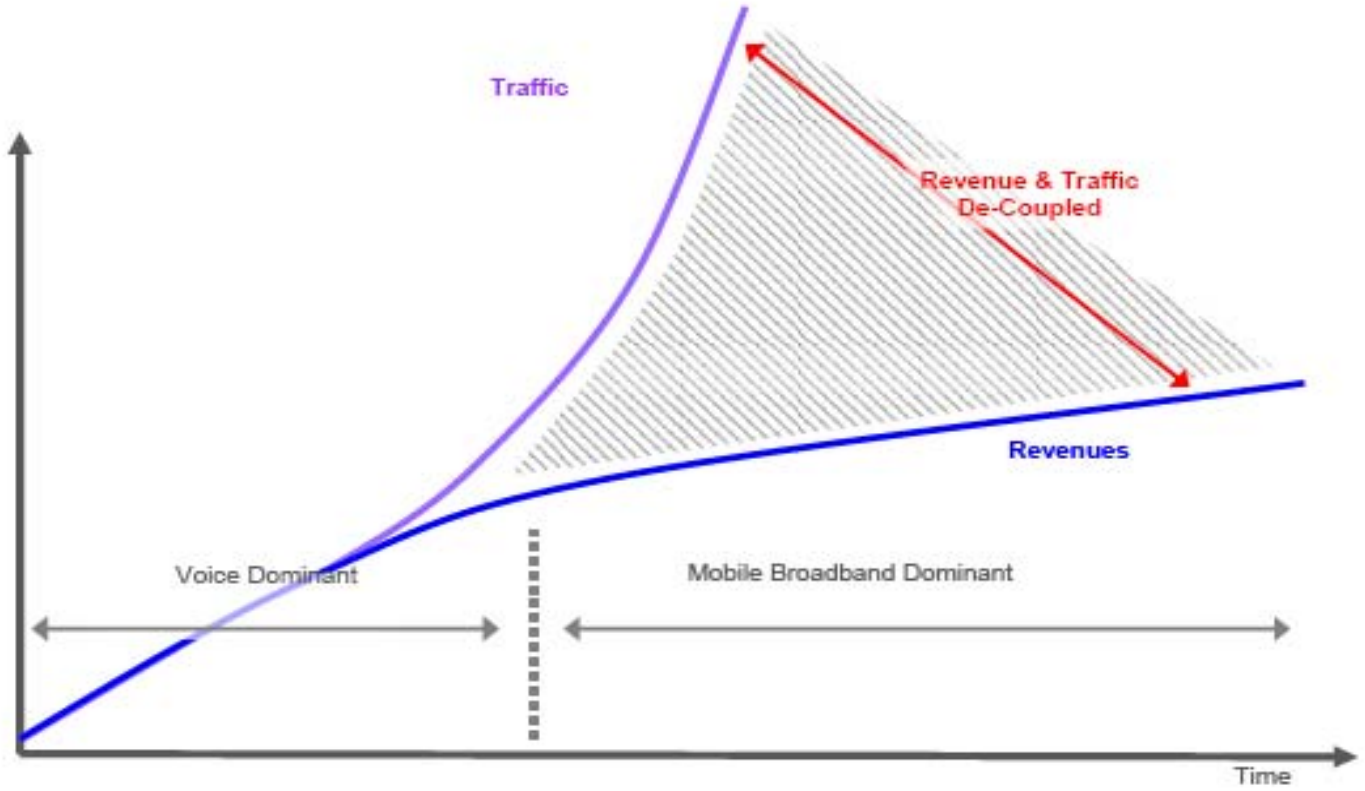
XL is addressing the change in devices trends

Notes:
1. 3G+ includes advanced smart phone and wireless broadband modem, 2.5G includes Blackberry
2. Wholesale price; 3. Voice communication as main focus, but open operating system (e.g. Nokia N70) ; 4. Aimed at both voice and data communication (e.g. iPhone, Blackberry, etc)

Source: BCG analysis, internal data, Gartner Reports

However, significant investment required; albeit risk of uncertain returns

We start to see de-coupling trend between revenue and traffic



Require government intervention and collaboration among operators

Source: Ericsson workshop

We need to work together

	Key areas	Potential action plans
Government intervention	• **Spectrum**	**Provide specific & clear spectrum regulation roadmap** • Spectrum allocation for new technology (e.g. LTE) • Allow spectrum re-farming especially in the lower bands (to increase coverage of advanced technology, e.g. 3G)
	• **Infrastructure barriers**	• Foster carriers collaboration/ infrastructure sharing • Provide tax incentives for Broadband development • Accelerate the development of power/electricity infrastructure, esp. in rural area
Carriers collaboration	• **Infrastructure sharing**	• Network sharing (Fixed Line, Tower, RAN, Backbone) to maximize return and on the other side, minimize cost
	• **Partnership**	• Domestic roaming • Partnership with fiber providers to provide high capacity access • Partnership with satellite operator to reach remote area • Frequency leasing

THANK YOU

Implementation of nationwide mobile broadband will be beneficial both economically and socially

Economic benefit of nationwide scale mobile broadband implementation

Increase in GDP

- Through productivity increase and multiplier effects
  - McKinsey analysis: 10% increase in broadband penetration will increase a country's GDP between 0.6 – 0.7%

New business activities & additional jobs creation

- Create new business opportunities and drive job creation
  - Booz analysis: 10% increase in broadband penetration correlates to 1.5% greater labor productivity growth for the next 5 years

Additional government revenue

- Productivity benefits of mobile drive increased tax revenues for government (directly and indirectly)

Social benefit of nationwide scale mobile broadband implementation

Increase access to education (esp. in rural areas)

- Improve literacy through mobile-learning
- Encourage out-of –classroom learning
- Access to high quality class-room materials (e.g., online textbooks)

Improve healthcare

- Enhance rural healthcare delivery
- Provide tools for health education and awareness
- Improve tracking of health indicator and disease

Reducing poverty and improve inclusion of all (improve financial inclusion)

- Enable household entrepreneurship opportunities
- Improve access to basic financial services

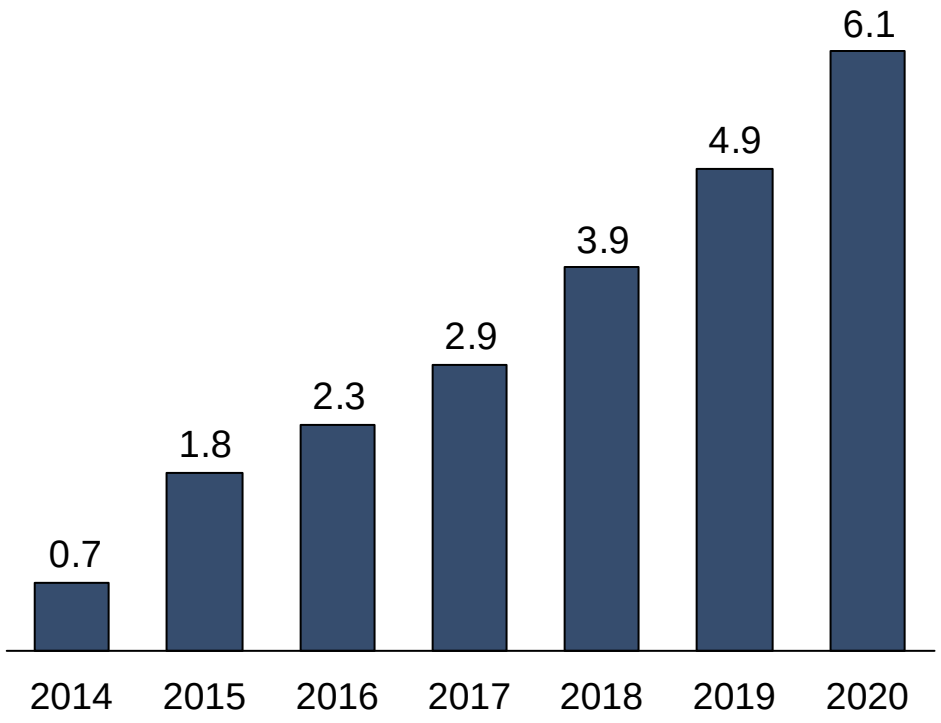
Facilitate e-Government

Source : BCG analysis

Potential cumulative increase in Indonesia's GDP of ~US$ 22.6Bn for the period 2014 – 2020 due to mobile broadband

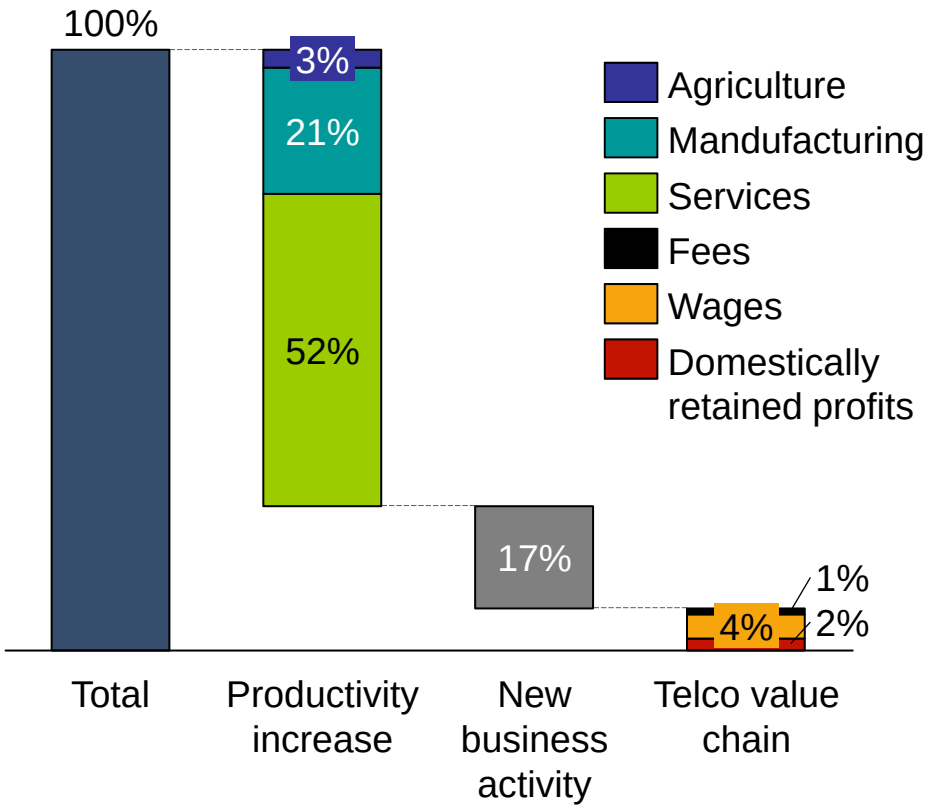
US$ 22.6Bn in GDP increase for 2014 – 2020…

Incremental GDP due to mobile broadband (US$ Bn)



… largely driven by increase in business productivity

Contribution to total GDP increase in 2010 – 2020 (%)



Source : BCG analysis

Mobile broadband can help address key issues in education

Most benefit to rural regions, which lag behind urban areas

Key challenges in rural education

Rural schools face significant resource constraints

- Lack of qualified teachers, especially in rural areas
- Lower access classroom resources (e.g., textbooks, equipment, etc.)

Low secondary school enrollment across country

- Significant lag in secondary school enrollment between rural and urban areas ratio
- Structural barriers to school enrollment as youth often seek income opportunities rather than stay in school
- Secondary school net enrollment ratio, 2007:

High illiteracy rates compared to regional neighbors

- (% of illiterate population, 2007):

Source : BCG analysis

700MHz band for mobile enhance education

Improve literacy through mobile-learning

- Remove barriers to classroom learning
- Support broader learning initiatives
- E.g. Yoza, Mobi cellphone stories

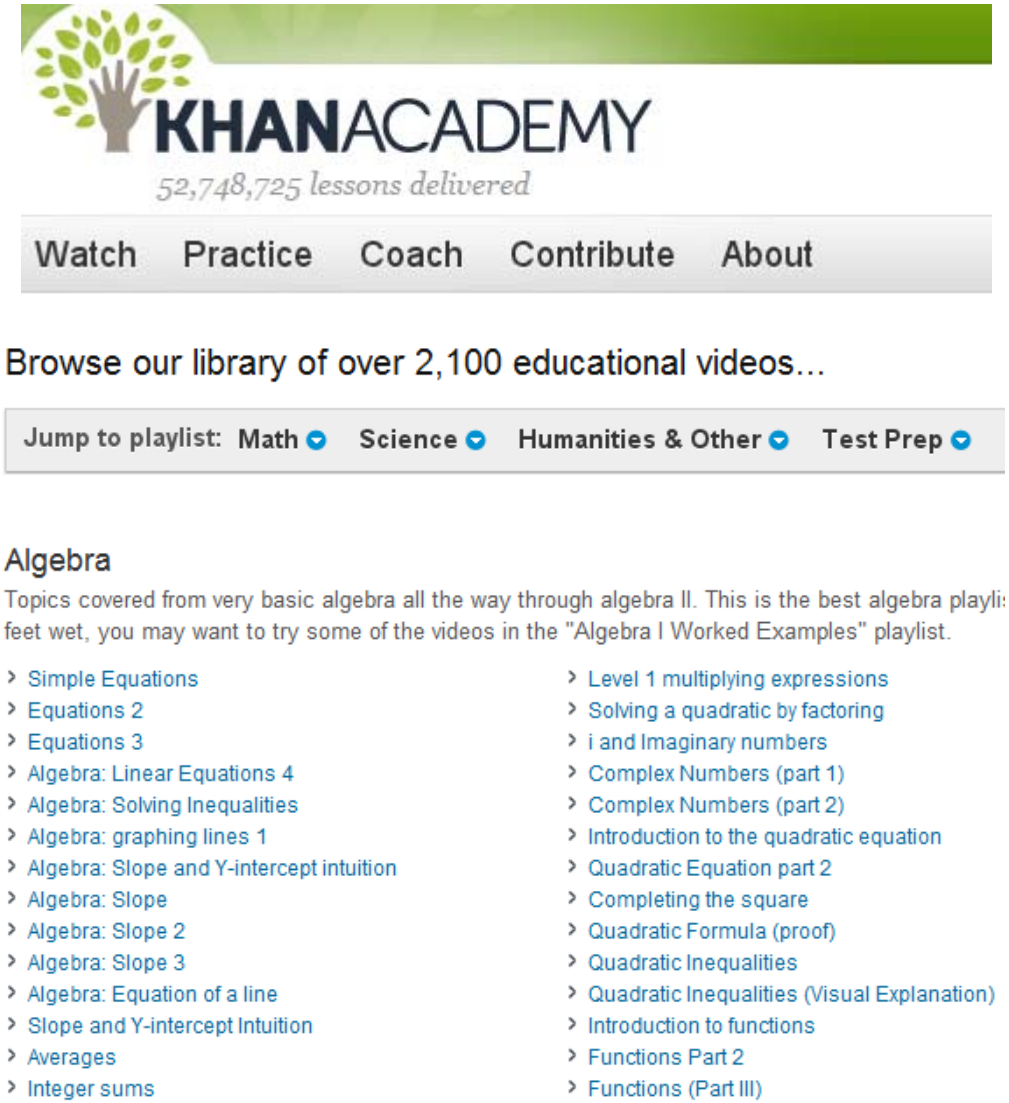
Encourage out-of-classroom learning

- Encourage opportunistic learning and engagement with materials outside of classroom

Access to high quality class-room materials (e.g., online textbooks)

- Cost-effective way to equip classroom with materials
- Materials can be easily updated to include the latest information and customized for different age groups/setting

Case Example: Khan Academy has helped people learn online for free



Several facts about the Khan Academy

Offers free online learning

- Provides online lecture format
- Provides web-based exercise based on skill level and performance

Has logged 52 Million visits

Average of 35,000 views per day

Lists 2,310 videos and counting in various topics