There are millions of reasons to like the internet

IS ACCELERATING DEVELOPMENT ONE OF THEM?

A DAY IN THE LIFE OF THE INTERNET

186 MILLION INSTAGRAM photos
2.3 BILLION GB of WEB TRAFFIC
152 MILLION SKYPE calls
803 MILLION TWEETS
36 MILLION AMAZON purchases
4.2 BILLION GOOGLE searches
207 BILLION EMAILS sent

SOURCE: WDR 2016 team; http://www.internetlivestats.com/one-second/
(As compiled on May 29, 2015)
The internet can be transformative: DIGITAL IDENTITY

Indians with digital identity: 850 MILLION & COUNTING

SOURCE: http://www.newindianexpress.com/cities/chennai/Trafficking-Victims-see-New-life-in-Aadhaar/2015/03/30/article2737396.ece
The internet can be transformative: DIGITAL MARKETPLACE

China's Online Cowboy Rounds Up Buyers

Number of small & medium enterprises on Tencent (Alibaba):
5 MILLION & COUNTING

SOURCE: http://www.alizila.com/chinas-online-cowboy-rounds-buyers
The internet can be transformative:

DIGITAL PAYMENTS

**Number of mobile money accounts worldwide:**

**203 MILLION & COUNTING**

(June 2013)

Where mobile money accounts outnumber bank accounts

**SOURCE:** John Owens, Alliance for Financial Inclusion, June 2013.
How the internet affects development

DECREASING MARKET AND NON-MARKET TRANSACTION COSTS

SOURCE: WDR 2016 Team
Organizing framework of the WDR

The INTERNET

- Overcomes information barriers
  - INCLUSION
- Augments existing factors
  - EFFICIENCY
- Generates economies of scale
  - INNOVATION

SOURCE: WDR 2016 Team
Innovation or divergence?

- **ICT**
  - 4-6% of GDP
  - 1-2% of jobs
  - 15-20% of investment

**ANALOG ECONOMY**

**DIGITAL ECONOMY**

- **SLOW ADOPTION**
- **REGULATORY UNCERTAINTY**
- **DIGITAL MONOPOLY**

**COMPETITION BETWEEN**

- **Traditional Taxi** → [UBER, OLA]
- **Professional Services** → [Elance, oDesk, TaskRabbit]
- **Traditional Hotels** → [airbnb, HomeAway]
- **Traditional Banks** → [Kiva, M-PESA]
- **Traditional Universities** → [edX, coursera]
- **Brick & Mortar Stores** → [JUMIA, Alibaba.com]
- **Traditional Money Transfer Agents** → [TransferWise, Xoom]

**SOURCE:** WDR 2016 Team
Efficiency or polarization?

DECLINE OF MIDDLE-SKILLED JOBS IN MANY DEVELOPING COUNTRIES

Share of middle-skilled jobs is falling in 20 of 22 developing countries

SOURCE: WDR 2016 Team based on ILO KLIM data. For China, the data come from the Population Census
Inclusion or control?

<table>
<thead>
<tr>
<th>Channels</th>
<th>Impact</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Informing citizens</td>
<td>H</td>
<td></td>
</tr>
<tr>
<td>Automating tasks</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>Citizens feedback</td>
<td>M</td>
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<td>Provider management</td>
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<td>Free and fair elections</td>
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<td>Informed voting</td>
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<tr>
<td>Collective action</td>
<td>L</td>
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</tbody>
</table>

**Government Capability**

**Citizen Empowerment**

**Inclusion**

**Efficiency**

**Innovation**

**Source:** WDR 2016 Team, Pew Research
Significant digital divide...

- **6 BILLION** without **BROADBAND**
- **4 BILLION** without **INTERNET**
- **2 BILLION** without **MOBILE PHONES**
- **0.4 BILLION** without **A DIGITAL SIGNAL**

**SOURCE:** WDR 2016 team based on Research ICT Africa and ITU data
...and persistent disparities in digital access

**AFRICA**

<table>
<thead>
<tr>
<th>Demographic</th>
<th>Lower 40% Welfare</th>
<th>Upper 60% Welfare</th>
<th>Young (15-24)</th>
<th>Mature (45+)</th>
<th>Rural</th>
<th>Urban</th>
<th>Women</th>
<th>Men</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>% of Individuals with Internet Access</strong></td>
<td>4%</td>
<td>11%</td>
<td>20%</td>
<td>23%</td>
<td>12%</td>
<td>18%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SOURCE:** WDR 2016 team based on Research ICT Africa and ITU data
But technology will not be enough

“Be an expensive complement (stats knowhow) to something that’s getting cheaper (data).”

—Hal Varian
No digital transformation without strong analog foundations

**The INTERNET**

- **Information without accountability**
  - CONTROL

- **Automation without skills**
  - INEQUALITY

- **Scale without competition**
  - CONCENTRATION

*SOURCE: WDR 2016 Team*
Race between technology and complements

**Complements:** Index of quality of institutions, skills and regulations.

**Technology:** Index of quality of access to internet and related technologies.

**SOURCE:** WDR 2016 Team, Doing Business, World Economic Forum; Trade in Services Restrictiveness Index and World Development Indicators.
The digital agenda: Making internet access universal, affordable, open and safe

**SUPPLY SIDE ISSUES**
- Competition policy
- Public-private partnership
- Effective telecom/internet regulation

**DEMAND SIDE ISSUES**
- Multi-stakeholder governance model
- Censorship and content filtering
- Protecting personal privacy
- Cybersecurity

*Migrants in Djibouti accessing signal from Somaliland*

*“On the Internet, nobody knows you’re a dog.”*

**SOURCE:** World Press Association, New Yorker Magazine (1993)
Analog foundations for a digital economy

THE INTERNET CAN HELP IMPROVE COMPLEMENTARY FACTORS

REGULATIONS
- that promote competition & entry

SKILLS
- to leverage digital opportunities

INSTITUTIONS
- that are capable & accountable

EMERGING
- Remove barriers to adoptions
- Foundational skills & basic ICT literacy
- Mobile phone based services & monitoring

TRANSITIONING
- Competition regulation & enforcement
- Prepare for careers instead of jobs
- E-government delivery & citizen engagement

TRANSFORMING
- Platform competition
- Facilitate life-long learning
- Participatory policy making & digital engagement

EMERGING TRANSITIONING TRANSFORMING

The internet has not changed the basic “recipe” for development. But:

- It has *increased the opportunity cost* of not doing reforms.
- It can be *an accelerator of development* by raising the quality of the complements.

What should developing countries do?

- Make the internet *universal, affordable, open and safe*.
- Strengthen the *analog foundations of the digital economy*.
- Improve *global cooperation* to address trans-boundary problems.