EMSD – Digital Economy - Back to Back Workshop

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What is Digital Literacy

UNESCO (2011) – A set of basic skills required for working with digital media, information processing and retrieval. It also enables one's participation in social networks for the creation and sharing of knowledge, and the ability supports a wide range of professional computing skills.

- Definition is contested
- Multiple inconsistent indicators or proxies of digital literacy
- A Digital Literacy indicator / measurement can be used to monitor the state of digital skills nationally and internationally
- Digital Literacy is a multi-dimensional concept
- Cannot leverage the full investment in digital infrastructure without a comprehensive skilling programme
- Being digitally literate promotes employment opportunities

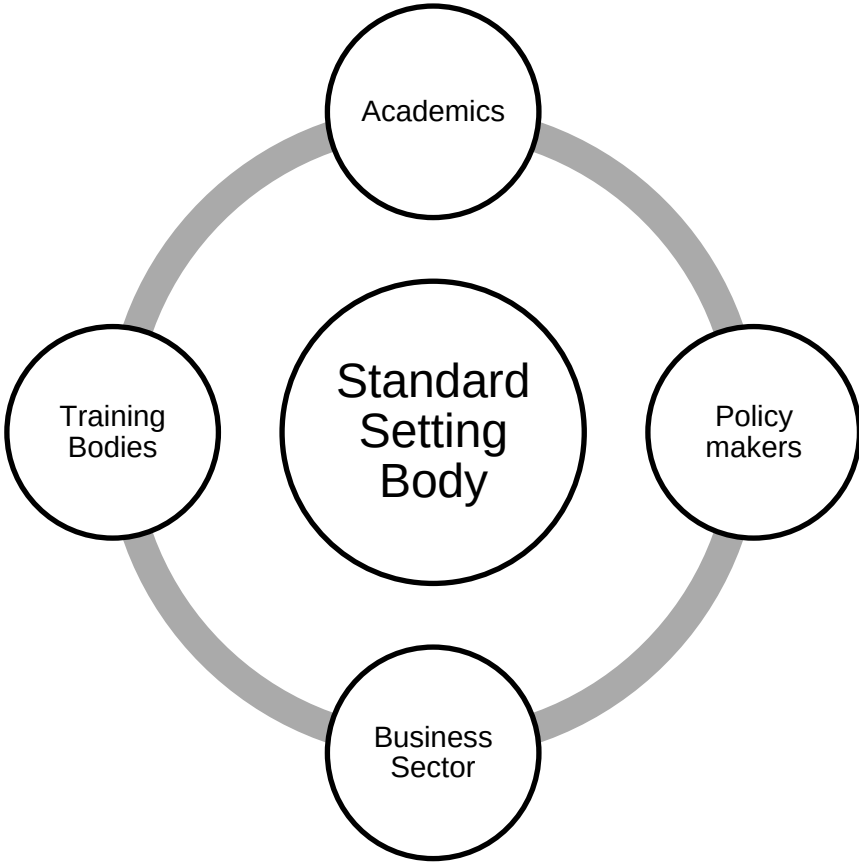
Multi-dimensional Digital Literacy Measurement

	Perspective		
Dimension	**Cognitive**	**Technical**	**Ethical**
Information **(Digital Content)**	Synthesis	Access, Usage	Appropriate Usage
Computer **(Hardware and software)**	Evaluate	Usage	Appropriate Usage
Media **(Text, sound, image, video, social)**	Critique, Create	Navigation	Assess truthfulness
Communication **(non-linear interaction)**	Critique, Create	Develop and use content	Appropriate Usage
Technology **(Tools for life situations)**	Invent, evaluate tools	Usage	Appropriate usage

- Cognitive: Evaluating, Critiquing, synthesising multiple streams of info
- Technical: Accessing and using hardware and software
- Ethical: Understanding appropriate and legal usage of digital technologies

Need a standardised definition

- Cannot determine progress without an international standard
- Is no comparable measurement
- Disconnected pop in G20 Countries account for 31% of the world pop
- G20 needs a standardised multidimensional definition of digital literacy – supported by a standards setting body



Data Collection Strategy

- Need a representative sampling strategy – to produce nationally representative results
  - Ensuring sample is age group appropriate (15-65)
- Can follow the e.g. of the Progress in International Reading Literacy Study (PIRLS) assessment framework used to assess literacy
  - Should follow a written paper-based test
  - Informed by the evolving standard of digital literacy based on the 5 pillars and 3 perspectives

Benefits of measurement

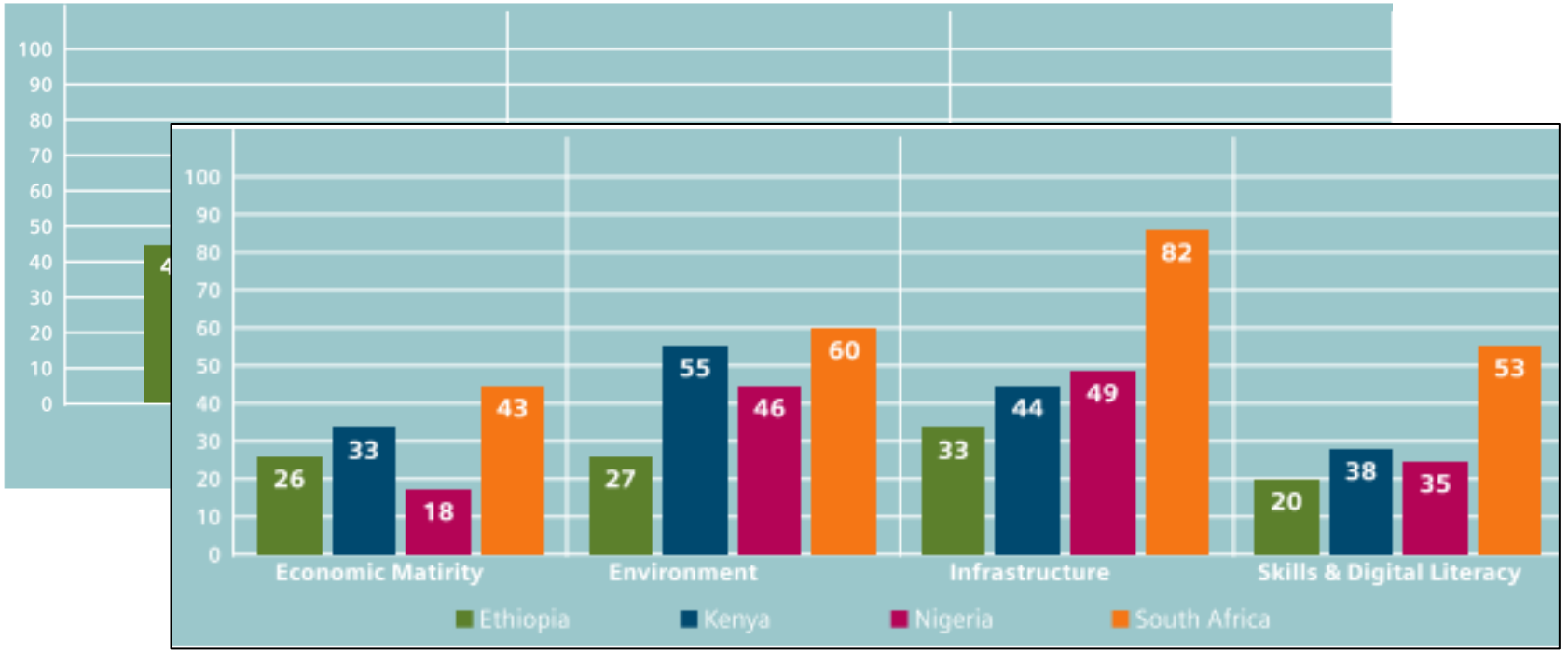
- An agile measurement and reporting strategy supports agile policy making
  - Policy making is more dynamic → greater productivity
  - Policy making is informed by relevant evidence
  - Policy making can be more targeted if data collections are geographically representative
  - Measurement and reporting of digital literacy will help the progressive realisation of full digital literacy
- Employers and training programmers will be able to adapt their requirements to the current state of literacy

Weakness of current measurements

- Private agencies have adopted a narrow conceptual view of Digital Literacy. Measurements tend to focus only on the technical perspective Digital Literacy
- The sampling strategies adopted in current data collection instruments are not representative of the country leading to invalid conclusions.
- Digital Literacy measurement instruments are only accessible online, excluding offline populations
- The proxies of Digital Literacy are not representative of the complexities of digital literacy.
  - E.g. Facebook usage or access does not infer Digital Literacy.
- Digital Literacy assessments are not agile and responsive to changing standards

Eg: SIEMENS Africa Maturity Report

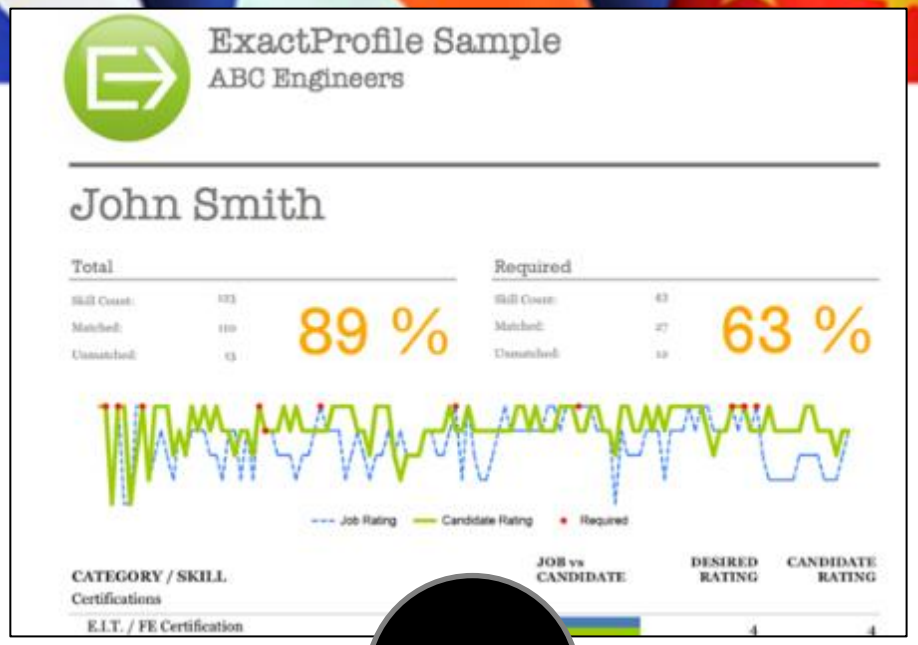
Skills and Digital Literacy pillar

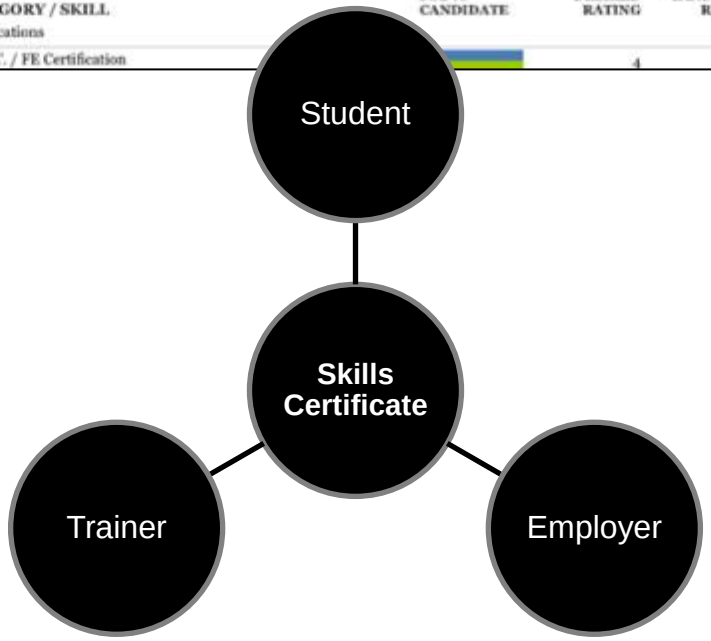


Digital Training – Internet access in school
Digital Usage - Facebook penetration, IP messaging use (eg. Whatsapp)
Skills - School enrolment, teacher training

Certification – Link between Employer and Trainer

- Standard setting body must be represented by business, schools and other training bodies
  - Body defines scope of the certificate
- Certifications must adapt to changing needs of the labour market.
- Certification should reflect potential job trajectories in the form of literacy, fluency and mastery
- Skills attained must be recognised
- Prospective employees will be incentivised to complete training programmes where they are confident in future employment opportunities





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Recommendations

- We need a multidimensional digital literacy index
- The index must be informed by the changing needs of employers
- A standard setting body can manage the dynamic and evolving definition of digital literacy

Digital Literacy in China

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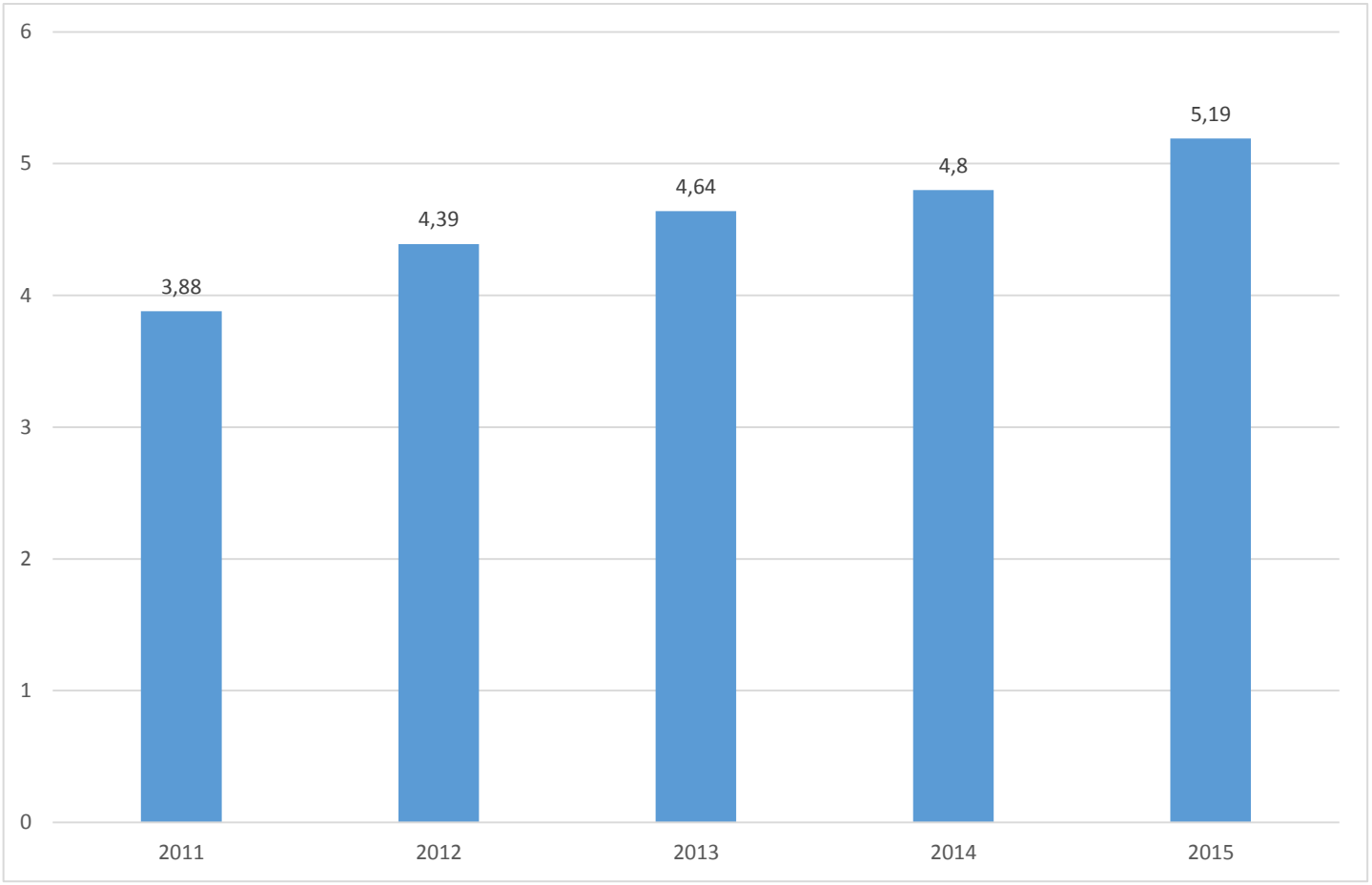
Content

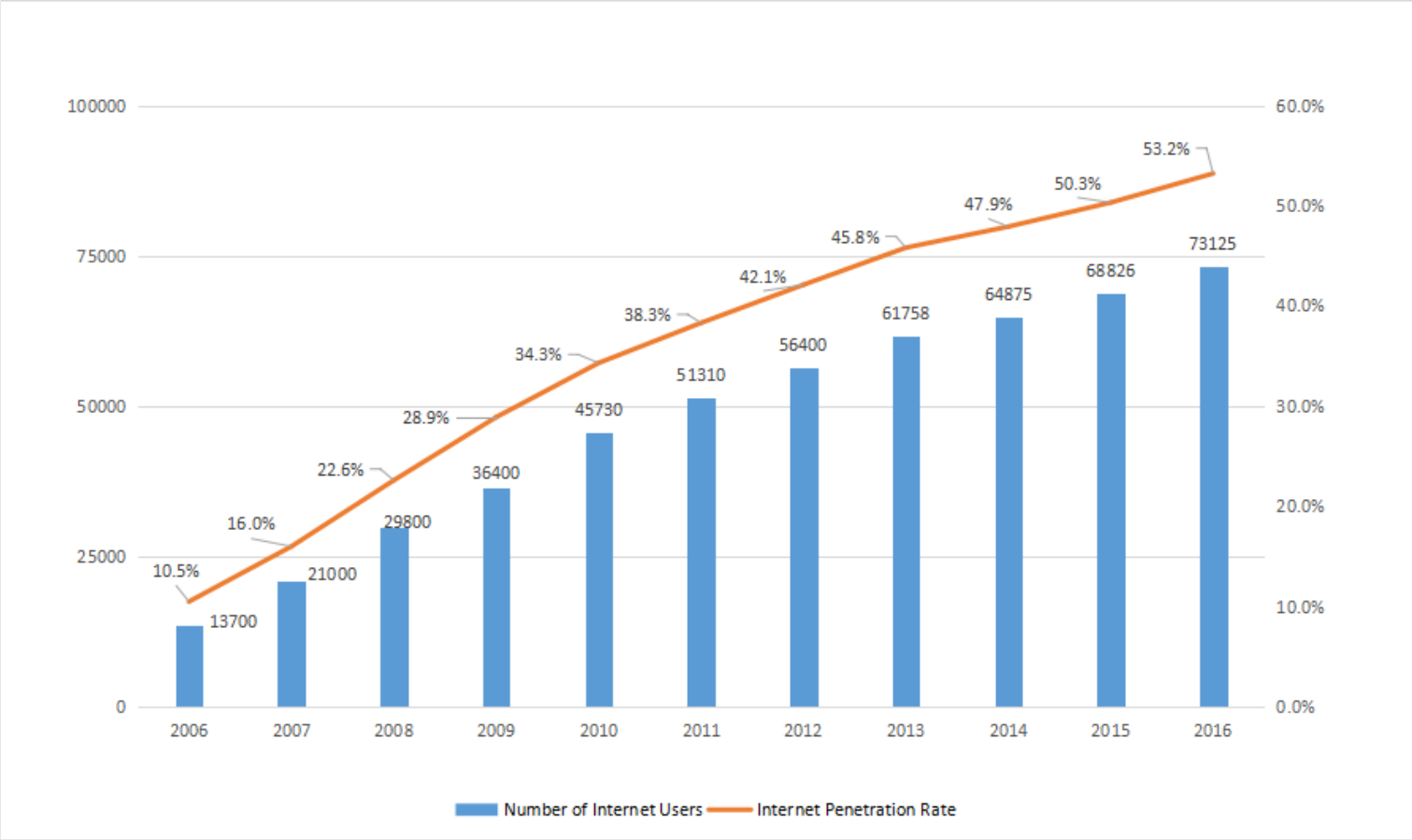
The development of digital literacy in China

ICT Development Index Value of China from 2011-2015



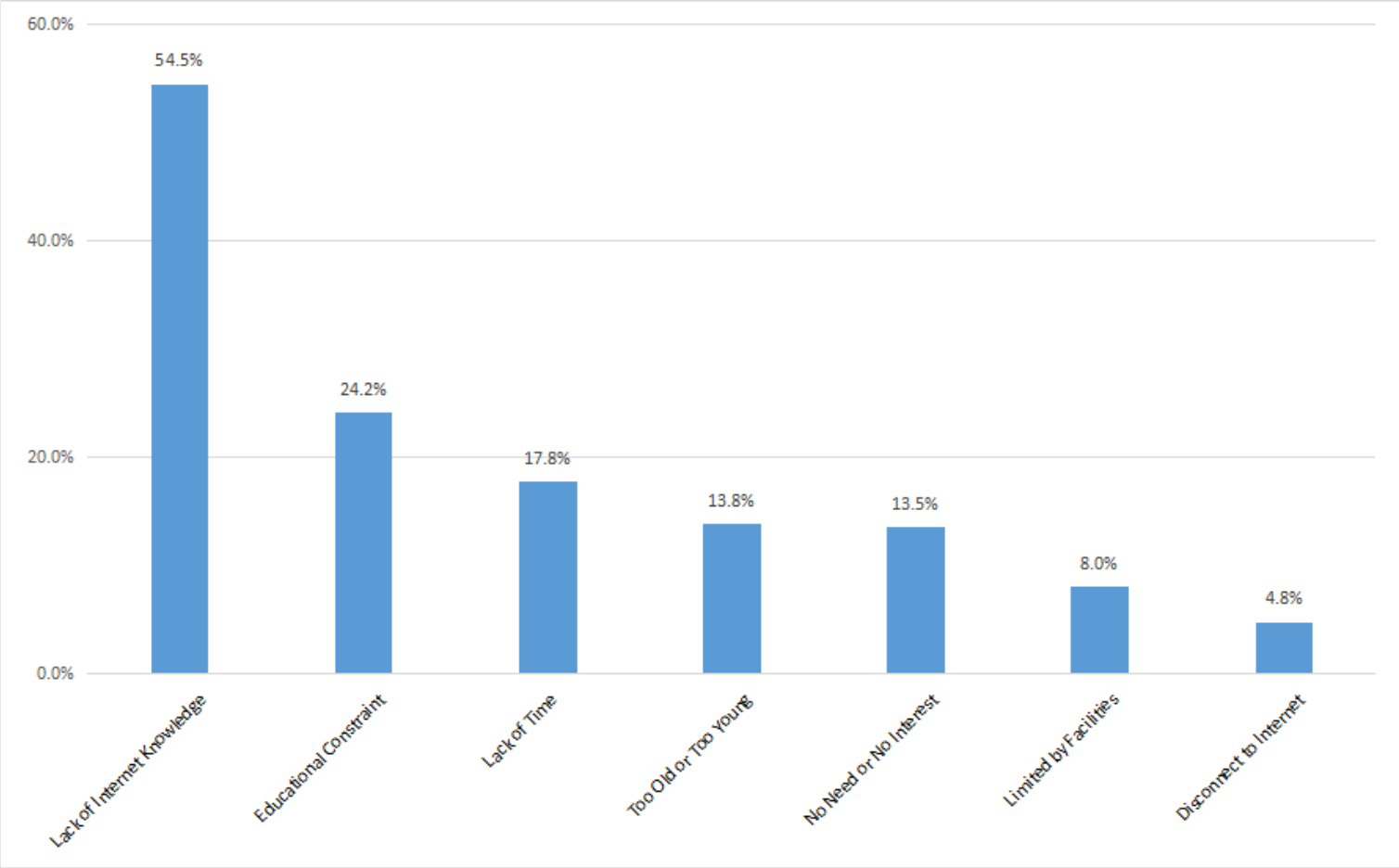
Source: ITU

Number of Internet Users in China since 2006



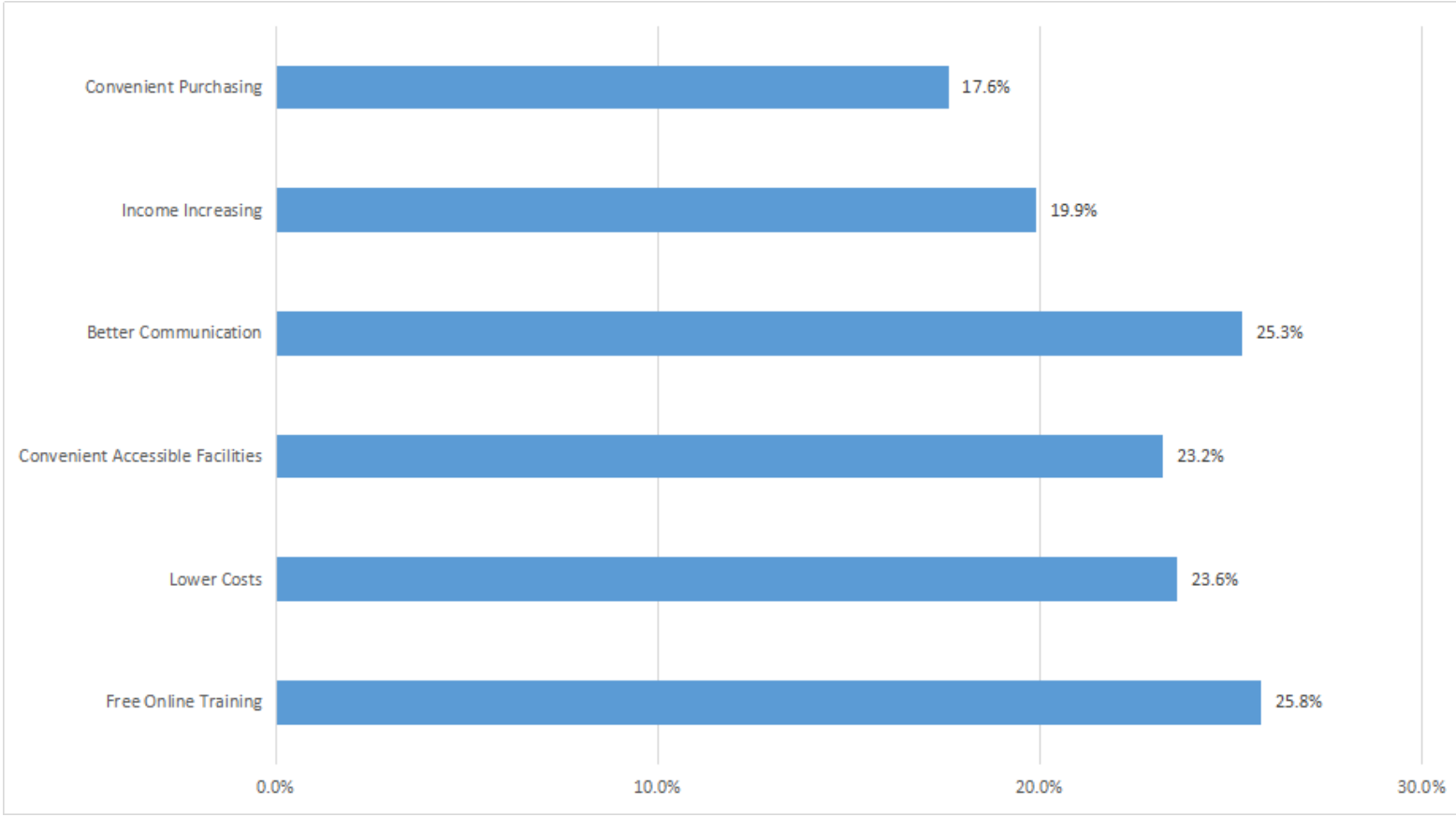
Source: CNNIC

Reasons for Non-internet User



Source: CNNIC

How to make non-internet users embrace the internet



Source: CNNIC

Digital skill education in China

Curriculum reform related to digital skill education in China

In 1990s, a subject called 'information technology' was initially introduced to Chinese urban primary schools.

In 2001, the Ministry of Education further put into motion an extensive curriculum reform.

Following the reform, new curriculum standards were set for various subject areas.The new curriculum standard consists of two parts:

- The curriculum guide for 1st - 9th grade (compulsory education)
- High school language arts curriculum guide

“School to School Network Project (Xiaoxiao Tong)”

To promote the curriculum reform, China launched “School to School Network Project (Xiaoxiao Tong)”, which aimed to bring internet access to all Chinese schools.

By 2015, 85% of Chinese schools have gain internet access, 77% of them have equipped with multimedia enabled classrooms and 37% of them have embedded digital content in teaching.

Chinese measurement of digital literacy

Informatization Development Index by CNNIC

In 2016, Chinese Internet Network Information Center (CNNIC) established an index to evaluate informatization all over the world.

Indicator	Components of Indicator
Internet Infrastructure	Internet Resource, Dissemination of Terminal
Industrial and Technological Innovation	Industrial Scale, Technological Innovation
Impact of Informatization Application	Business Application, Government Application, Customer Application
Network Security	Network Security
Sustainable Development of Informatization	Policy Environment, Human Resource

Source: CNNIC

Global Connectivity Index by Huawei

Huawei, a leading Chinese multinational networking and telecommunications equipment and services company developed Global Connectivity Index as a quantitative assessment of connectivity from both national and industrial perspectives

Indicator	Components of Indicator
Supply	ICT Investment, IoT Investment, Telecom Investment, Data Center Investment
Demand	Mobile Broadband Subscribers, Global App Downloads, Rise in Amount of Data Created Worldwide, Rise in E-commerce Transactions
Experience	Average Download Speed, Internet Users, Average Mobile Broadband Affordability, Security Spending
Potential	ICT Patents, R&D Investment, Software Developers, IT Workforce
Sustainable Development of Informatization	Policy Environment, Human Resource

Connect Where it Counts.Huawei

Comments

1、China has made substantial effort to install national ICT infrastructure and promote ICT education to bridge digital divide.

2、Although the access to internet in China has made great progress, the benefit people get from ICT infrastructure still need evaluation

3、China’s ICT education mainly focus on compulsory education system, an ICT system that benefit all group of the society is not well developed.

Thanks for Listening!