Measuring the Digital Economy

UAE TRA/ITU Regional Forum on ICT Measurement

Dubai 13.12.-15.12.16

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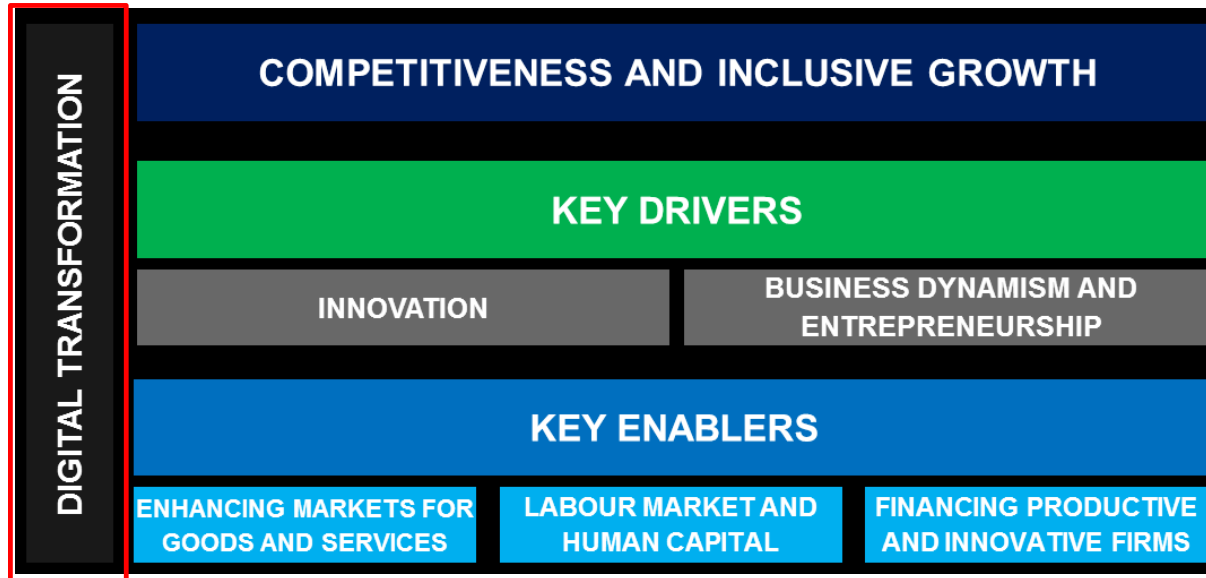
Defining the **fourth industrial revolution**

think systems, not technologies
empowering, not determining
by design, not by default
values as a feature, not a bug

systems-level questions

- What do we really want from technology and what common values can we identify?
- What principles should govern emerging technologies?
- Who gets to decide? Who has power and legitimacy?
- Who will gain and who will lose power in the 4IR?
- How can technology help us tackle our 'grand challenges'?
- How might it make things worse?
- How do we measure economic and social value in the 4IR?

The relevance of ICT measurement for policy making
The Digital-Competitiveness-Inclusion Nexus

DIGITAL TRANSFORMATION

COMPETITIVENESS AND INCLUSIVE GROWTH

KEY DRIVERS

INNOVATION

BUSINESS DYNAMISM AND ENTREPRENEURSHIP

KEY ENABLERS

ENHANCING MARKETS FOR GOODS AND SERVICES

LABOUR MARKET AND HUMAN CAPITAL

FINANCING PRODUCTIVE AND INNOVATIVE FIRMS

Source: Framework of the Europe Inclusive Growth and Competitiveness Lab, World Economic Forum, EIB and Bruegel

Digital technology is affecting the economy by:

- Augmenting research tools and allowing for new forms of value creation
- Speeding up and increasing information flows
- Enabling resource sharing
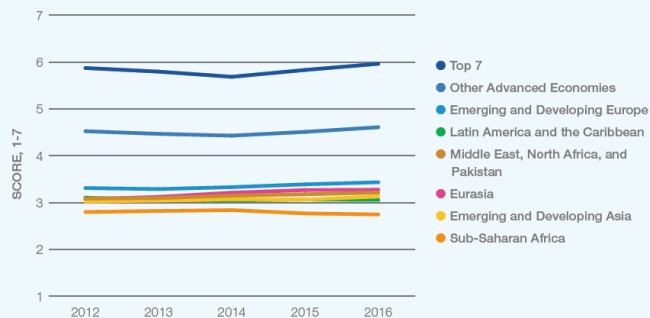- Driving automation and on-demand work relationships

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Example: The Impact of Digital on Innovation
Findings from the Global Information Technology Report 2016

1. The digital revolution is changing the way we innovate and is increasing the urgency to innovate continuously.

2. Seven economies register a digital innovation impact far higher than the rest. They are characterized by a business sector that has embraced all dimensions of digital interaction.

3. In most parts of the world, businesses and governments seem to be missing out on a steadily growing digital population.

4. Digital technologies can bring many gains to society – but only if we channel digital innovation with equally innovative governance and regulation.
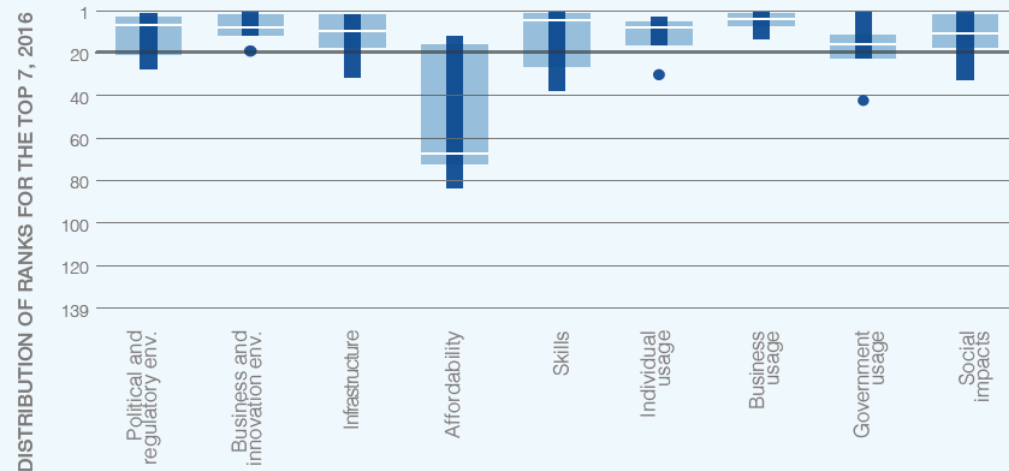
The Impact of Digital on Innovation:
Seven Frontrunners with Digital at the Core of Their Businesses

Figure 3 – Where are ICTs having the strongest economic impact?

Legend:
- Top 7
- Other Advanced Economies
- Emerging and Developing Europe
- Latin America and the Caribbean
- Middle East, North Africa, and Pakistan
- Eurasia
- Emerging and Developing Asia
- Sub-Saharan Africa

Source: World Economic Forum, NRI data
Note: Numbers based on a constant sample of 127 economies.

Figure 4 – How are the Top 7 different? Distribution of ranks across NRI pillars

DISTRIBUTION OF RANKS FOR THE TOP 7, 2016

Pillars: Political and regulatory env. · Business and innovation env. · Infrastructure · Affordability · Skills · Individual usage · Business usage · Government usage · Social impacts

Source: World Economic Forum, NRI data

NRI Pillar 9: Economic Impact =
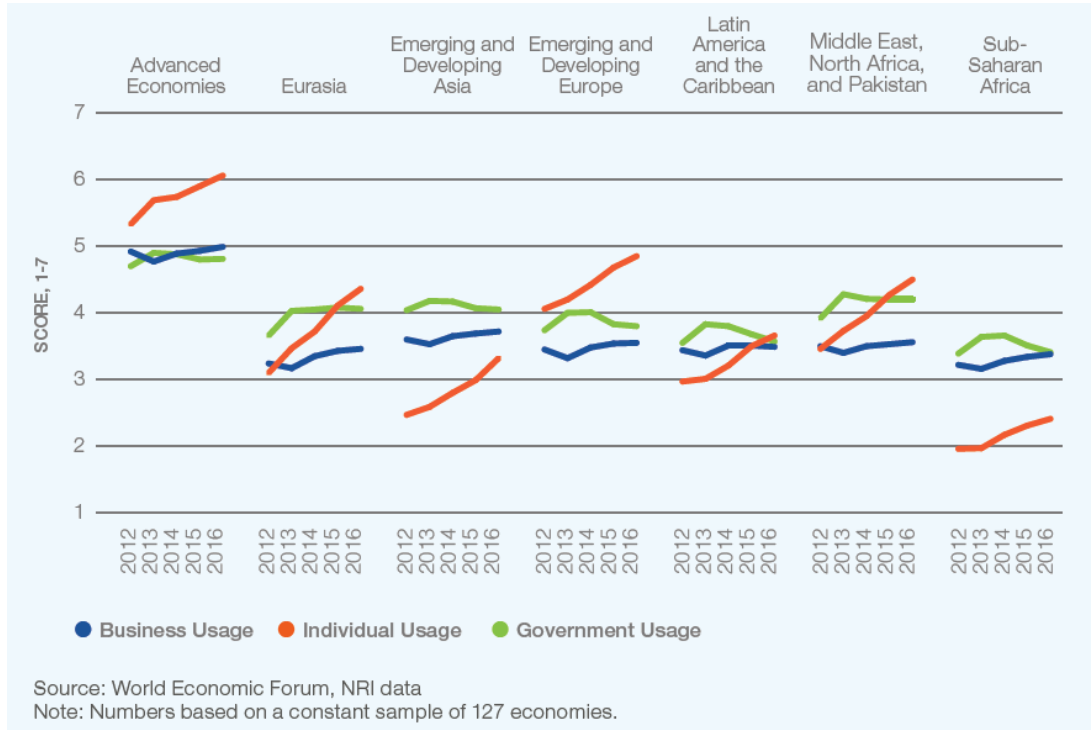9.01 Impact of ICTs on new business models
9.02 ICT PCT patents, applications/mio pop.
9.03 Impact of ICTs on new organizational models
9.04 Knowledge-intensive jobs, % workforce

Top 7 for Impact: Finland, Switzerland, Sweden, Israel, Singapore, the Netherlands, USA

The Impact of Digital on Innovation:
Preparedness by Citizens, Businesses and Governments

- Are businesses missing out on a rapidly growing digital consumer base?
- Governments can do more to leverage digital technologies for social impact

Source: World Economic Forum, NRI data
Note: Numbers based on a constant sample of 127 economies.

ICT measurement for policy making

- 4IR looks set to blur the lines between humans and machines.
- Already today, ICT is an intrinsic part of everyday life for around 50% of the global population. It affects many dimensions of competitiveness and inclusion.
- Technological progress is key source for productivity growth. BUT, if we want to leverage technology for growth, we need to be aware of the distributional consequences and manage them carefully.
- The gap to the unconnected is widening.
- Gains will not be automatic, we have a responsibility to shape this process.
- **How?** (**ICT**) **data-driven policy making**

Source: World Bank
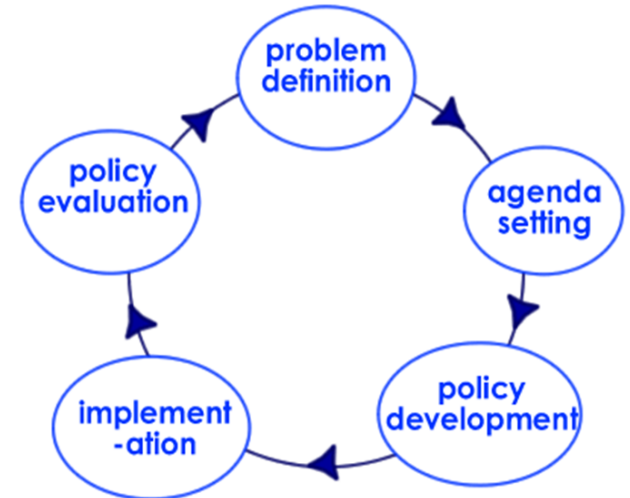
Key areas for measurement

Several areas for measurement:

- Measuring "digital readiness" and connectivity (Networked Readiness Index) – assessing the digital divide
- Measuring the impact of connectivity
  - Measuring value creation in the digital economy beyond GDP requires rethinking national accounts (e.g. UK ONS Review by Sir Charles Bean)
  - Tracking distributional outcomes
  - Tracking the outcomes beyond economic impact: linking to the UN Sustainable Development Goals
  - Program evaluation of specific interventions

Shaping the Future of Digital Economy and Society System Initiative

How can private-public collaboration realize digital technology's potential to benefit humankind?

The aim of the Forum's system initiative on **Shaping the Future of Digital Economy and Society** is to cultivate a shared, trusted digital environment that is a driver of inclusion, economic development and social progress.

Shaping the Future of Digital Economy and Society System Initiative

Issues
We work across four thematic issues

Transformation
Explore the impact of digitalization on business and society
Quantify value at stake for both industry and society

Policy and Governance
Ensure new digital business models through agile governance frameworks

Access & Adoption
Bring Internet access and adoption to the next 3-4 billion and ensure the creation of local content and infrastructure

Trust & Resilience
Increase awareness, understanding and action on cyber risk by embedding cyber risk into a fully integrated strategic business risk assessment

Outcomes
We work with a systemic approach to effect change

Shared Narrative
- Fostering shared understanding of scope, outcome and key issues

Insight
- Collaborative and leading-edge research on specific issues
- Interactions and dialogues on emerging complex topics

Agenda setting & prioritization
- Trust-building process of structured dialogue
- Identifying barriers and accelerators
- Identification of gaps and opportunities for collective action

Solutions
- Coordination and/or commitment of resources
- Aligning incentives
- Model governance mechanisms
- Leader level toolkits
- Best practice dissemination