DEVELOPING NATIONAL CAPABILITIES FOR SUCCESSFUL TRANSFORMATION

ICT ENABLED POLICY FRAMEWORK FOR NATIONAL DEVELOPMENT

■ BENIN ■ RENE SUMMER
■ DIRECTOR GOVERNMENT & INDUSTRY RELATIONS ■ 2016
PUBLIC POLICY RATIONAL (1 OF 2)

POLICY FORMULATION
- FRAMEWORK POLICIES
- DEMAND SIDE NON-ICT POLICIES
- DEMAND SIDE ICT POLICIES
- SUPPLY SIDE ICT POLICIES

CHALLENGES
- HOLISTIC APPROACH
- ALIGN OBJECTIVES
- RESOLVE CONFLICT
- MANAGE COMPLEX IMPLEMENTATION

STIMULATE WIDE & DEEP ADOPTION

OUTCOMES

SOURCE: ERICSSON ANALYSIS 2016
MAXIMIZING IMPACT BY ALIGNING SUPPLY AND DEMAND SIDE AND FRAMEWORK POLICIES

Economic impact from ICT

Increases with broad & deep adoption

and is sustained through innovation in

TECHNOLOGY

DIFFUSION & ADOPTION

INNOVATION IN PROCESSES, PRODUCTS, SERVICES, DISTRIBUTION & BUSINESS MODEL

BROADER POLICY TOOLBOX NEEDED
AGENDA

› DIGITAL TRANSFORMATION, WHY, WHO AND WHY AGAIN
› GUIDING POLICY MAKING THROUGH TRANSFORMATION
› NATIONAL FRAMEWORK FOR ICT ENABLED TRANSFORMATION
› CASES
› BARRIERS AND SUCCESS FACTORS
› SUMMARY
DIGITAL TRANSFORMATION
“WHY, WHO AND WHY AGAIN”
Why is it happening?

Some technological enablers:

- DIGITAL TRANSFORMATION
  - COMPUTATION
  - DATA
  - SPEED
  - THINGS
  - PEOPLE
  - PLACES
  - DISTRIBUTION COST
  - TRANSACTION COST
  - CAPABILITY COST
  
  50 years of Moore’s law

Connecting everything

New conditions for value creation
3 BASIC TYPES OF ICT ENABLED CAPABILITIES

CAPABILITIES CHANGING CONDITIONS FOR VALUE CREATION

DATA DRIVEN INNOVATION

BUSINESS MODEL INNOVATION

EFFICIENCY

Enablers: ICT infrastructure, software, devices,

Outcomes

- Consumer-centric,
- Agile-innovation
- TTM
- Demand-supply matching, two-sided business models
- Front/back-end systems, ERP, logistics

Examples

Source: Ericsson Analysis 2016
Why is it important?

Digital Transformation
ENHANCING WELL-BEING THROUGH ICT
FOUR KEY PILLARS OF A NATIONAL ICT STRATEGY FOR DEVELOPMENT

STANDARD OF LIVING
WELL-BEING
QUALITY OF LIFE
NATIONAL COMPETITIVENESS
SOCIAL PROGRESS

Enhancing well-being through ICT
Four key pillars of a National ICT Strategy for Development
ICT IMPACT ON FACTORS INFLUENCING STANDARD OF LIVING

EXAMPLE LABOR PRODUCTIVITY

ICT

Job destruction/creation
Job reallocation
Quality of skills required
Employment
> More skills
> More fluid/"gig"

Content of work, substituting away repetitive tasks
Complementing labor skills
ICT skills
> Human
> Organizational

Increased labor productivity
Measure of the value of the output:
Consumer surplus
Increased quality
Capturing the value of output:
Business models/Freemium

Income equality
Skilled based bias
Winner takes it all

Employment rate
% of total population that is employed

Work effort
Hours
Worker

Productivity
Output
Hour

Standard of living
GDP
Population

EXAMPLE LABOR PRODUCTIVITY
Labor productivity and competitiveness of firms

Solid growth at the global productivity frontier but spillovers disappointed
Labour productivity; index 2001=0

"Frontier firms" corresponds to the average labour productivity of the 100 globally most productive firms in each 2-digit sector. "Non-frontier firms" is the average of all other firms. "All firms" is the sector total. The average annual growth rate is shown in parentheses.

Source: OECD 2015, Future of Productivity.
ICT ENHANCING THE WELL-BEING
FOUR KEY PILLARS OF A NATIONAL ICT STRATEGY FOR DEVELOPMENT

STANDARD OF LIVING
WELL-BEING
QUALITY OF LIFE
NATIONAL COMPETITIVENESS
SOCIAL PROGRESS
ICT AS AN ENABLER FOR NATIONAL COMPETITIVENESS

MICROECONOMICS COMPETITIVENESS
- QUALITY OF THE BUSINESS ENVIRONMENT
- STATE OF CLUSTER DEVELOPMENT
- SOPHISTICATION OF COMPANY OPERATIONS & STRATEGY

MACROECONOMICS COMPETITIVENESS
- SOUND MONETARY & FISCAL POLICIES
- HUMAN DEVELOPMENT & EFFECTIVE POLITICAL INSTITUTIONS

IMPACT FROM ICT

Source: Harvard Business School
BEYOND LABOR PRODUCTIVITY
10 INNOVATIONS WHERE ICT MATTERS

Source: Doplins 10 types of innovations
SUMMING UP:
ICT IMPACTING COMPANIES’ VALUE CREATING CONDITIONS

BUSINESS SPECIFIC EFFECTS
FROM DIGITAL TECHNOLOGIES


UNIVERSAL EFFECTS FROM
DIGITAL TECHNOLOGIES

UNIVERSAL ICT BENEFITS AS ENABLERS OF INNOVATION & SOCIO-ECONOMIC CHANGE

Sources: Chalmers Institute of Technology, Arthur D Little, OECD Broadband and the Economy, Future of Internet 2008
ICT BENEFITS FOR ALL STAGES OF ECONOMIC MATURITY

ICT NOT A TAIL OF PROSPEROUS NATIONS DOING BETTER

<table>
<thead>
<tr>
<th>MATURITY</th>
<th>COMPETITIVENESS OF NATIONS</th>
<th>IMPACT FROM ICT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Characteristics of a factor-driven economy</td>
<td>BASIC REQUIREMENTS&lt;br&gt;› Institutions&lt;br&gt;› Infrastructure&lt;br&gt;› Macroeconomic environment&lt;br&gt;› Health and primary education</td>
<td>DIRECT IMPACT&lt;br&gt;› Availability and quality of ICT Infrastructure&lt;br&gt;› Digital Readiness</td>
</tr>
<tr>
<td>endowments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Characteristics of a efficiency-driven</td>
<td>EFFICIENCY ENHANCERS&lt;br&gt;› Higher education and training&lt;br&gt;› Goods market efficiency&lt;br&gt;› Labor market efficiency&lt;br&gt;› Financial market development&lt;br&gt;› Technological readiness&lt;br&gt;› Market size</td>
<td>INDIRECT IMPACT FROM ICT&lt;br&gt;› Improving development of human capital, e-education&lt;br&gt;› Increased access to knowledge&lt;br&gt;› Increasing market efficiency/ reach e-commerce&lt;br&gt;› Increase efficiency in existing processes/value chains</td>
</tr>
<tr>
<td>economy (investment driven)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Characteristics of an Innovation-driven</td>
<td>INNOVATION &amp; SOPHISTICATION&lt;br&gt;› Business sophistication&lt;br&gt;› Innovation&lt;br&gt;› Creative destruction</td>
<td>INDUCED IMPACT ICT&lt;br&gt;› Decreasing barriers to creating of new knowledge (inventions)&lt;br&gt;› Decreasing barriers to innovation in new products, services, processes, and markets</td>
</tr>
<tr>
<td>economy</td>
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ICT ENABLED INNOVATION
DEVELOPING ECONOMIES CATCHING-UP

Sustainable Development Goals

End Poverty
Education for All
Energy & Water for all
Economic Growth & Employment
Sustainable Industrialization & Cities
Sustainable consumption
Climate change & energy

Mobility, Broadband and Cloud

Basic access
Mobile Money
M-Commerce
Connecting Schools
E-education
Smart grids
Connected Water Pumps
Connectivity
Platforms
M-Commerce
IoT Cloud
Analytics
Smart Transport
Solutions
Smart City
M-Commerce
Mobile Money
Ride sharing
Energy performance
Smart Grids
Smart homes
Smart City

Catch-up Opportunities
**WHAT’S NEXT?**

4:TH INDUSTRIAL REVOLUTION

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**GDP PER CAPITA BY COUNTRY AND YEAR (1990 $)**

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<th>Third Industrial Revolution</th>
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<td>Car, Oil, Mass production</td>
<td>Electronics, IT and Telecom</td>
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Sources: [http://eh.net/?s=standard-of-living Foreign Policy Magazine](http://eh.net/?s=standard-of-living Foreign Policy Magazine), Perez, *Technological Revolutions and Financial Capital*

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**Fourth Industrial Revolution**

Builds on the 3:ed but distinct; velocity, scope and system impact

The Great Catch-up opportunity for developing economies unprecedented leveling of
- Access to technology
- Performance of technology
- Cost of technology
- Entry barriers

**Doubts?: Will innovation rescue mature economies?**
ICT AS AN ENABLER FOR NATIONAL COMPETITIVENESS

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MACROECONOMICS COMPETITIVENESS
- SOUND MONETARY & FISCAL POLICIES
- HUMAN DEVELOPMENT & EFFECTIVE POLITICAL INSTITUTIONS

EFFECTIVE INSTITUTIONS & ENABLING POLICY/REGULATORY ENVIRONMENT

Source: Harvard Business School.
GUIDING POLICY MAKING THROUGH TRANSFORMATION
DEFINING TRANSFORMATION

CONTENT

PROCESS

PACE

ECOSYSTEM
“SELLING” ICT ENABLED TRANSFORMATION
ALIGNING POLITICAL HORIZONS WITH ACHIEVABLE OUTCOMES

ARTICULATE: THE CHANGE A COUNTRY SEEKS, THE BENEFITS IT CAN EXPECT, WHAT IT TAKES AND THE TIME IT WILL TAKE TO REACH THEM

1. Deep change now, doing rights things today
2. Change within current techno-economic paradigm, doing things right
3. Sustained deep change tomorrow, doing right things tomorrow
POLICY MAKERS ROLE IN DIGITAL TRANSFORMATION

Socio-economic benefits are not automatic given endless symmetric
Digital technologies hold the benefits as well as risks.

**Complements: Quality of Institutions, Regulation & Skills**

- **With complements**
  - Innovation
  - Efficiency
  - Inclusion

- **Digital Technologies**
  - Concentration
  - Inequality
  - Control

Source: WDR 2016
REALIZING ICT BENEFITS THROUGH COMPLEMENTS
WHY POLICY MAKERS NEED TO ACT?

Technology can’t do it alone

No deterministic built in design in to technology

Must be backed by resilient & adequate policy

ICT outcomes can be negative if not backed by adequate policies

Policy choices shape the size, distribution and sustainability of benefits

ICT benefits are not automatic

ICT benefits are not automatic

No deterministic built in design in to technology

Must be backed by resilient & adequate policy

Policy choices shape the size, distribution and sustainability of benefits

ICT benefits are not automatic
WHY A POLICY GUIDE?
ERICSSON’S KEY DRIVERS

› Help building a long term policy commitment
› Preparing for the transformational journey
› Integrating supply and demand side ICT policies
› Organizing and implementing institutional change
› Executing and delivering on a change

Link to AMAZON
POLICY MAKERS GUIDE TO NETWORKED SOCIETY

“NATIONAL FRAMEWORK FOR ICT ENABLED TRANSFORMATION”
SETTING POLICY OBJECTIVES FOR A TRANSFORMATIONAL CHANGE

WHAT OBJECTIVES TO PURSUE

› Sustained economic long term growth
› Increase competitiveness of nations and industries
› Stimulate innovation, diffusion and adoption
› Create new jobs/business
› Minimize exclusion and poverty,
› Increase equality
› Address population challenges, ageing/youth population
› Increase public sector efficiency
› Address climate change, environment
› Cope with increasing level of urbanization
### STRENGTHS

**High**: working ethics, educational system, entrepreneurship, human capital, access to capital, high readiness, agile institutions, support by the public, positive attitudes towards ICT, effective innovation system.

### WEAKNESS

Excessive optimism and/or pessimism, lack of political will, short term perspective, window dressing, growing gap between goals, strategy and results, institutional resistance, political/budget cycles, silo thinking.

### OPPORTUNITIES

Socio-economic benefits, national competitiveness, well being, standard of living long term sustained, sustainable and re-enforcing growth, structural reform capability, ability to create new opportunities as conditions change & develop.

### THREATS

Slow reaction to global/regional change, inability to reform structures and operating models, fragmented/disconnected approach, reduction in investments, innovations, short term threats from job destruction, incumbent resistance to change, inequality.

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**MAKE TRANSFORMATION OBJECTIVES & SEQUENCING THEIR OF RELEVANT**

**CONDUCT A SWOT ANALYSIS – ILLUSTRATIVE EXAMPLE**
A HONEST SWOT......

YOUR REALITY

Rethinking who you are...
NATIONAL STRATEGIC FRAMEWORK FOR ICT ENABLED TRANSFORMATION

DIGITAL TRANSFORMATION

ICT INFRASTRUCTURE

POLICIES & INSTITUTIONS

HUMAN ICT CAPITAL

ICT INDUSTRY ECOSYSTEM

Source: Transforming to a Networked Society Guide for Policy Makers, Hanna and Summer, 2014
NATIONAL STRATEGIC FRAMEWORK FOR ICT ENABLED TRANSFORMATION

ICT INFRASTRUCTURE
- Broadband Access
- Backbone
- Remote areas
- Connected Schools

ICT INDUSTRY ECOSYSTEM

POLICIES & INSTITUTIONS

HUMAN ICT CAPITAL

Illustrative
**EXAMPLE: ICT INFRASTRUCTURE**

### HOW MUCH GOVERNMENTS GOT INVOLVED

<table>
<thead>
<tr>
<th>NGA Penetration 2008</th>
<th>Government Involvement</th>
<th>Source: Booz &amp; Company 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Observer</td>
<td>US, Germany</td>
</tr>
<tr>
<td>Medium</td>
<td></td>
<td>Facilitator</td>
</tr>
<tr>
<td></td>
<td>Sweden, Norway</td>
<td>High</td>
</tr>
<tr>
<td>High</td>
<td>Driver</td>
<td>Japan, South Korea</td>
</tr>
</tbody>
</table>

### DEGREE OF INTERVENTION - ILLUSTRATIVE

- National Wholesale Network
- National Government Access Network
- Government Backbone Network
- Rural Government Networks
- Network Sharing Passive/Active
- Spectrum Reforms/License Obligations
NATIONAL STRATEGIC FRAMEWORK FOR ICT ENABLED TRANSFORMATION

ICT INFRASTRUCTURE

DIGITAL TRANSFORMATION

POLICIES & INSTITUTIONS

HUMAN ICT CAPITAL

ICT INDUSTRY ECOSYSTEM

Illustrative

Affordability
General ICT skills
Digital Content
Programming skills
NATIONAL STRATEGIC FRAMEWORK FOR ICT ENABLED TRANSFORMATION
NATIONAL STRATEGIC FRAMEWORK FOR ICT ENABLED TRANSFORMATION

ICT INFRASTRUCTURE

DIGITAL TRANSFORMATION

POLICIES & INSTITUTIONS

ICT INDUSTRY ECOSYSTEM

Supply side ICT policies
Demand side ICT policies
Framework policies
Sector Policies/Non-ICT

Network Regulation
Spectrum Management
National BB plans
Industrial Internet, IoT
Media/Content
Data driven innovation
Internet Governance
Critical Infrastructure
Trade Policies
IPR

National Strategic framework for ICT enabled transformation

Sector Policies/Non-ICT
DEMAND & SUPPLY SIDE POLICY INTEGRATION
ICT LED TRANSFORMATION AND DEVELOPMENT

PUBLIC POLICY STRATEGY APPROACH

- CLEAR
  - SURGICAL PROCEDURE
- UNCLEAR
  - GOOD LUCK WITH THAT
- PARTIAL
  - APPROACH TO ICT
- HOLISTIC
  - BUILD IT AND THEY WILL COME

- STRUCTURAL TRANSFORMATIONS EXCELLENCE
SEEKING BETTER INTEGRATION BETWEEN ICT AND PUBLIC SECTOR POLICIES

KEY OBSERVATIONS

› **Vision:** client-centered, on demand, info driven, integrated, learning systems.

› **Governance:** align sector strategies, policies, incentives, budgets, with ICT transformation strategy.

› **Holistic:** take a whole sector view: shared infra., open data & standards, common portal, seek scale.

› **Particular:** decentralized; nurture discovery, innovation and feedback, integrate with horizontal enablers.
A SOLID IMPLEMENTATION PLAN
DELIVERING A SUCCESSFUL CHANGE (ILLUSTRATIVE)

Cooperation & Inclusion

National Competitiveness Strategy

Readiness Assessment incl. SWOT

Organize Partnerships & Accountability

Formulate Objectives & Identify Stakeholders

Establish Governing Mechanisms

Coordinate & Align Stakeholders

Formulate Strategies

Formulate Sector Strategies

Stimulate Innovation, Adoption & Transformation

Prioritize Actions & Projects

Review & Update Policy Frameworks

Mobilize Resources

Implementation Process

Stakeholders

MANAGING GOVERNANCE OF INSTITUTIONAL IMPLEMENTATION

OBJECTIVES + SWOT ANALYSIS
- Reality Assessment
- Identify Counter Measures
- Exploit Strengths & Opportunities

STAKEHOLDER MAP
- Key Stakeholders
- Central Functions
- Key Individuals

GOVERNANCE & ORG. STRUCTURE
- Mandate Owners
- Programme
- Projects
- Working Groups

IMPLEMENTATION PLAN
- Strategy
- Action Plans
- Coordination
- Resources
- Reporting

PROJECT WORK PLAN
- Objectives
- Instructions
- Activities
- Resources
- Actions

PROGRESS ASSESSMENT
- Reporting
- Escalation
- Remedies
- Reviews

CHALLENGES
- Holistic Approach
- Align Objectives
- Resolve Conflict
- Manage Complex Implementation

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POLICY MAKERS GUIDE TO NETWORKED SOCIETY

“CASES”
THE GENESIS – DEVELOPED NATIONS*

OUT OF 34 COUNTRIES* 27 HAD A NATIONAL DIGITAL STRATEGY**

OECD DIGITAL ECONOMY OUTLOOK 2015

*France, Germany, Greece, Hungary, Ireland, Italy, Japan, Korea, Luxembourg, Mexico, the Netherlands, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States (OECD countries), and Egypt, Latvia, Lithuania and Russian Federation (non-OECD countries)

** Russian Federation and US have several sectorial approach without aggregation into one overall national strategy
OUT OF 34 COUNTRIES* 27 HAD A NATIONAL DIGITAL STRATEGY**

ICT ENABLED NATIONAL TRANSFORMATION STRATEGIES

› Governments do more than encourage broadband deployment
› Scope is expanding, cross sectorial focus
› Strategies are designed to boost national competitiveness, economic growth and social well being
› Policy & regulatory reforms combined with sectorial programmes to drive outcomes

*France, Germany, Greece, Hungary, Ireland, Italy, Japan, Korea, Luxembourg, Mexico, the Netherlands, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom, the United States (OECD countries), and Egypt, Latvia, Lithuania and Russian Federation (non-OECD countries)

** Russian Federation and US have several sectorial approach without aggregation into one overall national strategy
OECD DIGITAL ECONOMY OUTLOOK 2015

**KEY PILLARS**

1. *ICT Supply side*
   - Further developing telecoms infrastructure, broadband access
   - ICT sector promotion, international

2. *Complementary investments in human capital and trust*
   - ICT-skills and competence build-up
   - Trust; digital identity, privacy and security

3. *Sectorial interventions, demand side policies*
   - eGovernment, access to public sector information and open data
   - ICT adoption by business sector and SME, focus on key sectors;
     a) health care, b) transportation c) education
   - Promoting e-inclusion, aging population and disadvantaged social groups
   - Global challenges; internet governance, climate change and development cooperation

+ Emphasis
NATIONAL CASE

SINGAPORE NATIONAL ICT “MASTER PLAN”

**NATIONAL CASES**

**ORCHESTRATING ICT TRANSFORMATION STRATEGIES**

<table>
<thead>
<tr>
<th>Country/Criterion</th>
<th>Singapore</th>
<th>Finland</th>
<th>South Arica</th>
<th>Philippines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integration with development strategy</td>
<td>H</td>
<td>H</td>
<td>L</td>
<td>M</td>
</tr>
<tr>
<td>Coverage, coherence, synergy</td>
<td>H</td>
<td>H</td>
<td>L</td>
<td>M</td>
</tr>
<tr>
<td>Leading, institutionalizing, engaging</td>
<td>H</td>
<td>H</td>
<td>L</td>
<td>L</td>
</tr>
<tr>
<td>Balancing central direction with local</td>
<td>M</td>
<td>H</td>
<td>M</td>
<td>L</td>
</tr>
<tr>
<td>Balancing long and short term objectives</td>
<td>H</td>
<td>H</td>
<td>L</td>
<td>M</td>
</tr>
<tr>
<td>Innovating, adapting and learning</td>
<td>M</td>
<td>H</td>
<td>L</td>
<td>L</td>
</tr>
<tr>
<td>Balancing ICT as enabler for sectors</td>
<td>H</td>
<td>H</td>
<td>L</td>
<td>M</td>
</tr>
<tr>
<td>Emphasizing digital inclusion</td>
<td>H</td>
<td>M</td>
<td>L</td>
<td>M</td>
</tr>
</tbody>
</table>

*Key: H high; M medium; L low rating for each criterion*

Source: N.K. Hanna and P.T. Knight (eds.), *Seeking Transformation Through Information Technology* © Springer Science+Business Media,
POLICY MAKERS GUIDE TO NETWORKED SOCIETY

“BARRIERS & SUCCESS FACTORS”
KEY BARRIERS TO ICT ENABLED TRANSFORMATION

› Vested interests and resistance to reforms
› Wasting scarce development resources
› Unmet expectations
› Eroding competitive positions
› Exacerbating Inequalities
MASTERING THE DIGITAL TRANSFORMATION PROCESS

DEVELOPING KEY SUCCESS FACTORS:
› Leadership and institutional capabilities
› Enabling policies and regulation
› A high-quality Broadband & IT infrastructure

MOBILITY - BROADBAND - CLOUD
POLITICAL LEADERSHIP, COMMITTED VISION, AGENDA SETTING, AND FOCUS

FIRM POLICY COMMITMENT
Craft resilient public policies that can enable structural transformation of economy and society

REFORM AGENDA
Formulate and implement a cohesive reform agenda that will maximize benefits of an ICT-led transformation

ICT POLICIES
Address key ICT-specific policy issues that shape the conditions of technologies underpinning the Networked society
Institutional options for ICT enabled transformation:

- **Shared Responsibility** Model,
- **Core Ministry** Model > Investment coordination,
- **Lead Ministry** Model > Technical coordination,
- Administrative and Technical Coordination Model
- **Designated ICT-Development Agency Model** > Holistic coordination
KEY TRENDS

› Shift towards direct engagement by president/PM
› Shift from ad-hoc responses to institutionalized structures
› Shift in the locus of institutional leadership
› Independent and strong national ICT agency
› Shift to governance across entire portfolio (e-gov.)
› Content of ICT strategy shifting from supply to demand side as maturity grows
ENABLING POLICIES - POLITICAL ECONOMY OF DIGITAL TRANSFORMATION!

WHAT DOES IT TAKE TO MAXIMIZE BENEFITS FROM ICT ENABLED TRANSFORMATION:

1. REMOVING BARRIERS TO DO THINGS RIGHT
2. REMOVING BARRIERS TO DO RIGHT THINGS
3. CREATING INCENTIVES TO DO RIGHT THINGS

PUBLIC INSTITUTIONS & POLICY

• Wise policies, that shape right incentives …
• Not all profit seeking is beneficial…
• Continue to deal with market failures but also
• Reactionary public institutions,
• Regulatory failures
• Systemic failures > State – different layers of authority – alignment –
# Enabling Regulation - Key ICT Policy Areas

<table>
<thead>
<tr>
<th>ICT Supply Side</th>
<th>ICT Demand Side</th>
<th>Horizontal frameworks impacting ICT Supply and Demand side</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. National Broadband Plans</td>
<td>4. Industrial Internet / Internet of things</td>
<td>7. Internet governance</td>
</tr>
<tr>
<td>Roll-out of ICT infrastructure</td>
<td>ICT empowerment for increased innovation and efficiency in industrial sectors</td>
<td>Meta Regulation</td>
</tr>
<tr>
<td>Market Efficiency</td>
<td>New consumer expectations, value-chain shifts and new business models</td>
<td>Market access, Digital Services, Cross Border Data Flows,</td>
</tr>
<tr>
<td>Scarce resource management</td>
<td>Privacy Protection &amp; Innovative Uses of Data, Cloud</td>
<td>Investment Incentives, Licensing, Diffusion</td>
</tr>
</tbody>
</table>
| 10. Critical infrastructure and Cyber security | Resilient ICT infrastructure and offensive & defensive measures protecting against cyber-attacks | }
DEVELOPING HIGH QUALITY ICT INFRASTRUCTURE

BASIC ACCESS

ENABLING

RURAL

RELIABLE

SECURE

URBAN
POLICY MAKERS GUIDE TO NETWORKED SOCIETY

“SUMMARY”
The Networked Society is a transformative augmentation of a society’s key capabilities: to better shape its physical, economic, social, and intellectual environments to achieve its ends.
WHAT’S NEXT?
4:TH INDUSTRIAL REVOLUTION

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<tr>
<th>1820</th>
<th>1870</th>
<th>1913</th>
<th>1950</th>
<th>1973</th>
<th>1998</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>Mexico</td>
<td>United Kingdom</td>
<td>Netherlands</td>
<td>United States</td>
<td>Africa</td>
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PUBLIC POLICY RATIONAL (1 OF 3)

POLICY FORMULATION

ICT BENEFITS

FRAMEWORK POLICIES

DEMAND SIDE NON-ICT POLICIES

DEMAND SIDE ICT POLICIES

SUPPLY SIDE ICT POLICIES

CHALLENGES

HOLISTIC APPROACH

ALIGN OBJECTIVES

RESOLVE CONFLICT

MANAGE COMPLEX IMPLEMENTATION

STIMULATE WIDE & DEEP ADOPTION

OUTCOMES

SOCIO-ECONOMIC BENEFITS

FEEDBACK

SOURCE: ERICSSON ANALYSIS 2016
MAXIMIZING IMPACT BY ALIGNING SUPPLY AND DEMAND SIDE AND FRAMEWORK POLICIES

Economic impact from ICT

Increases with broad & deep adoption

and is sustained through innovation in

BROADER POLICY TOOLBOX NEEDED
DELIVERING A CHANGE
SIX VERSIONS OF A PROMISE OF A CHANGE

VISION ➔ SKILLS ➔ INCENTIVES ➔ RESOURCES ➔ ACTION PLAN ➔ SUCCESS

VISION ➔ SKILLS ➔ INCENTIVES ➔ RESOURCES ➔ ACTION PLAN ➔ OPTIMISM

VISION ➔ SKILLS ➔ INCENTIVES ➔ RESOURCES ➔ ACTION PLAN ➔ FRUSTRATION

VISION ➔ SKILLS ➔ INCENTIVES ➔ RESOURCES ➔ ACTION PLAN ➔ RESISTANCE

VISION ➔ SKILLS ➔ INCENTIVES ➔ RESOURCES ➔ ACTION PLAN ➔ CONCERN

VISION ➔ SKILLS ➔ INCENTIVES ➔ RESOURCES ➔ ACTION PLAN ➔ CONFUSION
THE KEY LESSONS SO FAR

› Commit to holistic, long term transformative strategy
› Transformation is a process
› Tap synergies, exploit supply and demand side synergies
› Attend to soft infrastructure, leadership, policies and institutions
› Emphasize digital diffusion
› Balance strategic direction with local initiative
› Enable change, innovation and learning
› Monitor, Evaluate Adapt
CREATING AN ECONOMIC STRATEGY
HOW SHOULD NATIONS COMPETE WITH EACH OTHER?

TACTICAL
(ZERO SUM COMPETITION)

- Focus on attracting new investments
- Compete for every plant
- Offer generalized tax breaks
- Provide subsidies to lower / offset business costs
- Every city and sub-region for itself
- Government drives investment attraction

STRATEGIC
(POSITIVE SUM COMPETITION)

- Also support greater local investment by existing companies
- Reinforce areas of specialization and emerging cluster strength
- Provide state support for training, infrastructure, and institutions with enduring benefits
- Improve the efficiency of doing business
- Harness efficiencies and coordination across jurisdictions
- Government and the private sector collaborate to build cluster strength

EXAMPLES
Spectrum Management
Network Regulation
Internet Governance
Data flows
IPR
Cyber-security
Innovation Policy

Source: Harvard Business School.