11th World Telecommunication/ICT Indicators Symposium (WTIS-13)

Mexico City, México, 4-6 December 2013

Contribution to WTIS-13

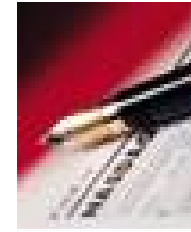|	
SOURCE:	Ministry of Communications and Information Technology, Iran
TITLE:	Side event: ICT Measurement in Iran

ICT Measurement for Iran

**Iran ICT Ministry
Iran Information Technology
Organization (ITO)**

ITU BTD WTIS 2013

ICT Measurement for Iran (IMI):
A Progress Report

By:

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**DP
Data Processing
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Islamic Republic of Iran: Some Facts and Figures

IRAN
2025

Islamic Republic of Iran

	Value	Unit	Year
Population (Census)	75,149,669	person	2011
Average Annual Population Growth Rate	1.29	%	2006-2011
Unemployment Rate	10.4	%	summer2013
Economic Participation Rate	39.1	%	summer2013
Total value of Exports (without oil)	34,230,706,235	$	2012
Total value of Imports	57,118,427,340	$	2012
Life Expectancy at Birth(Male)	72.1	year	2011
Life Expectancy at Birth(Female)	74.6	year	2011
Total literacy Rate(Aged 10-49)	92.4	%	2011
Inflation Rate	35.9	%	NOV 2013

I.R. of Iran Human Development Index: Trends 1980 - present
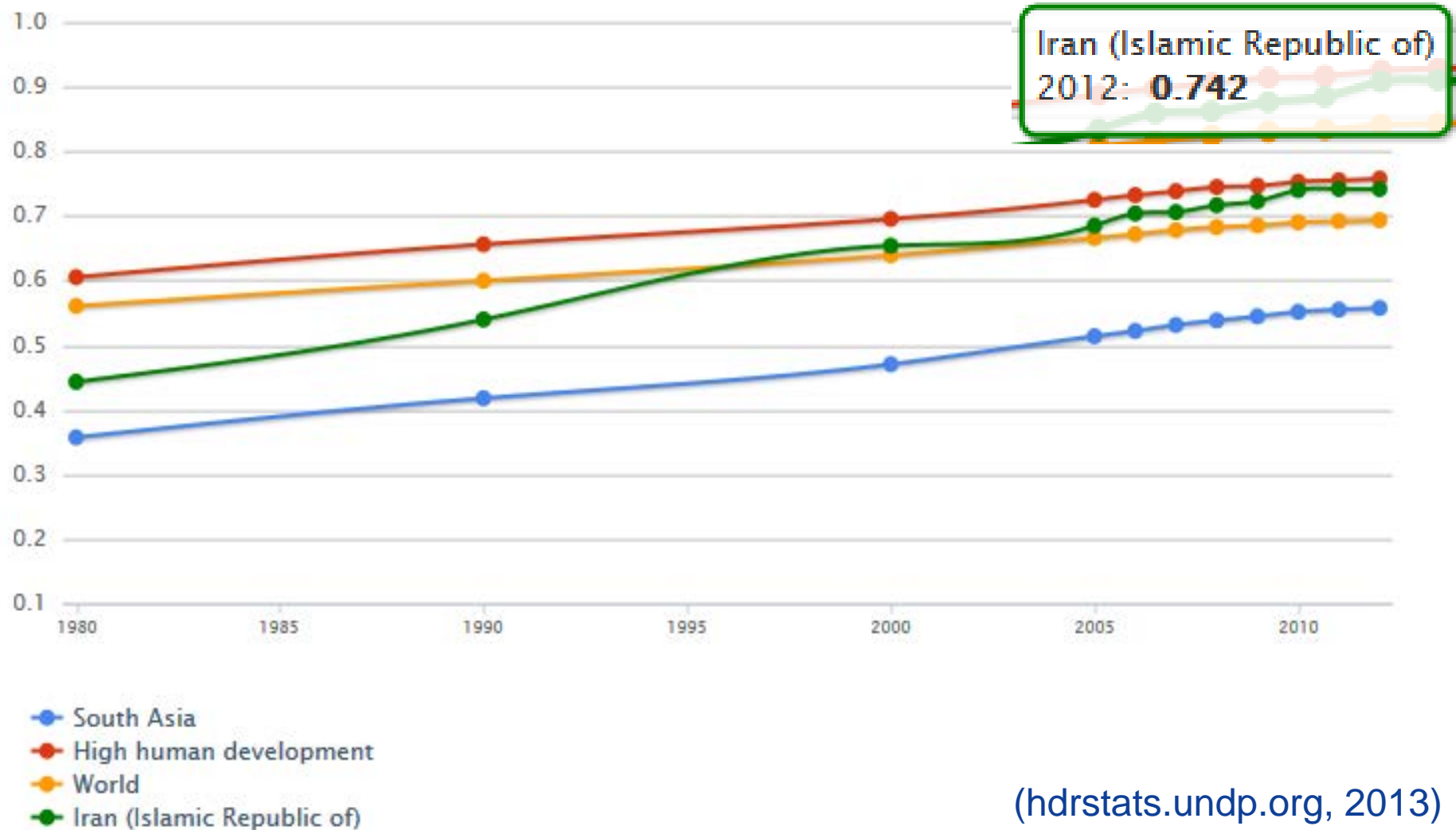
(hdrstats.undp.org, 2013)

Some facts about I.R. Iran

- **A country of particular geopolitical significance owing to its location in three spheres of Asia (West, Central, and South).**

- **Iran has the 2nd largest proven natural gas reserves in the world**

- **Iran has the 4th largest proven petroleum reserves.**

- **Iran is home to one of the world's oldest civilizations.**

- **Iran is the 18th largest country in the world in terms of area.**

- **Iran is a founding member of the UN, NAM, OIC and OPEC.**

Telecom/ICT Indicators of Iran

Indicator/Index	Value (%)
ITU ICT Development Index (ITU,2012)	3.79
Active Fixed-telephone subscribers per 100 inhabitants (CRA,2013)	38
Active Mobile-cellular subscriptions per 100 inhabitants (CRA, 2013)	80
Percentage of individuals using the Internet (ITO,2012)	43
Fixed (wired) broadband subscriptions per 100 inhabitants (CRA,2013)	5
Mobile broadband subscriptions per 100 inhabitants (CRA,2013)	1.5
International Internet Bandwidth (Gbps)	80
Percentage of households with computer (ITU,2012)	41.8
Percentage of households with Internet access (ITU,2012)	26.5

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ICT Targets of Iran for 2015

30%	• E-learning development
100%	• Land registration and auditing in cities and rural areas
100%	• National Spatial Data Infrastructure (NSDI)
20% Local and 30% International	• E-commerce development
60%	• ERP development
1.5% of non-oil exports	• Software and IT Services Export
2%	• IT Share of GDP (Software and Security)

ICT Targets of Iran for 2015

60%	• **Broadband Internet for households**
100%	• G2G e-service
70%	• G2C and G2B e-services
80%	• Replacement of cash with e-payment
100%	• E-health record (EHR) for inhabitants
100%	• National Smart Card for inhabitants

Key Players in ICT Sector

- **ICT Ministry, the main governing body**
- **Information Technology Organization of Iran (ITO)**
- **Communication Regulatory Authority**
- **TCI, the incumbent fixed and mobile operator**
- **2 Mobile operators (2.5 G) with 96% population coverage**
- **One 3G Mobile operator with 42% population coverage (protection period will end next year)**
- **11 Broadband Internet Service Providers**
- **Fourth IT operator for FTTx (10 million subscribers planned for the end of plan. In the launching state.)**
- **4 VoIP operators**
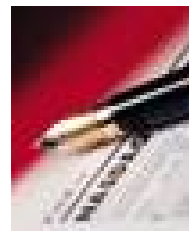- **ISPs, SAPs,**

Some key Projects

- **Broadband for all Iranians (Upgrading national and international bandwidth)**

- **National Information Network**

- **National Learning Network (connectivity and content)**

- **National Scientific Network**

- **National Health Network**

- **….**

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ICT Measurement for Iran

Policy Framework for Iran ICT Strategy

Vision and Policy

Strategic Building Blocks

Policy Process and Structures

Vision and Policy
for ICT Development in Iran
(2011 – 2016)

E-government

e-commerce and e-banking

Islamic-Iranian Culture in Cyberspace

e-health and e-wellfare

ICT Infrastructures

Security

ICT Laws and Regulations

ICT Governing Body in Iran
(Policy making, Monitoring, ….)
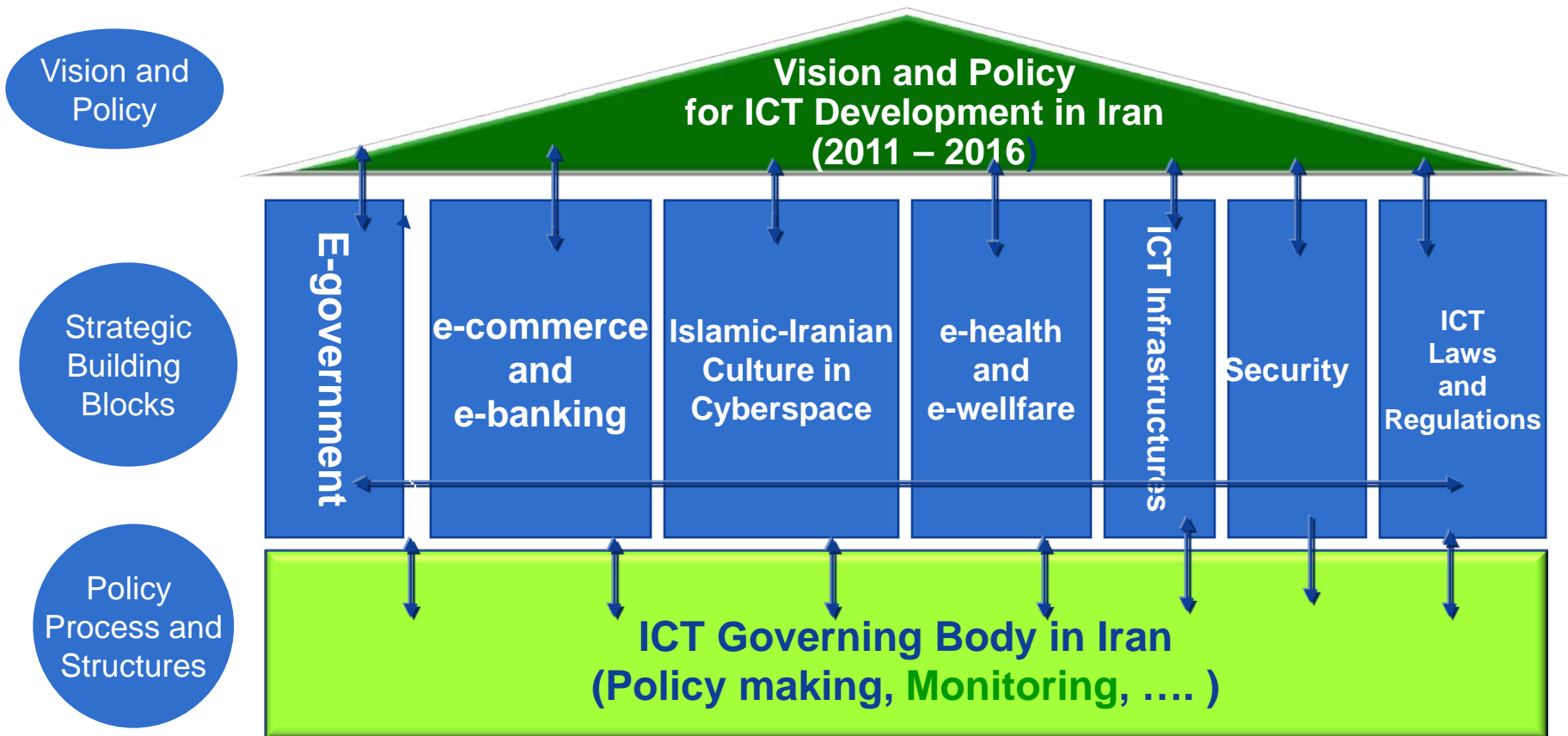
Past Measurement in Iran Experiences– 2006 to 2011

- **Defining 44 indicators in the ICT sector development plan during Fourth Development Plan (2006-2010).**

- **Two household and individual surveys for the Internet users in Iran by SCI. (2008 and 2010).**

- **Developing an estimator for the number of Internet users by ITO.**

- **Measuring and analyzing ICT indicators in the Fourth Development plan and ITU IDI and EIU e-readiness index for Iran by ITO (2010-2011).**

Main Challenges - 1

- **Lack of a model or conceptual framework for defining indicators in policy documents**

- **Unclear and ambiguous definitions of national indicators**

- **Unacceptable level of awareness and communication among stakeholders**

- **Lack of updated and exact data**

- **Lack of technical capacity for ICT measurement**

Main Challenges - 2

- **Governing body for ICT measurement**
- **Lack of enough financial resources in the responsible organizations**
- **Security and privacy issues**
- **Lack of coordination among stakeholders, specially ICT statistics users**
- **Unacceptable level of timely and exact reporting to the international bodies**
- **Low importance of ICT measurement in government organization and private sector**

The stakeholder's needs - 1

- **Defining the Iran's ICT core indicators according to high-level policies.**

- **Measuring the current status**

- **Defining realistic targets for the indicators**

- **Monitoring these indicators**

- **Improving Iran's position in international rankings.**

The stakeholder's needs - 2

- **Quick answer to the information needs of international bodies**

- **Using international standards and practices in IMI**

- **Decreasing cost of data collection and increasing completeness and soundness of this process.**

Solution: ICT Measurement Plan for Iran (IMI)

- Governance
- Financial structure
- Processes and Procedures
- Technological infrastructure
- Human resource and capacity building
- International cooperation
- Legal framework
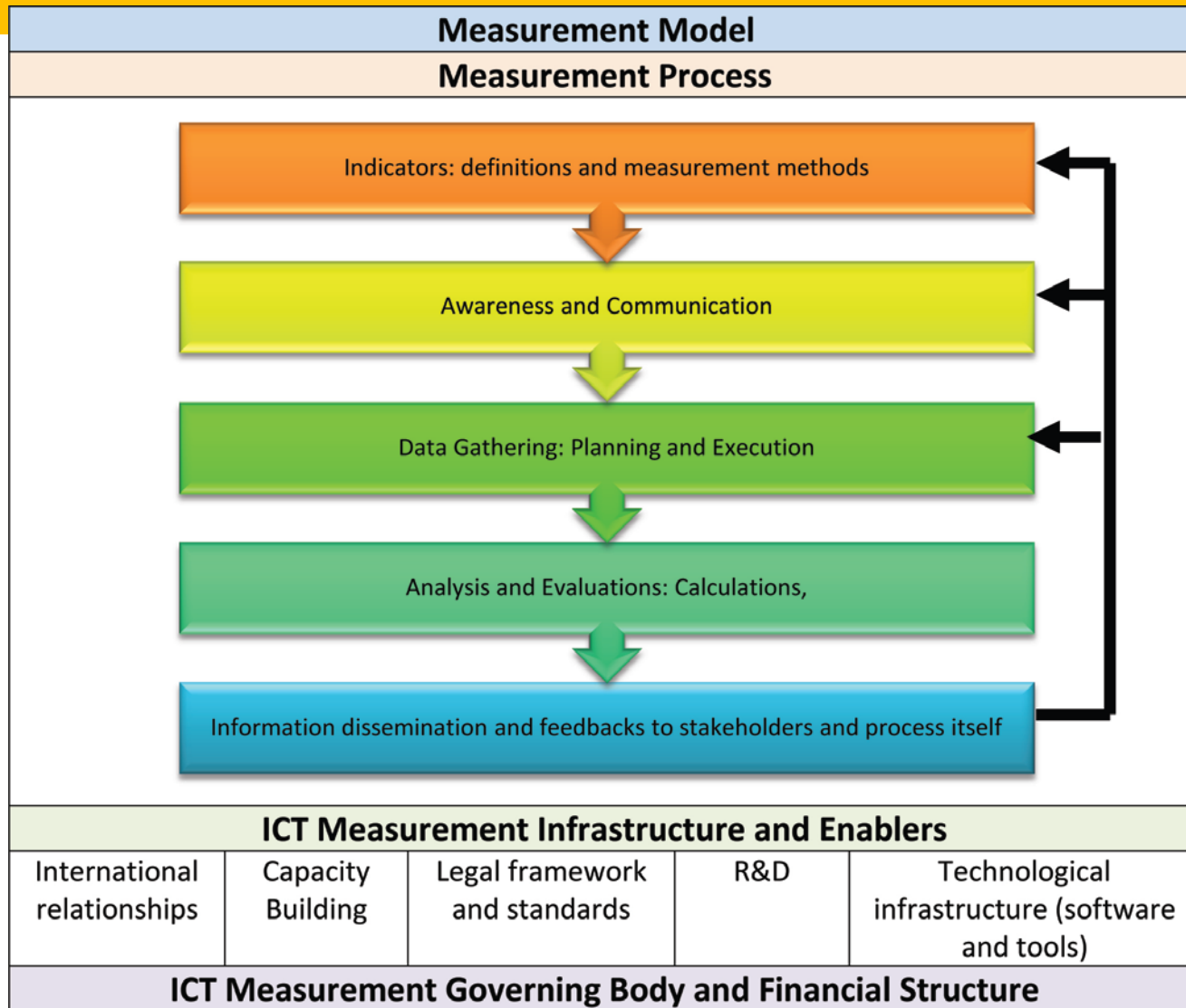- Awareness and communication
- R&D

IMI in Iran's Policies

- **Ministry of ICT should develop the needed mechanisms for collecting and disseminating information society statistics of the country till the end of second year of the plan (2012) and all organizations must report their performance according to the designed indicators to the Ministry of ICT.** *(Article 46, Fifth Development Plan of Iran, 2011-2015)*

- **All organizations should report their progress towards the Fifth Development Plan goals and their flagship and national level projects to ITO as the sole responsible of IMI in Iran.** *(Ministry of Boards, September 2012)*

Adapting a supporting mechanism in NQAF 1 for IMI:
A law or formal provision that establishes the national statistical system and a coordinating body.

A Conceptual Framework for ICT Measurement

Measurement Model

Measurement Process

Indicators: definitions and measurement methods

Awareness and Communication

Data Gathering: Planning and Execution

Analysis and Evaluations: Calculations,

Information dissemination and feedbacks to stakeholders and process itself

ICT Measurement Infrastructure and Enablers

International relationships	Capacity Building	Legal framework and standards	R&D	Technological infrastructure (software and tools)

ICT Measurement Governing Body and Financial Structure

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Priority Areas for Defining ICT Core indicators

Key Functional Areas (e-things)

| e-government | e-learning | e-health | e-commerce/ e-banking | e-justice |

National Facilitating Infrastructures

International Indices

| ICT Infrastructure | ICT R&D | Legal Framework | ITU IDI |

| Culture and Content in Cyberspace | Cyber security | ICT Economics | EIU Digital Economy |

e-government indicators

- **Percentage of G2G, G2B and G2C services**
- **Percentage of governmental organizations connected to National Information Network**
- **Percentage of governmental organizations with broadband access to Internet**
- **Percentage of governmental organizational that use national cloud**
- **Percentage of governmental organizations with ERP**
- **….**

Culture and Content Indicators

- **Number of Iranian-Islamic Social Networks**
- **Number of developed computer games in the country with the Iranian-Islamic nature.**
- **Percentage of e-books published in the country to the total books published**
- **Percentage of e-newspapers registered in the country to the total newspaper published**
- **Number of Persian encyclopedia on the Web**
- **…**

e-health indicators

- **Percentage of Medical Centers connected to the broadband Internet**
- **Percentage of Medical Centers connected to the National Health Network**
- **Percentage of Population with Electronic Health Record**
- **Percentage of Population with Social Security Smart Card**
- **Percentage of physicians who use computer for prescription**
- **….**

Data collection scope

- **1420 governmental organizations**
- **~ 60000 schools**
- **~ 180 higher education institutes**
- **~ 10000 medical centers**
- **~ 50000 ICT businesses**
- **More than 3000000 Businesses**
- **~ 20 Million households**

Measuring ICT access and use by households and individuals in Iran

- **Statistical Center of Iran (SCI) has done two surveys in 2008 and 2010.**
- **SCI has started a survey for 2013 under an agreement with ICT ministry.**
- **Target Population: ~ 75 Million people, 20 Million households.**
- **Sample size: 25000 (Simple Random Sampling)**
- **Data collection method: Interview**
- **End date: March 2014**

Measuring Economical Impact of ICT in Iran

- **Statistical Center of Iran has started a survey in 2013 in an agreement with ICT ministry for measuring :**
  - **Value added of**
  - **ICT share in GDP**
  - **ICT Employment**
  - **ICT export and import**
  - **ICT in businesses (UNCTAD B1-B12 indicators)**
- **Target population: ~ 3 million businesses, ~ 50000 ICT businesses**

Governance Model for IMI

- **Using UNSC NQAF and COBIT for designing the governance model.**

- **ICT Ministry (ITO) is the governing body.**

- **ITO is responsible for planning, implementing, coordinating, analyzing and disseminating**

- **Forming an interagency Committee (Iran NSO, Iran regulatory, representatives of responsible government agencies, ICT ministry, ITO, consultants, others in case of need)**

- **Committee of Subject Matter Experts**

National Supporting mechanisms for Coordination of IMI based on UNSC NQAF 1

NQAF 1 Supporting Mechanism	Corresponding element in ICT Measurement for Iran (IMI
Formal provision	A rule in Fifth Development Plan and a mandate by Ministry of board
Guidelines	A Manual for the Iran ICT Core indicators (description of 90 indicators, measurement methods, responsible organizations,….)
Regular meetings	Face-to-face meetings with the representatives of stakeholders to monitor and check their actions and progress, awareness workshops, seminars
Training courses	Conducting training courses on ICT indicators
Coordinating and removing duplication	Defining roles and responsibility matrix and who's who in ICT measurement. Stopping parallel measurements and reporting.

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ICT Infrastructure for online Data Gathering

- **Management component:** For each indicator, user can define data items, calculation formula, and responsible organization for data entry, value in the first year, target value, value in each year of the plan, expected growth rate.

- **Data gathering component:** Each user can see the data items that have been assigned to him/her and enter the value for each data item via a Web-based simple form.

- **Management dashboard component:** User can see management reports and dashboard for each indicator and groups of indicators. The reports are but not limited to planned trend, realized trend, government organizations status, provinces status.

- **Embedding ICT measurement** in the existing automated mechanisms, such as Ministry of Education Educational Statistics Portal.

NQAF 11: Assuring cost-effectiveness (An appropriate IT architecture)

International Communications for IMI

- **Continuous interaction with ITU-D for answering the questionnaires and providing information.**

- **Active participation in WSIS Forum.**

- **Presenting ICT Measurement for Iran in WSIS Forum 2012, WSIS 2013 and WTIS 2013.**

- **Active participation in a two-day joint ITU-UNCTAD joint Capacity Building Workshop on ICT indicators, 2012.**

- **Membership in the related ITU-D Expert Groups.**

Capacity building and International Communication

- **Using international consultancy services**
- **Providing needed information for international bodies**
- **Local and regional workshops**
- **Training**
- **Seminars**
- **Increasing awareness**
- **Writing papers**
- **Creating a knowledge-base for IMI.**
- **Developing a formal portal for IMI**
- **Developing needed information system for providing semi-automated support for data collection and dissemination.**

Capacity building activities

- **Analyzing the ITU MIS 2012 report for extracting best practices and policy recommendations**
- **Translation of the following reports to Persian:**
  - **ITU Measuring the Information Society 2012**
  - **UNCTAD Information Economy Report 2011 and 2012.**
  - **ITU Handbook for Collection of Administrative Data on Telecom/ICT 2012.**
- **Training courses**
- **Workshops**

Iran ICT Ministry
Iran Information Technology
Organization (ITO)
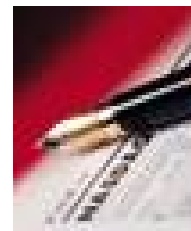
Some new approaches in ICT Measurement for Iran

Increasing the User Experience (UX) and Usability of ICT Statistics

What is QUALITY?

United Nations Statistics Division

FITNESS FOR USE

This definition is broader than in the past when quality was equated with accuracy !

Now it is recognized that there are other important dimensions.
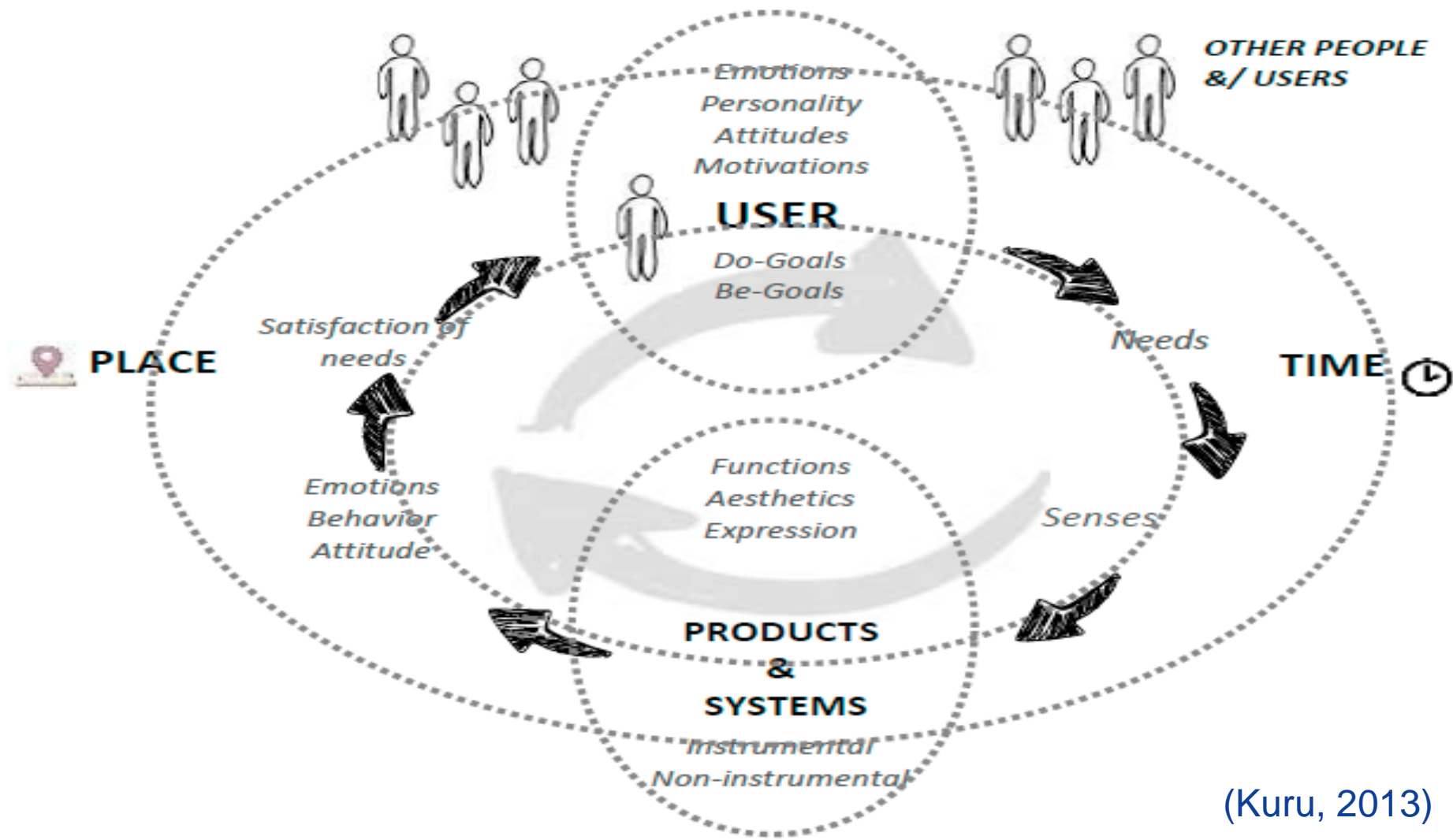
Can data be said to be of good quality when:

ACCURATE – but produced too late to be used?

ACCURATE – but can't be found, accessed, or totally understood?

ACCURATE – but conflict with other data?

ACCURATE – but from unknown or unverifiable sources?

ACCURATE – but not provided on a regular basis?

ACCURATE – but not really shows what is needed?

(Becker, 2013)

=

ACCURATE – but poor user experience and usability

4

(Kuru, 2013)

organisational capability

process quality

product quality

quality in use

life cycle processes

development process

product

effect of the product attributes

usability capability

user centred process

interface and interaction

usability in context

38

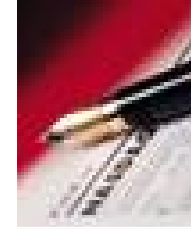# ITO's User Experience (UX) Maturity Plan for Enhanced Usability

Process ID	Description	Level0 Incomplete	Level1 Performed	Level2 Managed	Level3 Established	Level4 Predictable	Level5 Optimizing
HCD1	Ensure user-centered design content in systems strategy						→
HCD2	Plan and manage the user-centered design process						→
HCD3	Specify stakeholder and organizational requirements						→
HCD4	Understand and specify the context of use						→
HCD5	Produce design solutions						→
HCD6	Evaluate designs against requirements						→
HCD7	Introduce attend operate the system						→

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Iran ICT Ministry
Iran Information Technology
Organization (ITO)

Data Processing Co.

Thank You

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