



Measuring the Information Society Of IRAN

MEASURING THE INFORMATION SOCIETY OF IRAN



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2015

Information and Communication Technology
Measurment for IRAN
National indices and International Indicators



Ministry of ICT
Information Technology Organization of
IRAN



Measuring the Information Society of IRAN



Ministry of ICT
Information Technology Organization of
Iran (ITO)

Measuring the Information Society of Iran (Islamic Rep.) 2015

ICT and Sustainable Development

With a revised set of Iran ICT Core Indicators

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Measuring the Information Society of I. R. Iran 2015

- تهیه شده در : مرکز برنامه ریزی و نظارت راهبردی فناوری اطلاعات
- مجری نظام پایش شاخص های فناوری اطلاعات و ارتباطات کشور -
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Foreword from the ICT Minister



Culture, economy and national security are the main priority areas of most of the development plans in various countries. In these two decades, countries have added modern technologies (e.g. nanotechnology, biotechnology, ICT), environment and human capital to these priority areas. The global agenda to shape the future of the ICT sector was unanimously adopted at the ITU 2014 Plenipotentiary Conference (PP-14) by Resolution 200 'Connect 2020 Agenda for Global Telecommunication/ICT Development'. Through the **Connect 2020 Agenda** ITU Member States committed to **work towards the shared vision** of "an information society, empowered by the interconnected world, where telecommunication/ICT enables and accelerates socially, economically and environmentally sustainable growth and development for everyone". In our country, we are committed to this vision.

Government of the Islamic Republic of Iran has recognized ICT as a key infrastructural component for social, economic and cultural development of the country. It is expected that ICT should act as an enabler for the different sectors of our economy so that we can provide inclusive and affordable services to the stakeholders of information society of Iran with a higher quality in a shorter time. For realizing the above mentioned roles for ICT, the ICT master plan of Iran has been prepared in alignment with the high-level national policies and international development goals with a market-oriented view and by considering the important role of private sector and international cooperation. Government has started very important initiatives to promote the ICT infrastructures, including high-speed broadband networks and services in the country. Now, a vibrant investment ecosystem is forming in for promoting investment and participation of private sector in the development of information society of Iran. It is expected that by such joint investments, new markets and business opportunities will be created in the coming years.

One of the principles of WSIS+10 Vision for WSIS beyond 2015 is focus on WSIS Action Lines and measurement of their implementation. As it has been mentioned in this vision, there is a need for measurement and development of indicators and tools for measuring socio-economic impacts of ICTs on national, regional and international level. Five years ago at the end of the Fourth Socio-Economic Cultural Development Plan of Islamic Republic of Iran (2004-2009), Information Technology Organization of Iran (ITO) one of the subsidiary organizations of Iran Ministry of ICT, performed the first country-wide and comprehensive measurement and analysis of ICT indicators in the country with a help of two private sector companies. The objective of that measurement was to measure the progress of country towards the targets that was mentioned in the ICT development plan of Fourth Development Plan according to the 44 indicators. Some part of this data collection process was done at a country-level from governmental organizations (1200 organizations), schools (65000 schools), and universities (180 universities). Another part was based on administrative data collection, field studies, surveys and expert opinions. This measurement process was a challenging one and we learned a lot of experiences in that effort. At that time, ITO faced many challenges such as lack of a measurement model, ambiguity in the

definition and measurements methods, lack of governing and national coordinating body and lack of financial resources for measurement and data collection.

Due to the importance of measuring and analyzing ICT indicators in the country and according to the international experiences and quality frameworks, the policy makers decided to consider a law and formal provision for the ICT statistical system in the Fifth Development Plan of the Islamic Republic of Iran. The law instructs Ministry of ICT to develop a system for ICT statistics in the country till the end of second year of the plan. According to this law, Ministry of ICT is responsible for measuring, monitoring and providing analytical reports and feedbacks for the decision makers. Ministry of ICT has assigned Iran Information Technology Organization (ITO) to act as a national coordinating body for ICT measurement and develop an ICT statistical and measurement system for Iran. ITO performed this task with the help of one of the universities and a private sector company. This initiative was an excellent successful working example of cooperation among government, academic and research bodies and private sector in Iran for achieving the country goals and objectives. The main components of the designed ICT statistical system are the conceptual framework in ICT Measurement of Iran (IMI), core ICT indicators, processes, rules and regulations, institutional body, financial structures, international affairs, and capacity building.

This report (Measuring the Information Society of Iran) presents the revised version of ICT core indicators of Iran after the first phase of ICT measurement in Iran and receiving feedbacks of all stakeholders. Also, this report presents current situation of the country according to the internationally comparable ICT statistics. This report contains a summary of two main important joint projects with Statistical Center of Iran (SCI): Measuring ICT access and use by households and individuals and calculating the first ICT satellite account of Iran. We are happy to receive your comments and opinions to improve this report for the upcoming period.

Dr. Mahmoud Vaezi
ICT Minister of Islamic Republic of Iran

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1 The Islamic Republic of Iran at a Glance

1.1 Location and population

The Islamic Republic of Iran is located in southwestern Asia. Comprising a land area of 1,648,195 km², it is the 18th-largest in the world; with over 77 million inhabitants. Iran is bordered on the north by Armenia, Azerbaijan and Turkmenistan, with Kazakhstan and Russia across the Caspian Sea; on the east by Afghanistan and Pakistan; on the south by the Persian Gulf and the Gulf of Oman; on the west by Iraq; and on the northwest by Turkey.

Tehran is the capital and largest city, serving as the cultural, commercial, and industrial center of the nation. Iran is a major regional and middle power, exerting considerable influence in international energy security and the world economy through its large reserves of fossil fuels, which include the largest natural gas supply in the world and the fourth-largest proven petroleum reserves.

1.2 History

Iran is one of the world's oldest civilizations. The first dynasty in Iran formed during the Elamite kingdom in 2800 BC. The Iranian Medes unified Iran into an empire in 625 BC. They were succeeded by the Iranian Achaemenid Empire, The Hellenic Seleucid Empire and two subsequent Iranian empires, the Parthians and the Sassanids, before the Muslim conquest in 651 AD. Iranian post-Islamic dynasties and empires expanded the Persian language and culture throughout the Iranian plateau.

The blossoming of Persian literature, philosophy, medicine, astronomy, mathematics and art became major elements of Muslim civilization. Iranian identity continued despite foreign rule in the ensuing centuries and Persian culture was adopted also by the Ghaznavids, Seljuk, Ilkhanid and Timurid rulers. The emergence in 1501 of the Safavid dynasty, which promoted Twelver Shia Islam as the official religion of their empire, marked one of the most important points in Iranian and Muslim history. The Persian constitutional revolution established the nation's first parliament in 1906, within a constitutional monarchy. Growing dissent with foreign influence culminated during the Iranian Revolution, which led to establishment of an Islamic republic on 1 April 1979.

1.3 Vision

According to the of Iran's 2025 Vision, Iran is a developed country which has the first economic, science, and technology rank in the in the region, with the Islamic and revolutionary identity, that plays an inspiring role in Islamic-world and interacts positively and effectively in the international relations. First level priorities for the technology development of Iran are indicated in Figure 1-1.

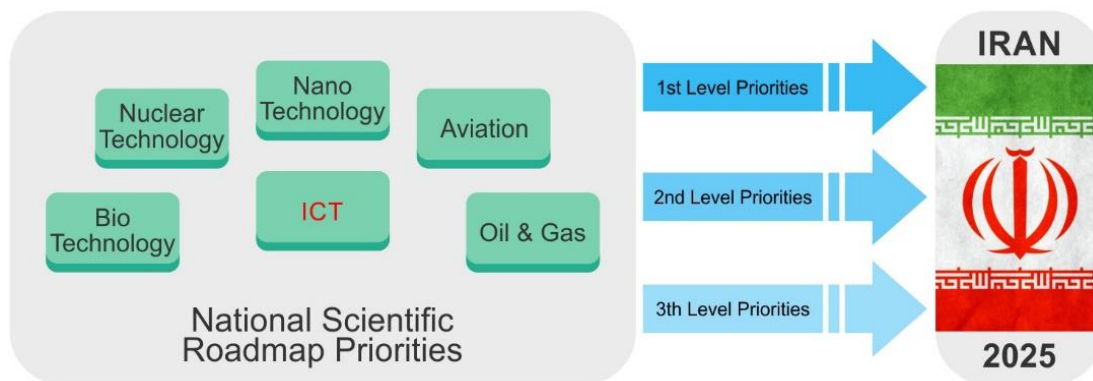


Figure 1-1: First level priorities for technology development of Iran

1.4 Economy

The economy of Iran is the eighteenth largest economy in the world by purchasing power parity (PPP) and thirty-second by nominal gross domestic product. Nominal GDP is projected to double in the next five years. However, real GDP growth is expected to average 2.2% a year in 2012-16. **The country is a member of Next Eleven because of its high development potential.** In 2014, Iran ranked 83rd in the World Economic Forum's analysis of the global competitiveness of 144 countries.

Iran's economy is a mixture of central planning, state ownership of oil and other large enterprises, village agriculture, and small scale private trading and service ventures. Its economic infrastructure has been improving steadily over the past two decades but continues to be affected by inflation and unemployment. In the early 21st century, the service sector contributed the largest percentage of the GDP, followed by industry (mining and manufacturing) and agriculture.

Iran has leading manufacture industry in the fields of car-manufacture and transportation, construction materials, home appliances, food and agricultural goods, armaments, pharmaceuticals, information technology, power and petrochemicals in the Middle East.

2 ICT Measurement System of Iran

Due to the importance of measuring and analyzing the progress towards the objectives of information society in Iran and according to the international experiences and quality frameworks, the policy makers decided to consider a law and formal provision for the ICT statistical system in the Fifth Development Plan of the Islamic Republic of Iran. The law instructs ICT ministry to develop a system for ICT statistics in the country till the end of second year of the plan. According to this law, Ministry of ICT is responsible for measuring, monitoring and providing analytical reports and feedbacks for the decision makers. The main components of the designed ICT statistical system are the conceptual framework in ICT Measurement of Iran (IMI), core ICT indicators, processes, rules and regulations, institutional body, financial structures, international affairs, and capacity building. In the following sections, the mentioned components are described in detail.

2.1 Introduction

1. Based on the clause 3, article 46 of Fifth Socio-Economic Development Plan of the Islamic Republic of Iran, Ministry of ICT (MICT) should establish ICT measurement system to evaluate the progress towards related ICT laws in the Fifth Development Plan and information society according to the defined indicators and enhance the status of the country at the national, regional and international levels. Every year, the results of the monitoring should be reported to the government and Parliament of Iran. According to this clause and the approval of the cabinet, every three months, all the governmental organizations and non-governmental institutions must provide necessary and relevant information, statistics and reports to MICT.
2. Information Technology Organization of Iran (ITO) as an IT governing body is responsible for performing any needed measurement, data collection and dissemination of ICT indicators in the ICT measurement system of Iran. Also, ITO is the national coordinating body for performing any needed coordination and providing the needed support and reporting mechanisms to the international bodies.
3. Through the past three years MICT has developed all components of the ICT indicators monitoring system and due to its legal obligation mentioned in the Fifth Development Plan by taking advantage of the national and international experiences has launched the ICT measurement system of Iran. The ICT measurement and monitoring system of Iran includes: a conceptual model; Core ICT indicators of Iran; measurement methodology; processes, evaluation and analysis of ICT indicators in the country;

specification of responsible body to support technical, educational and research infrastructure and finally, necessary mechanisms to interact with the international bodies.

2.2 Objective

4. The main objective of this system is to gain a common understanding of the progress of the country towards the specified targets and goals. So, the outputs of this system is used for the analysis of the situation; the investigation of country progress towards the Iran's 20-year vision; the goals of the Development Plans; and internationally developed targets in this field and finally, for the operational planning to achieve the goals in the remaining time frame of the Fifth Development Plan.

5. To achieve the targets that have been mentioned in the law, all the administrative bodies and other responsible beneficiaries in the monitoring system are authorized to design and develop their own measurement and monitoring system in line with the objectives of the ICT monitoring system of Iran.

2.3 Scope

6. The information scope of this system is all data that are gathered for calculating and reporting the ICT cores indicators that have been defined in this document. The physical scope includes all executive bodies that have a responsible and/or supportive role for producing, collecting, processing and disseminating the indicators. Working period of this system is by the end of the Fifth Development Plan (FDP) but it can be continued based on the necessity and possibilities.

2.4 Authority

7. ICT minister has approved and announced this blueprint and notified it to the beneficiaries to perform their referred assignments in clause 3, article 46 of the Islamic Republic of Iran's Fifth Development Plan (FDP) law.

2.5 Related references

8. ICT measurement system has been prepared in alignment to the following references:

- Iran's 20-years vision and its related documents.
- Fifth Socio-Economic and Cultural Development Plan (FDP) law of Islamic Republic of Iran.
- Cabinet approvals and instructions.
- Internationally comparable ICT statistics developed by international organizations such as ITU, UNCTAD and UNESCO. Mainly, these statistics have been defined in the following documents:
 - International Telecommunication Union, Manual for Measuring ICT access and use by households and individuals, 2014.
 - International Telecommunication Union, Handbook for the Collection of Administration Data on Telecommunications/ICT, 2011.
 - International Telecommunication Union, Connect 2020 Agenda for Global Telecommunication/ICT Development, 2014.
 - International Telecommunication Union, *Measuring the Information Society*, 2014.
 - United Nations, E-government Survey 2014: E-government for the future we want, 2014.
 - World Economic Forum, Global Information Technology Report 2015: ICTs for Inclusive Growth, 2015.

2.6 Responsibilities

9. According to the Iran's Fifth Development Plan law, MICT is responsible to implement this system.
10. MICT has assigned ITO as a responsible body for this system for performing planning, updating, information gathering, analyzing, and disseminating information to the related national and international bodies.

2.7 Principles

11. All governmental organizations are responsible to perform necessary preparations in order to collect timely, accurate and updated data from their departments and subordinate units, according to the ICT monitoring system.
12. All governmental organizations are responsible to interact with MICT in order to perform the needed measurements. They are also responsible to cooperate and interact with their subordinate units and provide updated and accurate information and functional reports in accordance with the schedule and required formats.
13. All governmental organizations are responsible to suggest and consider the necessary budget for collecting their updated and accurate ICT statistics of their own organizational units.
14. ITO is responsible to consider the needed budget and funds for internal cooperation and data gathering, information analysis and publication, cooperation with international bodies and other assigned responsibilities in its annual budgets.
15. The responsibility for publishing the aggregated and analyzed information about the current situation of ICT indicators is by ITO with the MICT minister approval at the end of each period.
16. IT Strategic Planning and Monitoring Center within ITO is responsible to perform executive affairs of ICT indicators monitoring system.
17. ITO is responsible for auditing and validating of collected data. If evidence and quality controls show that some collected data is invalid, ITO will prevent publishing and dissemination of those data.
18. However, if the task of collection of data and statistics is transferred to other governmental organization, that organization is responsible for the quality assurance of the collected data. No governmental organization can relinquish its responsibility even if ITO and MICT are responsible for the whole monitoring system.
19. All governmental organizations are responsible to consider a section in their Websites for publishing their ICT statistics. This section should be available in Persian and English and also reachable by the famous search engines.
20. All governmental organizations are responsible to publish their ICT statistics annual report in Persian and English.
21. All governmental organizations are responsible for budgeting of the needed and related data collection and disseminations. MICT only covers the cost of coordination affairs, consultants and expert committee expenditure and dissemination and publication of the information.

2.8 Organizational Structure

22. One of the key components of the monitoring system is the organizational structure that is responsible for governing the initiative, managing the process and performing the necessary activities for realizing the system in the country. In designing the organizational structure and the national coordination mechanisms and processes, among the templates and supporting mechanisms that have been proposed the UNSD National Quality Assurance Framework has been adopted. In the designed structure, Information Technology of Iran (ITO) is a governing body and Strategic Planning and Monitoring Center (SPMC) of ITO is a managing department for the system that performs all the planning and execution activities for the system. Organizational structure of Iran ICT indicators monitoring system defines the hierarchy of delegation of authority, information exchange, cooperation and distribution of duties. Iran ICT indicators monitoring system organizational structure is depicted in

23. ITO (IT Strategic Planning and Monitoring Center) is responsible to form the “ICT indicators monitoring system national coordinator working group” in order to employ the national capacity in this field. The members of this working group are the representatives from the governmental organizations and private sector bodies which are introduced by their related bodies according to the request of ITO and approval of the Center. They are assigned by the head of ITO. The working group members are introduced or reinstated by their organization by the end of 24 September of every year in order to plan, coordinate and perform necessary arrangements for monitoring upcoming year.

24. ITO may form a working group with the cooperation of Strategic Planning and Monitoring deputy of MICT for consultation and cooperation on audit, data verification, analysis of the compliance of reporting results with the objectives, finalizing appropriate reporting method and quality control in the various stages of monitoring system implementation to meet Compliance and governance requirements.

25. All the responsible organizations in the monitoring system should cooperate with ITO for the necessary data collection every year; they should introduce an office branch (legal entity) and a representative as a contact point by the end of September 22 of every year. It is recommended that the representative of each governmental organization should be selected from the ICT, planning or statistics departments. The governmental organization is responsible for the performance of the introduced representative.

2.9 Technical capacity building

26. ITO is responsible to perform capacity building in the form of trainings, seminars, courses or e-learning courses to improve knowledge and technical skill level in the field of ICT indicators monitoring.

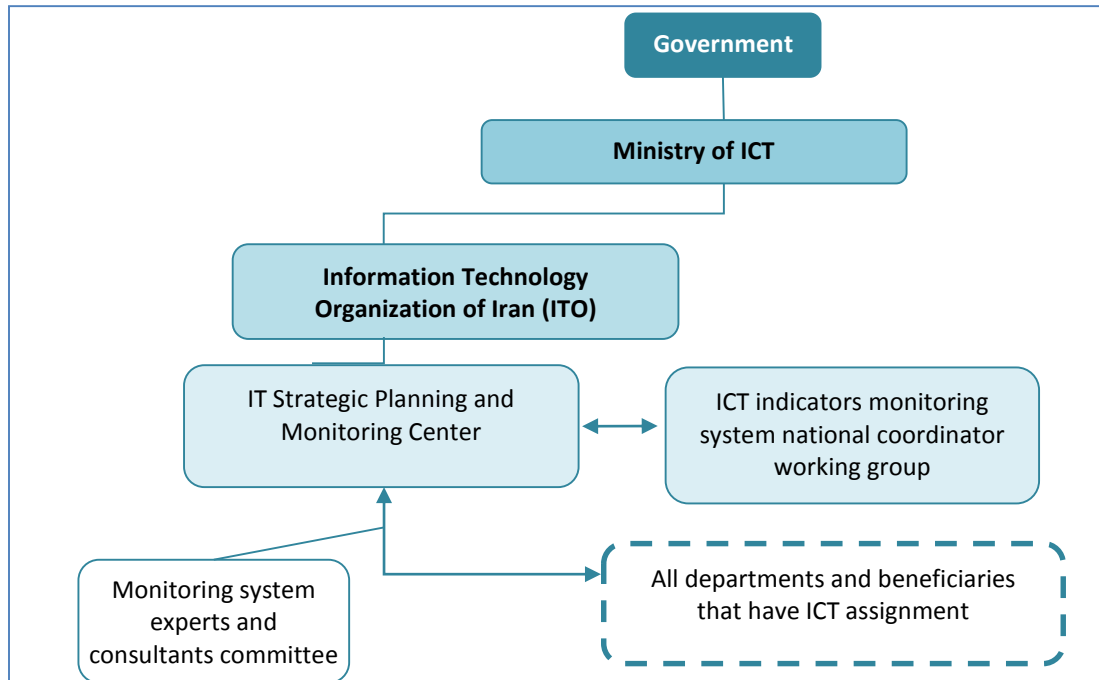


Figure 2-1: Organizational structure of Iran ICT indicators monitoring system

27. ITO is responsible to launch a web portal in English and Persian for the collection and dissemination of data and analytical reports. ITO is responsible to manage (preparation, operation, maintenance and updating, systems improvement and uninterrupted access through Internet and information national network) the portal.

28. According to Iran's Fifth Development Plan law, all the governmental organizations are responsible to provide their own ICT statistics and reports in accordance with the defined indicators in the ICT Core Indicators of Iran, so all the governmental organizations should establish the needed organizational and informational infrastructures to provide accurate and up-to-date information. They also should develop and implement their annual plan for performing this assignment.

29. At the end of each period, ITO is responsible to report the aggregated data and analytical reports of ICT indicators monitoring system for the approval of MICT minister.

2.10 Timing for the activities in the Iran ICT Indicators Monitoring system

30. The proposed timing for the various activities in the ICT indicators monitoring system has been depicted in Table 2-1.

Table 2-1: ICT indicators monitoring system schedule

Activity	Timeline	Report 2013	Report 2014	Report 2015
ICT indicators monitoring system notification / corrections / amendments based on the comments of beneficiaries and the analysis of last year report / modification in upper documents and assignments / changes in the definition of indicators according to new national and international definitions	August 22 (After the previous publication)	2013	2014	2015
Deadline of assignment / reviewing of beneficiaries and the introduction of beneficiaries organization representatives, as well as determination of members for ICT indicators monitoring system national coordinator working group	September 22	2013	2014	2015
Organizing the monitoring operations, including outsourcing, financing, capacity building and providing infrastructure comply with the duties decided in the system and the implementation process guideline	January 20	2013	2014	2015
The deadline to collect and send functional information related to indicators with official confirmation and comply with process and identification of indicators to ITO	April 20	2014	2015	2016
The deadline for quality control and reports compliance checking by ITO	May 21	2014	2015	2016
Reports checking in ICT indicators monitoring system national coordinator working group and committee of experts and consultants, and preparation of analytical reports	June 21	2014	2015	2016
Paper and electronic publication, and informing national and international beneficiaries	July 22	2014	2015	2016

2.11 Budgeting and finance

31. All governmental organizations are responsible for considering the necessary budget for data collection, performance measurement and announcement in their annual ICT budget.

32. Some of the indicators in the Core ICT Indicators of Iran should be collected by using a statistical survey. Statistical Center of Iran (SCI) is responsible to perform the needed statistical surveys. The cost of such special surveys must be considered in the annual budget of SCI.

33. MICT is responsible for the costs associated to the needed staff (operational/current) for annual monitoring implementation, national coordinator working group, experts and consultants, beneficiaries training, Iran ICT indicators monitoring portal development and maintenance, publication, notification, participation in the national or international communities to defend and

present Iran achievements, and data management. The necessary budget should be considered in the ITO annual budget.

2.12 System review method

34. ITO and MICT are responsible to release corrections or amendments according to beneficiaries' comments, the previous year analysis reports, national and international document changes, and changes in the definition of indicators according to new national and international definitions by the end of August 22 by getting any required approval.

3 Core ICT Indicators of the Islamic Republic of Iran

35. Designing a system for ICT measurement has been done in three stages: Planning, Design and Measurement. At the planning phase, the following activities were performed:

- Identifying beneficiaries needs
- Study and analysis of Iran's high-level documents.
- Study and analysis of some similar countries for using their experiences in this field.
- Study and analysis of international reports, rankings and indicators.
- Benchmarking and study of chosen countries.

In design phase, according to the outputs of phase one and existing experiences, architecture of ICT measurement system were designed. The main components of this architecture are the conceptual framework of ICT Measurement for Iran (IMI), ICT core indicators of Iran, periodic data collection processes and procedures, rules and regulations, international communications, and capacity building. The conceptual framework specifies the main priority areas for definition of indicators. This framework has been defined based on Iran's high-level policy documents and supply-demand model.

After executing the first operation phase of the measurement system in the country, the whole system improved by the built-in continuous improvement process of the system according to the experiences, lessons learned, feedbacks received from the stakeholders during the first phase of operation of the system and the latest decisions made by the international organizations and related expert groups. Now, in this improvement the following main themes have been considered by ITO:

- ICT for sustainable development approach with the following pillars according to the ITU Connect 2020 Agenda:
 - Growth
 - Inclusion
 - Sustainability
 - Innovation and partnership
- Considering the following main subjects:
 - Affordability
 - ICT skills
 - ICT employment
 - Economic and social impacts of ICT

- ICT development in rural areas
- Cyber security and child online protection (COP)
- m-banking
- ICT use in businesses
- Environment and ICT
- ICT access, use and affordability for disabled persons

During the improvement process, the new sets of indicators have been proposed according to the following main pillars:

- Affordable ICT access and use
 - ICT access
 - ICT access in rural areas
 - ICT use
 - Affordability
- ICT skills
- Economic and social impacts of ICT
 - International trade in ICT goods and services
 - Economic and social impacts of ICT
- ICT applications
 - e-government and m-government
 - e-health
 - Use of ICT in businesses
 - m-banking and e-banking
 - ICT in education
 - e-content
- Environment and ICT
- Enablers
 - Cyber security
 - Global Cyber security Index (GCI)
 - Internet security
 - Child Online Protection
 - ICT research and development
 - ICT law

36. After defining and verifying this framework, for each indicator, definition of that indicator, measurement method and roles and responsibilities related to that indicator has been defined.

Table 3-1, shows the defined indicators and their specified target.

Table 3-1: Core ICT Indicators of Iran

	Indicators	No.
1. Affordable ICT access and use		
1.1. ICT access		
1	Fixed-telephone subscriptions per 100 inhabitants	Percent
2	Mobile-cellular telephone subscriptions per 100 inhabitants	Percent
3	Used international Internet bandwidth	Gbp/s
4	Lit/Equipped international Internet bandwidth	Gbp/s
5	International Internet bandwidth (bit/s) per Internet user	Bit/s
6	Domestic Internet bandwidth	Percent
7	Proportion of households with a radio	Percent
8	Proportion of households with a television	Percent
9	Proportion of households with telephone	Percent
10	Proportion of households with a computer	Percent
11	Proportion of households with Internet	Percent
12	Proportion of population with mobile-cellular network coverage	Percent
1.2. ICT access in rural areas		
13	Proportion of rural population covered by broadband services	Percent
14	Proportion of villages with less than 20 households with access to public payphone	Percent
15	Proportion of villages with more than 70 households with access to ICT service centers	Percent
1.3. ICT use		
16	Proportion of individuals using the Internet, by location, by type of activity, by frequency	Percent
17	Proportion of individuals using a computer	Percent
18	Proportion of individuals using a mobile cellular telephone	Percent
19	Fixed-broadband subscriptions per 100 inhabitants	Percent
20	Active mobile-broadband subscriptions per 100 inhabitants	Percent
21	Proportion of individuals using virtual social networks	
1.4. Affordability		
22	ICT price basket (IPB) index – ITU	-
23	Internet and telephony sectors competition index – ITU	-
24	Proportion of cost of broadband services to average monthly income	Percent
25	Household expenditure on ICT (ITU ICT Household indicators, HH16)	Rials
2. ICT skills		
26	Individuals with ICT skills, by type of skills	Percent
27	Adult literacy rate	Percent
28	Gross enrolment ratio (secondary level)	Percent
29	Gross enrolment ratio (tertiary level)	Percent
3. Impacts of ICT		
3.1. International trade in ICT goods and services		
30	ICT goods and services exports as a percentage of total non-oil exports	Percent
31	ICT goods and services imports as a percentage of total imports	Percent

	Indicators	No.
3.2. Economic and social impacts of ICT		
32	ICT sector share of gross value added	Percent
33	ICT sector share of GDP	Percent
34	ICT employment	Percent
35	UN e-participation index (EPI)	-
4. ICT applications		
4.1. e-government and m-government		
36	Proportion of Government to Citizen e-services, by type of delivery channel	Percent
37	Proportion of Government to Business e-services, by type of delivery channel	Percent
38	Proportion of Government to Government e-services, by type of delivery channel	Percent
39	Proportion of executive bodies services which are provided by front offices of government public services	Percent
40	Proportion of persons employed in central government organizations routinely using computers	Percent
41	Proportion of persons employed in central government organizations routinely using the Internet	Percent
42	Proportion of central government organizations with Internet access, by type of access	Percent
43	Proportion of central government organizations with a standard and secure Web portals in which usability requirements have been considered	Percent
4.2. e-health		
44	Proportion of health centers with Internet access, by type of access	Percent
45	Level of computer and Internet use for managing personal information of patient	-
4.3. Use of ICT by businesses		
46	Proportion of businesses using computers	Percent
47	Proportion of persons employed routinely using computers	Percent
48	Proportion of businesses using the Internet, by type of activity	Percent
49	Proportion of persons employed routinely using the Internet	Percent
50	Proportion of businesses with a standard and secured Web portal in which usability requirements have been considered	Percent
51	Proportion of businesses placing orders over the Internet	Percent
52	Proportion of businesses receiving orders over the Internet	Percent
53	Proportion of businesses with a local area network (LAN)	Percent
54	Proportion of businesses with an extranet	Percent
4.4. e-banking and m-banking		
55	Number of bank and non-bank (e-money, e-wallet) accounts that are linked to mobile phones per 100 inhabitants	Percent
56	Number of active bank and non-bank (e-money, e-wallet) accounts that are linked to mobile phones per 100 inhabitants – with at least one financial transaction in last three months	Percent

	Indicators	No.
57	Monthly transactions of active bank and non-bank accounts that are linked to mobile phones	Million Rials
58	Number of e-payment transactions	transaction
59	Monthly e-payment transactions, by type of device	Million Rials
4.5. ICT in Education		
60	Proportion of schools with a radio used for educational purposes	Percent
61	Proportion of schools with a television used for educational purposes	Percent
62	Proportions of teachers in schools that have been trained to teach the courses by using ICT	Percent
63	Proportions of professors in universities that have been trained to teach the courses by using ICT	Percent
64	Proportions of teachers in schools that can teach ICT courses	Percent
65	Proportions of educational institutes (schools, universities and professional and technical training) with computer-assisted instruction (CAI)	Percent
66	Proportions of training institutes (schools, universities and professional and technical training) with Internet-assisted instruction (IAI)	Percent
67	Proportions of courses that are taught with computer-assisted instruction (CAI)	Percent
68	Learners-to-computer ratio in schools with computer-assisted instruction (schools, universities and professional and technical training)	Percent
69	Proportion of educational institutes with Internet access, by type of access (schools, universities and professional and technical training)	Percent
4.6. e-content		
70	Proportion of e-publications, by type of publication	Percent
71	Proportion of public libraries with broadband Internet access	Percent
72	Proportion of public libraries providing public Internet access	Percent
73	Proportion of public libraries with a standard and secured Web portal	Percent
74	Proportion of museums with broadband Internet access	Percent
75	Proportion of museums with a standard and secured Web portal	Percent
76	Proportion of post offices with broadband Internet access	Percent
77	National archives organizations with broadband Internet access	Percent
78	National archives organizations with a standard and secured Web portal	Percent
79	Proportion of items in the national archives that have been digitized	Percent
80	Proportion of digitized items in the national archives that are publicly available online	Percent
81	Proportion of Persian language Web pages	Percent

	Indicators	No.
82	Number and share of Wikipedia Persian articles	Articles/ percent
83	Number of domain name registrations for country-code top-level domain, weighted by population	Domain- name per inhabitant
5. Environment and ICT		
84	Volume of redundant e-waste per year	Million units per year
85	Green House Gas emissions generated by the telecommunication/ICT sector per device per year	Metric ton per device
6. Enablers		
6.1 Cyber security		
86	ITU Global Cybersecurity Index (GCI)	-
87	Internet security	
87-1	Proportion of individuals that have concern about security incidents	Percent
87-2	Proportion of individuals who have experienced security incidents in last 3 months	Percent
87-3	Proportion of individuals for whom security incidents is a barrier for their Internet activities, by age and by type of activity	Percent
87-4	Proportion of individuals that use security tools (e.g. firewall, anti-spam, anti-virus, etc.) for protecting their personal computer(s) and personal data	Percent
88	Child Online Protection (COP)	
88-1	Proportion of children living in the household who ever been subject to any of the following victimization forms	Percent
88-2	Proportion of households who have taken actions about child's use of Internet	Percent
89	Number of secure Internet servers per one million population	Percent
6.2 ICT Research and Development		
90	ICT research and development budget share of GDP	Percent
91	ICT research and development budget share of total R&D budget	
92	ISI journal papers of researchers in the country to total ISI journal papers	Percent
93	ICT patents registered by inventors in the country at national and international level to total patents registered by inventors in the country	Percent
94	ICT researches of researcher in the country to total researches by researchers in the country	Percent
95	Proportion of public scientific and research centres with broadband Internet access	Percent
96	Proportion of public scientific and research centres with Internet access to a NREN	Percent
6.3 ICT Laws		
97	Number of ICT laws and regulations in the country	Number

4 ICT development in Iran based on the internationally comparable ICT indicators

With the growing recognition of ICT as a driver for social development and economic growth, there is a need for reliable, comprehensive and comparable statistics to support government and industry decisions. Measuring ICT for development has been emphasized in the World Summits on the Information Society (WSIS). The Summits have highlighted the importance of measuring progress towards the information society through internationally comparable statistical indicators. These indicators measure ICT deployment and uptake on the basis of internationally comparable ICT statistics. These metrics will help policy makers monitor trends, identify areas for policy action and compare their ICT developments with those in other markets. In this section, Iran's performance from an international perspective across various ICT indicators has been shown.

4.1 Administrative Data on Telecommunications/ICT of Iran

Indicators that have been defined in this subsection for the Collection of Administrative Data on Telecommunications/ICT are structured on the basis of network. These indicators refer mainly to telecommunication activities within the content and media sector. Figure 4-1 to Figure 4-



Figure 4-3: Internet in Iran

3 show the current value of these indicators in Iran according to Communication Regulatory Authority of Iran (CRA).

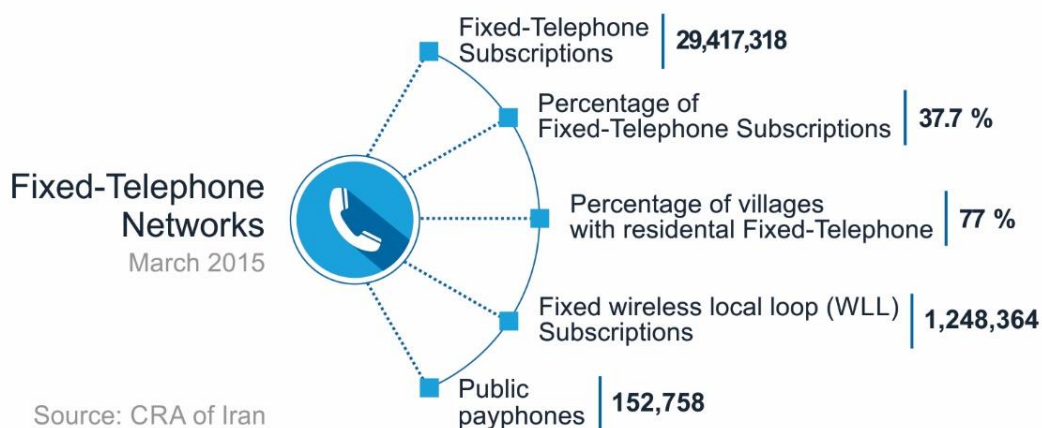


Figure 4-1: Fixed-telephone networks in Iran

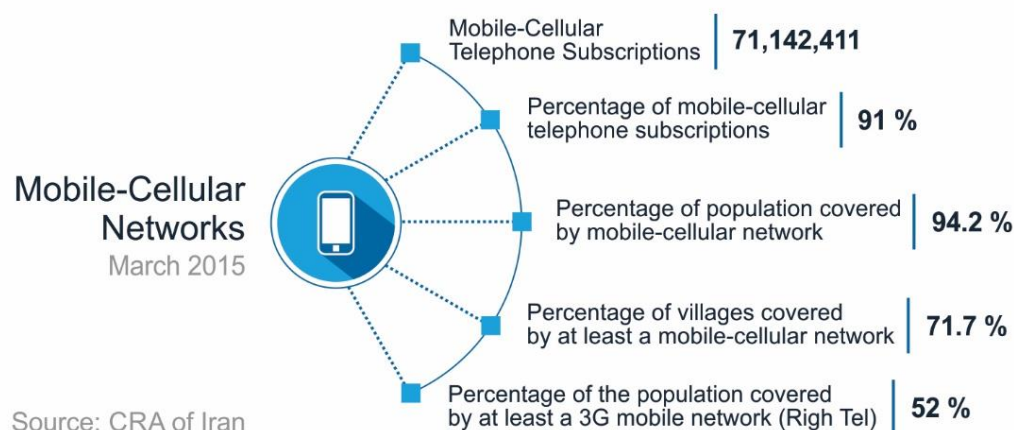


Figure 4-2: Mobile-Cellular networks in Iran



Figure 4-3: Internet in Iran

4.2 ICT Satellite account for Iran

In order to measure the ICT sector in an economy from National Accounts data, a satellite account is required. The System of National Accounts (SNA) recommends the development of satellite accounts for the measurement of economic phenomena that are not explicitly shown in the core set of accounts.

In 2013, for the first time, Ministry of ICT (Deputy of Planning and Strategic Monitoring) performed a joint project with Statistical Center of Iran (SCI) to compile and publish the ICT satellite account of I. R. Iran for the reference year 2012. The aim of this project was to determine the role of ICT in the macro-economic variables such as GDP, capital formation, export and import. In this initiative an important part of statistics related to ICT goods and services were compiled by SCI in ICT satellite account as a part of system of national accounts of Iran.

In this survey, sample size of survey for supply side was 7000 ICT businesses (14 percent of total number of 50000 ICT businesses in the country). At the demand side, 27185 businesses from the total number of 2,500,000 businesses in all economic sectors were studied for measuring the 12 indicators (B1-B12) that have been proposed by UNCTAD (use of ICT in businesses).

As shown in Table 5.1, the results show that 2.12 percent of total value added of economy in 2012 is a share of activities in the ICT sector. Share of ICT in GDP is 2.1 percent. In comparison to the 15 sectors in ISIC classification, ICT sector is in the 13th place with a share of 2.12 percent of gross value added. This value is higher than Hotel and Restaurant sector (1 percent) and Other Public, Personal and Household Services (1.96 percent) and lower than Financial Intermediary share of value added (2.96 percent).

Share of communication technology and information technology in GDP is 1.57 and 0.54 respectively. By separating ICT sector into post and telecommunication sector and satellite sector, it was shown that adding satellite sector to this sector has resulted just 0.57 percent increase in GDP and post and telecommunication sector has a share of 1.57 percent in GDP. Total number of employees in ICT sector is 159,103 employees.

Table 4-1: Share of ICT, CT and IT in GDP of Iran (Current price, 2012)

Subject	Value
Total value added of economy	6,894,651,057
GDP	6,956,500,326
Value added of ICT (million Rials)	146,271,055
Value added of CT (million Rials)	109,219,614
Value added of IT (million Rials)	37,051,441
Share of ICT value added in economy value added (Percent)	2.12
Share of CT value added in economy value added (Percent)	1.58
Share of IT value added in economy value added (Percent)	0.54
Share of ICT in GDP (Percent)	2.10
Share of CT in GDP (Percent)	1.57
Share of IT in GDP (Percent)	0.54

Source: Economic Accounts Office, SCI.

4.3 Measuring ICT access and use by households and individuals in Iran

Some of the indicators in the ICT Core Indicators of Iran are measured according to household surveys. Household surveys are an important source of ICT statistics as they provide invaluable insights into how and where people access and use ICTs, and help in assessing how ICTs impact people's lives. Another set of the indicators are administrative data on telecommunication/ICT that are collected from the responsible data producers in the country. These data are required to monitor national and international ICT related development goals and targets, including those of Connect 2020 Agenda, the World Summit on the Information Society (WSIS), the Broadband Commission for Digital Development, the Post-2015 Development Agenda and the Millennium Development Goals.

This section contains the main results of ICT Household Survey in infographics format. This survey has been performed in the first quarter of 2013 by the Statistical Center of Iran (SCI) with the support and technical help of ITO. The objective of the survey is to produce statistics on the ICT access and use by households and individuals in the year 2013 based on the sixteen indicators presented by International Telecommunication Union (ITU) in the latest edition of Manual for Measuring ICT access and use by Households and Individuals (2014).

The population included all members of private settled, collective and institutional households in urban and rural areas in the year 2013. Every member of private settled, collective and institutional households in urban and rural areas in the year 2013 was a statistical unit. The reference period was 3 months ending to the survey date (January 2014). In this Survey, the enumerators visited the sample households at the enumeration date and collected household data through face to face personal interview with household members and filled out the related questionnaire. Moreover, the questionnaire of the households out of whom at least one member has used the Internet during the 3 month period - from 3 months before the survey to the survey date (January 2014) - was delivered to the household to complete it with the accurate data himself/herself and give it back to the field staff.

In this Survey, a number of 25063 sample household including 24765 private settled and collective households and 298 institutional households were selected. The estimates of this survey are released by urban and rural areas and at provincial level.

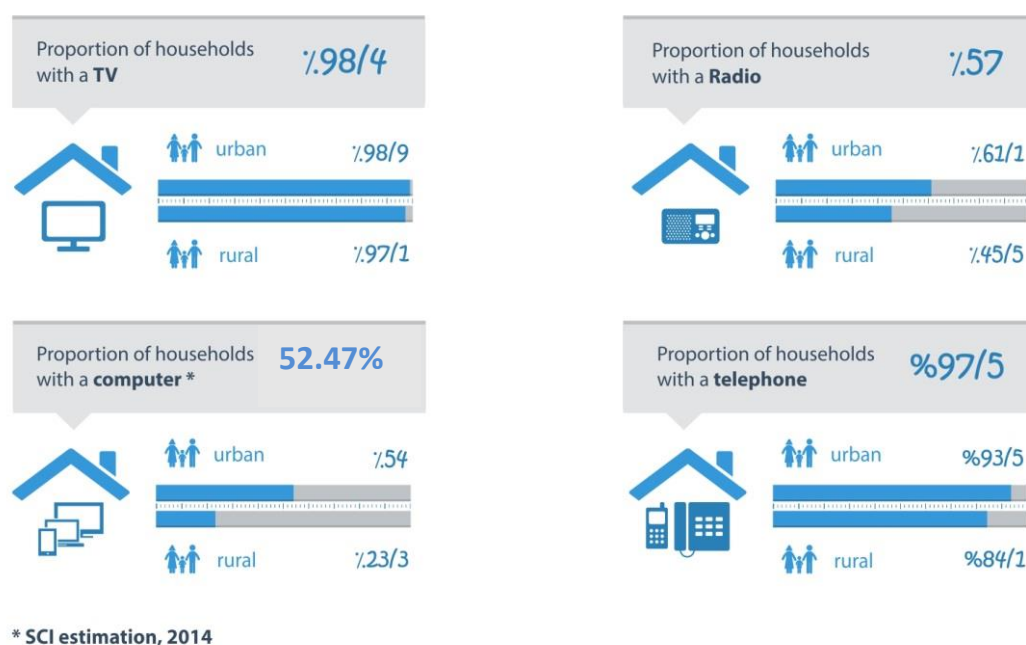


Figure 4-4: Household access to ICT in Iran

Out of the total 22.8 million households, about 13.0 million households (57.0%) and 22.5 million households (98.4%) had access to a radio and a TV at home, respectively. These shares were 61.1% and 98.9 % for urban households and 45.5% and 97.1 % for rural households. Out of the total

households, about 22.3 million households (97.6%) had access to telephone (fixed or mobile cellular telephone or both) at home. These shares were 98.9% and 93.9% for urban and rural households, respectively. Out of total households with a telephone in the country, 5.0% had a fixed telephone only, 1.5 % were with a mobile telephone only, and 91.0% enjoyed both fixed and a mobile telephone. Moreover, 10.5 million households (45.9%) had access to a computer at home in 2013. Estimate of SCI for the proportion of households with a computer as of 2014 in 52.47%. Furthermore, 54.0% of urban households and 23.3% of rural households had access to a computer at home.

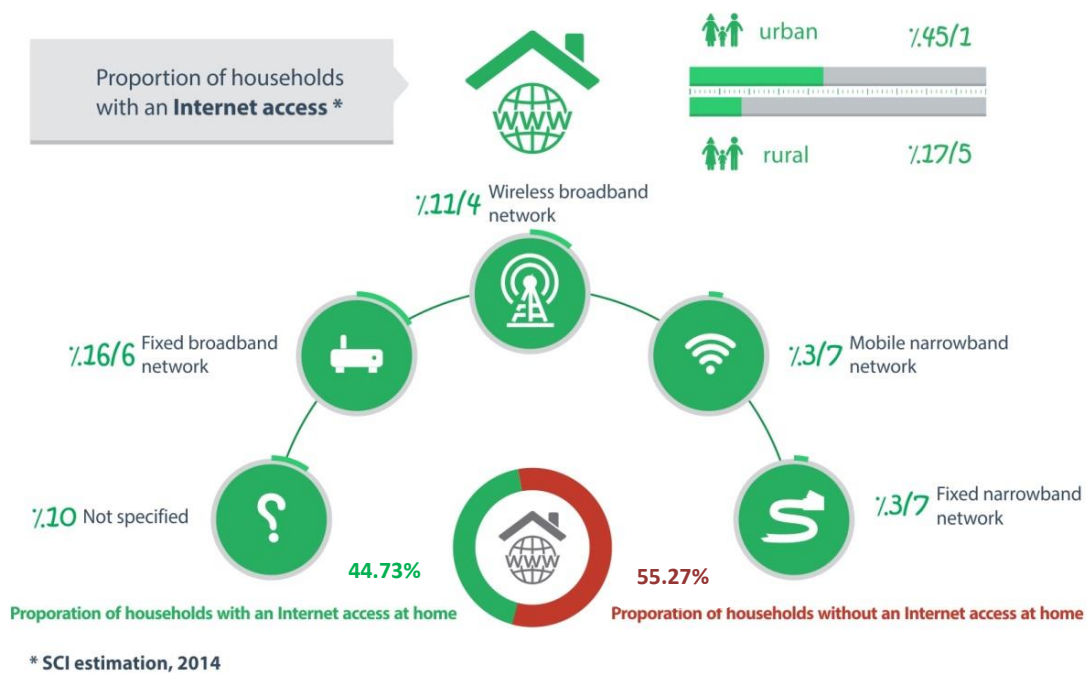


Figure 4-5: Proportion of households with Internet in Iran, by type of service

Out of the total 22.8 million households, about 8.6 million households (37.8%) had access to the Internet in 2013 out of which 7.6 million (87.7%) and 1.1 million (12.3%) households were living in urban and rural areas, respectively. These shares were 45.1% and 17.5 % for urban and rural households, respectively. Estimate of SCI for the proportion of households with an Internet access at home as of 2014 is 44.73%.

Out of the total households accessing the Internet at home, 3.8 million households (44.1%) had fixed broadband access (majorly, ADSL), 2.6 million households (30.2%) were with wireless broadband access (majorly land-based fixed wireless access such as WiFi and WiMAX), 833000 households (9.7%) had at least fixed narrowband access (e.g. Dial-Up) and about 842000 households (9.8%) had access to at least mobile narrowband (e.g. GPRS). Meanwhile, 2.3 million households (26.6%) did not report anything about the type of their access service.

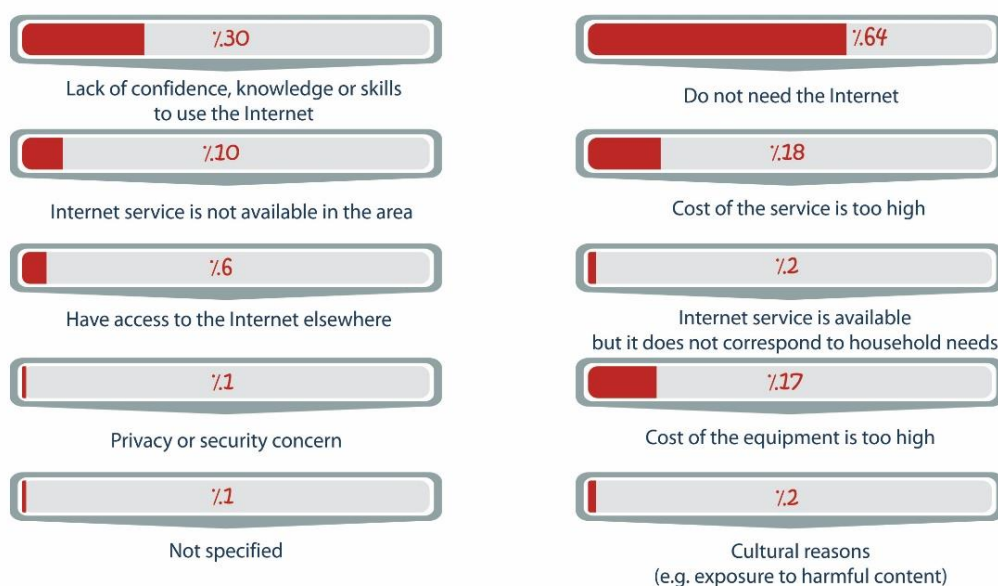


Figure 4-6: Barriers to household Internet access in Iran

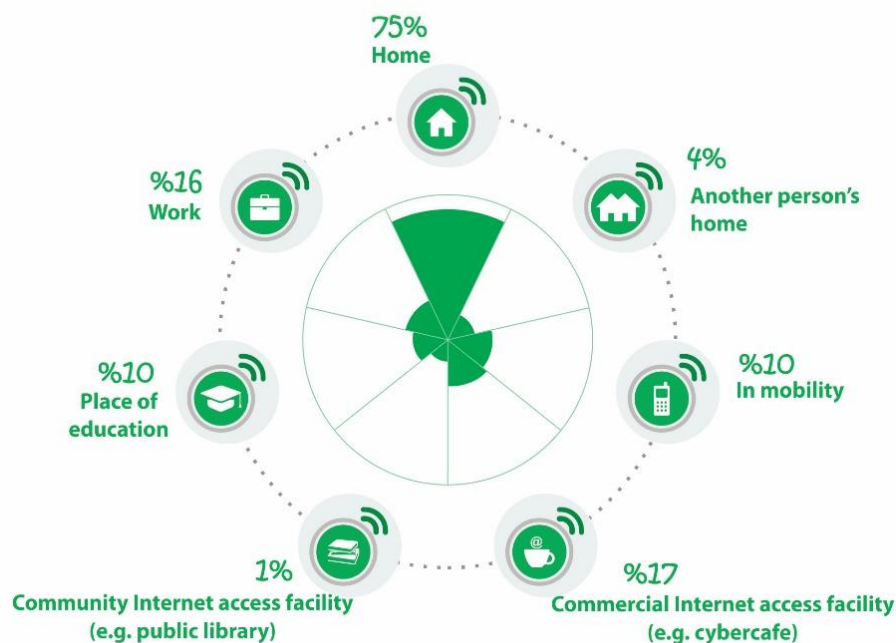


Figure 4-7: Proportion of individuals using Internet in Iran, by location

Based on the survey conducted in 2013, out of the total 77.1 million population of the country, a number of 21.2 million persons were internet users indicating that 27.4% of population used the internet. Moreover, 31.7% were computer users and 61.5% used a mobile phone

Out of the total population of the country, 70.6 million persons are at the age of 6 and over. Out of this number, 21.2 million are the Internet users indicating that the internet penetration rate in the country is 30.0%. Compared to 2008 and 2010, this rate had a significant increase. Moreover, the Internet penetration rate for the population aged 6 and over in urban and rural areas is 36.6% and 12.3%, respectively.

In the mid of 2014, 3G and 4G license was given to the first and second operators. These two operators have a very good base of subscribers and networks and it is expected that by expanding the mobile broadband networks, Internet bandwidth of country and emerging high demands in ICT applications and other sectors, the country will experience a considerable growth in the number of Internet users.

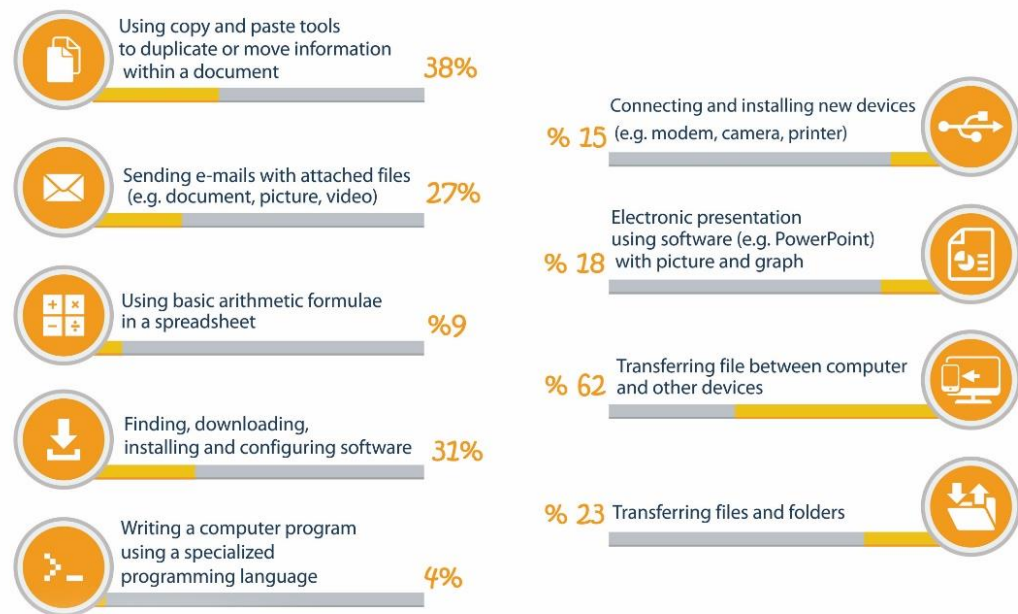


Figure 4-8: Individuals with ICT skills in Iran, by type of skills

According to the survey of measuring ICT access and used by households and individuals in I.R.Iran in 2013, the internet penetration rate is 31.4 percent. In the mid of 2014, 3G licence was given to the first and second mobile operators that have a very good number of subscribers and it is foreseen that by developing mobile-broadband in the country the Internet penetration rate will experience a considerable growth in 2015. SCI estimation for 2014 is 39.35%

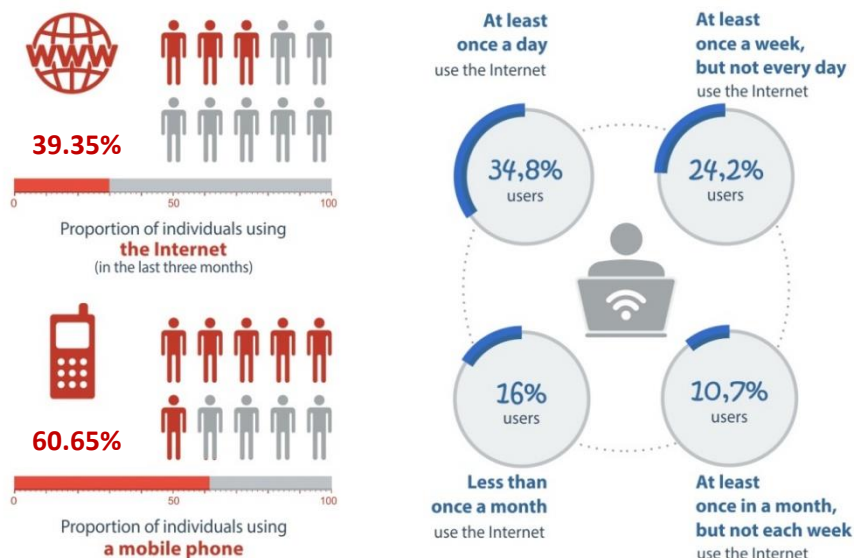


Figure 4-9: Proportion of individuals using the Internet in Iran, by frequency



Figure 4-10: Proportion of individuals using the Internet in Iran, by type of activity

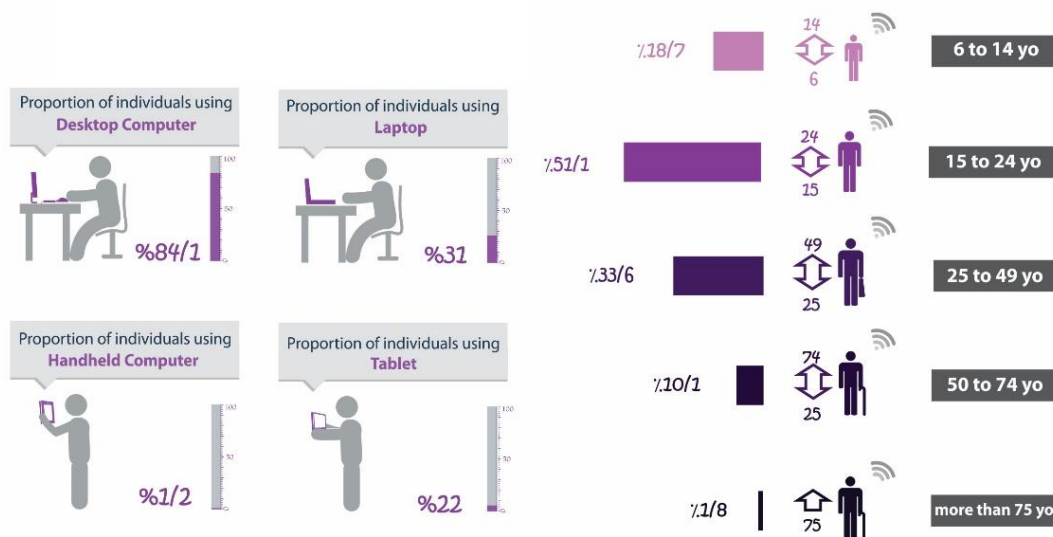


Figure 4-11: Proportion of individuals using a computer in Iran

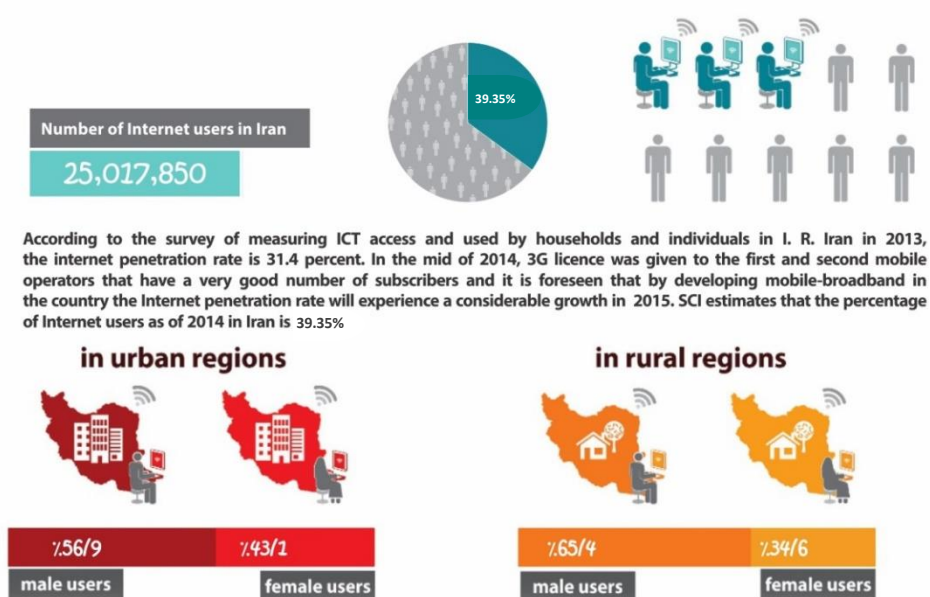


Figure 4-12: Proportion of individuals using Internet in Iran, by sex and region

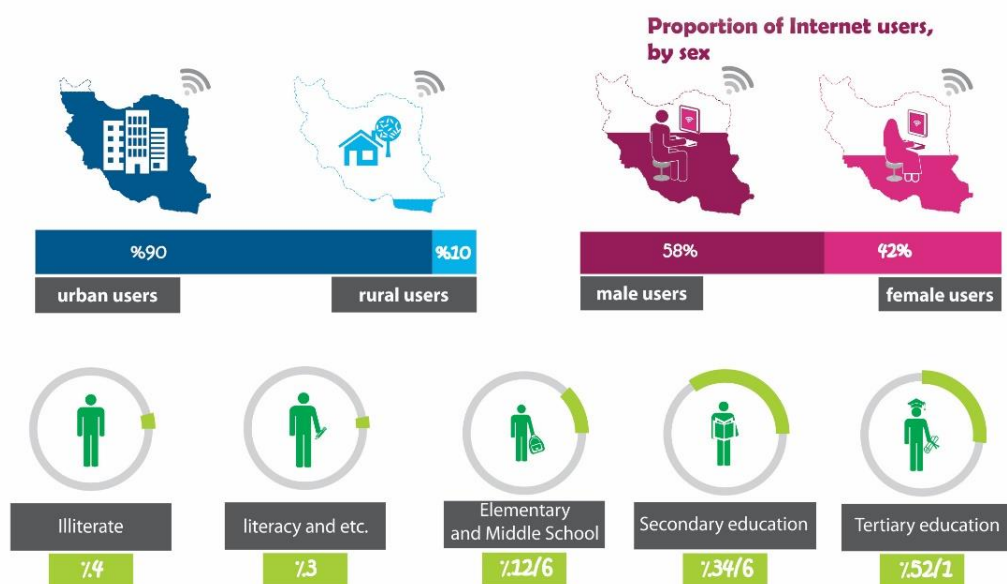


Figure 4-13: Proportion of Internet users in Iran, by educational level

5 Information Society of Iran according to the international ICT indices on ICT development

Measuring the extent to which ICTs are used and understanding the determinants of ICT adoption have been the object of much research since the early 2000s. About 15 years ago, World Economic Forum launched Networked Readiness Index (NRI). After that, other indices such as ICT Development Index (IDI) by ITU and e-government development index (EGDI) by UN were calculated and published. Each of these indices tries to make conceptual sense of the complex ICT reality, identifying the common factors that enable countries to use technology effectively. These indices provide guidance to policymakers on the factors that they need to take into account to fully leverage ICTs in their growth strategies. Table 5-1 shows the current status of Iran according to some of the well-known and popular ICT international rankings in the world.

Table 5-1: ICT Development in I.R. of Iran according to the international indices

International Index	Year report	Upper bound score /metrics	Number of countries	First country	Average	Score of Iran	Rank of Iran
ITU, ICT Development Index (IDI)	2014	10	166	8.86	4.77	4.29	94
UN E-Government ,Development Index (EGDI)	2014	1	193	0.9462	0.4712	0.4508	105
WEF ,Networked Readiness Index (NRI)	2015	7	143	6	4.07	3.06	96
ITU/ABI, Global Cybersecurity Index (GCI)	2014	1	194	0.824	0.284	0.294	19
WEF ,Global Competitiveness Index	2015	7	144	5.70	4.21	4.03	83
ITU, ICT Price Basket (IPB)	2014	As % of GNI p.c.	166	0.2	9.04	0.6	12

In this section, the state of Iran according to ITU ICT Development Index (IDI), UN e-government Development Index (EGDI) and World Economic Forum Networked Readiness index is reported in more detail. Also, available values for WSIS Targets for reference period 2012-2014 have been reported in this section.

5.1 ITU ICT Development Index 2014

The ICT Development Index (IDI) is a composite index combining 11 indicators into one benchmark measure that serves to monitor and compare developments in ICT across countries. The IDI was developed by ITU in 2008 and first presented in the 2009 edition of *Measuring the Information Society*. The IDI measures the level and evolution over time of ICT developments in the countries, digital divide and development potential of ICTs. According to the proposed conceptual framework for IDI, the ICT development process and a country's transformation to becoming an information society can be depicted using the following three-stage model:

- Stage 1: ICT readiness (the level of networked infrastructure and access to ICTs)
- Stage 2: ICT intensity (reflecting the level of use of ICTs in the society)
- Stage 3: ICT impact (reflecting the result/outcome of efficient and effective ICT use)

Table 5-2: The statistical table of indicators used to compute the ITU ICT Development Index (IDI) of Iran, 2012-2013

Indicator	2012	2013
Fixed-telephone subscriptions per 100 inhabitants	37.6	38.3
Mobile-cellular telephone subscriptions per 100 inhabitants	76.1	84.2
International Internet bandwidth per Internet user	3528	4632
Percentage of households with a computer	37.0	44.6
Percentage of households with Internet access	32.3	35.8
Percentage of individuals using the Internet	27.5	31.4
Fixed (wired)-broadband Internet subscriptions per 100 inhabitants	4.0	5.6
Wireless-broadband subscriptions per 100 inhabitants	1.3	2.5
Adult literacy rate	84.3	84.3
Secondary gross enrolment ratio	86.3	86.3
Tertiary gross enrolment ratio	55.2	55.2

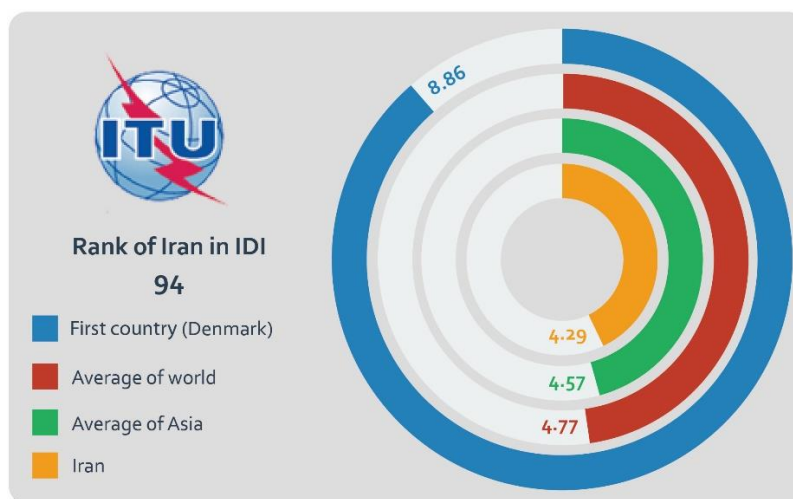


Figure 5-1: IDI value of Iran, compared to Denmark (the front runner), average of the world and average of the Asia

According to the Measuring the Information Society Report, Islamic Republic of Iran moved up 3 ranks in the IDI 2013, to 94th position and this is a good progress on the global IDI. Figure 5-1 compares IDI value of Iran with Denmark as a first country in the ranking, average of world and average of Asia.

5.2 United Nations E-government Development Index (EGDI) 2014

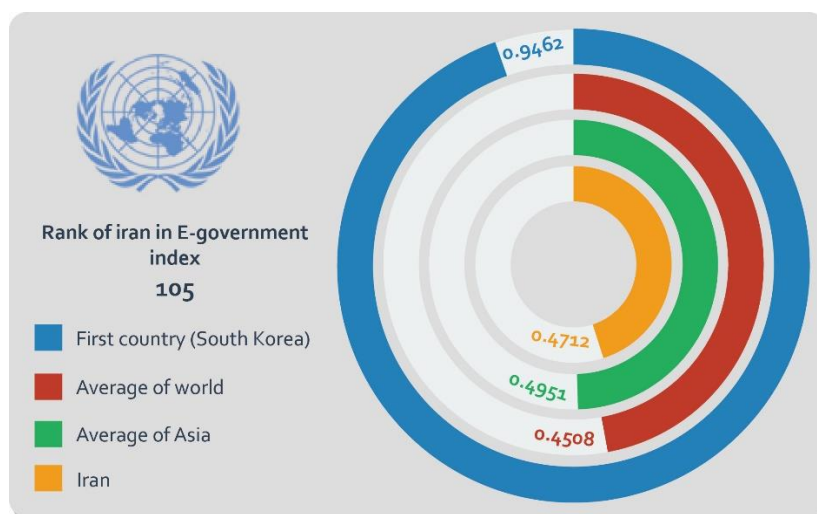
The United Nations global survey of e-government presents a systematic assessment of the use and potential of information and communication technologies to transform the public sector by enhancing efficiency, effectiveness, transparency, accountability, access to public services and citizen participation in the 193 Member States of the United Nations, and at all levels of development.

The United Nations E-government Development Index (EGDI) that is published in the UN global survey of e-government is a composite indicator measuring the willingness and capacity of national administrators to use ICT to deliver public services. The assessment conducted by UNDESA rates the e-government performance of countries relative to one another as opposed to being an absolute measurement. Mathematically, the EGDI is a weighted average of three normalized scores on the most important dimensions of e-government, namely scope and quality of online services, development status of telecommunication infrastructure, and inherent human capital. The E-participation index is a supplementary index to the E-government Survey. This index focuses on the use of online services to facilitate provision of information by governments to citizens, interaction with stakeholders and engagement in decision making processes. Table 4-2, shows e-government Development Index and E-participation index of Iran according to the E-government Survey 2014. Figure 5-2, shows a comparison between Iran and Republic of Korea as the best performer in the 2014 ranking.

According to the UN E-government Survey 2014, Islamic Republic of Iran has a 3rd rank in the Southern Asia region. This survey reports that 74 countries (38 per cent) ranked as middle-EGDI and Islamic Republic of Iran lies in the middle-EGDI group. According to this report, Iran is among the upper-middle income countries that has provided the facility to download forms as useful service for disadvantaged and vulnerable groups. Also, Iran is among those upper-middle income countries that has provided specific services for women. In the UN E-government Survey 2012 report, Islamic Republic of Iran was among the whole-of-government top performers.

Table 5-3: The statistical table of indicators used to compute the UN e-government Index and E-participation index of Iran, 2014

Index	Value	Stage I	Stage II	Stage III	Stage IV	Total
Online Service Index	0.3701	59%	48%	19%	18%	35%
Index	Value	Internet users	Fixed telephone subscriptions	Mobile-cellular telephone subscriptions	Fixed-broadband subscriptions	Wireless broadband subscription
Telecommunication Infrastructure Index	0.2940	26%	37.63%	76.10%	4.03%	1.34%
Index	Value	Adult literacy	Gross enrolment ratio	Expected years of schooling	Mean years of schooling	
Human Capital Index	0.6882	85.02%	76.71%	13.78%	7.8%	
Index	Value	Total	E-information	E-consultation	E-decision making	
E-participation Index	0.2941	27.59%	55.56%	4.55%	0	

**Figure 5-2: E-government development index of Iran, compared to South Korea (the front runner), average of the world and average of the Asia**

According to the UN E-government Survey 2014, Islamic Republic of Iran has a 3rd rank in the Southern Asia region. This survey reports that 74 countries (38 per cent) ranked as middle-EGDI and Islamic Republic of Iran lies in the middle-EGDI group. According to this report, Iran is among the upper-middle income countries that has provided the facility to download forms as useful service for disadvantaged and vulnerable groups. Also, Iran is among those upper-middle income countries that has provided specific services for women. In the UN E-government Survey 2012 report, Islamic Republic of Iran was among the whole-of-government top performers. Figure 5-2 shows e-government development index of Iran in comparison to the South Korea, the first country in the ranking, the average of the world and the average of Asia.

5.3 World Economic Forum Network Readiness Index 2015

The Networked Readiness Index that has been proposed by World Economic Forum measures, on a scale from 1 (worst) to 7 (best), the performance of 148 economies in leveraging information and communications technologies to boost competitiveness and well-being. This index is reported in the *Global Information Technology Report* which provides a comprehensive assessment of networked readiness, or how prepared an economy is to be applied the benefits of information and communications technology (ICT) to promote economic growth and well-being. Using updated methodology that was introduced in 2012; the report ranks the progress of 148 economies in leveraging ICT to increase productivity, economic growth and the number of quality jobs. The ranking also shows how far some countries have gone in bridging the digital divide – not only in terms of developing ICT infrastructure, but also in terms of economic and social impact – and highlight the main strengths and weaknesses countries are facing.

The networked readiness framework translates into the NRI, comprising four sub-indices: these sub-indices measure the environment for ICTs; the readiness of a society to use ICTs; the actual usage of all main stakeholders; and, finally, the impacts that ICTs generate in the economy and in society. The three first sub-indices can be regarded as the drivers that establish the conditions for the results of the fourth sub-index, ICT impacts. Table 4-3, shows the rank and score for each subindex and pillars of the Network Readiness Index (NRI) of Iran in 2014 and 2015. Figure 5-4, compares Network Readiness Index of Iran with the top performer in the ranking.

Table 5-4: The table of subindexes used to compute the NRI of Iran according to Global Information Technology Report, 2015

Pillar	Rank 2014	Score 2014	Rank 2015	Score 2015	Rank change
A. Environment subindex	86	3.80	93	3.7	+7
1 Political and regulatory environment	86	3.50	100	3.40	+14
2. Business and innovation environment	86	4.00	86	4.1	0
B. Readiness subindex	110	3.90	86	4.5	-24
3. Infrastructure and digital content	103	3.10	97	3.0	-6
4. Affordability	118	3.70	46	5.8	-72
5. Skills	85	4.70	85	4.7	0
C. Usage subindex	113	3.00	108	3.1	-5
6. Individual usage	111	2.39	100	2.9	-11
7. Business usage	129	3.0	129	3.0	0
8. Government usage	91	3.80	109	3.4	+18
D. Impact subindex	107	3.00	116	3.0	+9
10. Economic impact	114	2.80	110	2.7	-4
11. Social impact	105	3.20	115	3.2	+10

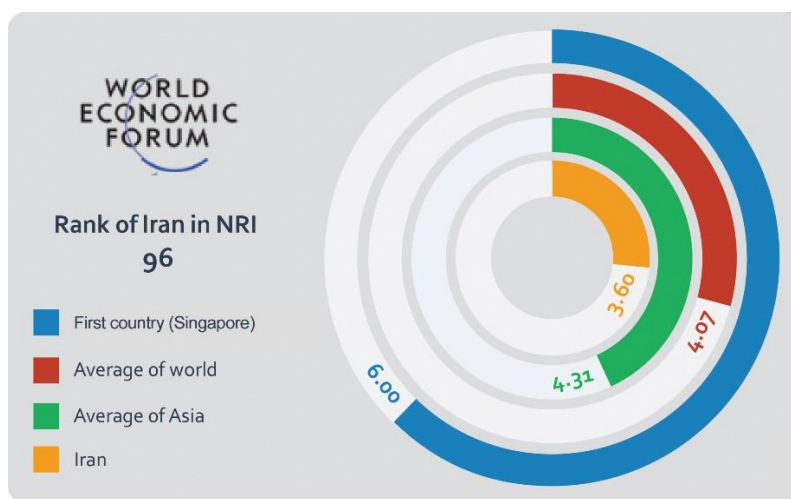


Figure 5-3: Network Readiness Index of Iran, compared to Singapore (the front runner), average of the world and average of the Asia

The reports show that Islamic Republic of Iran has moved 8 ranks to position 96th in the NRI global ranking. This improvement is mainly due to increase in the Readiness subindex that measures the extent to which Iran has in place the infrastructure and other factors supporting the uptake for ICTs. Also, as it can be seen in Table 4-3, the main reason for the improvement in Readiness subindex is a big change in Affordability score that assesses the affordability of ICTs in Iran through measures of mobile telephony usage costs and broadband Internet subscription costs, as well as liberalization of ICT services.

5.4 Measuring the WSIS Targets in Iran

The World Summit on the Information Society (WSIS) Geneva *Plan of Action* identified ten targets to be achieved by 2015, along with numerous recommendation based on different action lines. The *Partnership on Measuring ICT for Development* should tracks the progress towards achievements of the WSIS goals and targets. For this reason, the *Partnership* has developed a set of core indicators designed to monitor ICT developments. They cover ICT infrastructure, household ICT access and individual use of ICT, business ICT use, the ICT sector, trade in ICT goods, and ICT in education. A subset of these indicators has been applied to measuring the ten WSIS targets. Other WSIS targets go beyond the areas covered so far by Partnership's core indicators and include targets on connecting health centers, libraries, post offices and scientific and research centers, and encouraging linguistic diversity and local content on the Internet. The *ITU Measuring the WSIS Targets- a Statistical Framework* has identified a set of numerical indicators to track the targets and to guide countries in their monitoring efforts. Information Technology Organization of Iran (ITO) as a national coordinator for measuring the Information Society in Iran has included these indicators in the international component of Core ICT Indicators of Iran. This organization has collected most of the data related to these indicators from the identified data sources and in the following table the collected data for the indicators of WSIS targets has been reported. It should be mentioned that the collected data for measuring household ICT access and individual use of ICT in Iran are based survey that has been done by Statistical Center of Iran with the support and supervision of ITO in 2014, according to the latest version of Manual.

Table 5-5, reports the collected data by ITO for each WSIS targets. It should be mentioned that according to the methodology of ITU, some of the telecommunication and ICT in education indicators are collected from ITU databases and UNESCO statistics division.

Table 5-5: Collected data to measure progress made by I.R. Iran towards the ten WSIS targets

Indicator	2014	2013	2012	Source
Target 1. Connect all villages with ICTs and establish community access points				
1.1: Proportion of rural population covered by a mobile cellular telephone network, by type of mobile cellular telephone technology (%)	71.7	69.7	*	Communication Regulatory Authority (CRA)
1.2: Proportion of households with telephone, by type of network, by urban/rural (%)		97.6	*	Statistical Center of Iran (SCI)
1.3: Proportion of households with Internet access, by type of access, by urban/rural (%)	44.73	37.8	*	Statistical Center of Iran (SCI)
1.4: Proportion of individuals using the Internet, by location, by urban/rural (%)	39.35	31.4	26	Statistical Center of Iran (SCI)
1.5 : Proportion of households with Computer access, by type of access	52.47	45.9	*	Statistical Center of Iran (SCI)
Target 2. Connect all secondary schools and primary schools with ICTs				
2.1: Proportion of schools with a radio used for educational purposes (%)	5.0	5.1	2.5	Ministry of Education
2.2: Proportion of schools with a television used for educational purposes (%)	3.0	4.5	7.4	Ministry of Education
2.3: Learners-to-computer ratio.	30	23.5	19.4	Final WSIS Targets Review
2.4: Proportion of schools with Internet access, by type of access (%)	55.0	51.7	50.7	Final WSIS Targets Review
Target 3. Connect all scientific and research centers with ICTs				
3.1: Proportion of public scientific and research centers with broadband Internet access (%)	100	100	100	Ministry of Science, Research and Technology
3.2: Presence of a national research and education network (NREN), by bandwidth (Mbit/s)	Yes	Yes (1 Gbp/s)	*	Information Technology Organization of Iran (ITO)
3.3: Proportion of public scientific and research centers with Internet access to a NREN (%)		3.85	2.5	Information Technology Organization of Iran (ITO)
Target 4. Connect all public libraries, museums, post offices and national archives with ICTs				

Indicator	2014	2013	2012	Source
4.1: Proportion of public libraries with broadband Internet access (%)	82	76.2	49.9	Iran Public Libraries Entity (http://www.iranpl.ir)
4.2: Proportion of public libraries providing public Internet access (%)		51.7	45.3	Iran Public Libraries Entity (http://www.iranpl.ir)
4.3: Proportion of public libraries with a web presence (%)	37	29.4	NA	Iran Public Libraries Entity (http://www.iranpl.ir)
4.4: Proportion of museums with broadband Internet access (%)	71	63	30	Cultural Heritage and Tourism Organization
4.5: Proportion of museums with a web presence (%)		39	10	Cultural Heritage and Tourism Organization
4.6: Proportion of post offices with broadband Internet access (%)	93	90.4	90.2	I.R. POST
4.7: Proportion of post offices providing public Internet access (%)		0	0	I.R. POST
4.8: National archives organizations with broadband Internet access	100	100	100	National Library and Archive Organization
4.9: National archives organizations with a web presence	100	100	100	National Library and Archive Organization
4.10: Proportion of items in the national archives that have been digitized (%)	32	20	8.35	National Library and Archive Organization
4.11: Proportion of digitized items in the national archives that are publicly available online (%)	14.4	9	6.26	National Library and Archive Organization
Target 5. Connect all health centers and hospitals with ICTs				
5.1: Proportion of public hospitals with Internet access, by type of access (%)	100	100 ADSL (%25), Wireless (%20), Fiber (%9), Others (%46)	*	Ministry of Health and Medical Education
5.2: Proportion of public health centers with Internet access, by type of access (%)	97	90	*	Ministry of Health and Medical Education
5.3: Level of use of computers and the Internet to manage individual patient information.		3.1 Million Person	*	Ministry of Health and Medical Education

Indicator	2014	2013	2012	Source
		E-Health Doc		
Target 6. Connect all central government departments and establish websites				
6.1: Proportion of persons employed in central government organizations routinely using computers (%)	90	73	*	Deputy of Management Development and Human Resource of Presidency
6.2: Proportion of persons employed in central government organizations routinely using the Internet (%)		60	*	Deputy of Management Development and Human Resource of Presidency
6.3: Proportion of central government organizations with a Local Area Network (LAN) (%)	100	100	100	Deputy of Management Development and Human Resource of Presidency
6.4: Proportion of central government organizations with an intranet (%)	100	100	100	Deputy of Management Development and Human Resource of Presidency
6.5: Proportion of central government organizations with Internet access, by type of access (%)	100	100	100	Deputy of Management Development and Human Resource of Presidency
6.6: Proportion of central government organizations with a web presence (%)	100	100	100	Deputy of Management Development and Human Resource of Presidency
6.7: Level of development of online service delivery by national governments.	39%	25% of total services	*	Deputy of Management Development and Human Resource of Presidency
Target 7. Adapt all primary and secondary school curricula to meet the challenges of the information society, taking into account national circumstances				
7.1: Proportion of ICT-qualified teachers in schools (%)	50.0	38.5	28.0	Ministry of Education
7.2: Proportion of teachers trained to teach subjects using ICT (%)	35.0	17.7	9.3	Final WSIS Targets Review

Indicator	2014	2013	2012	Source
7.3: Proportion of schools with computer-assisted instruction (%)	30.0	20.7	21.4	Final WSIS Targets Review
7.4: Proportion of schools with Internet-assisted instruction (%)	30	20.7	15.8	Ministry of Education
Target 8. Ensure that all of the world's population has access to television and radio services				
8.1: Proportion of households with a radio (%)		57	*	Statistical Center of Iran (SCI)
8.2: Proportion of households with a TV (%)		98.4	*	Statistical Center of Iran (SCI)
8.3: Proportion of households with multichannel television service, by type of service (%)	0	0	0	Statistical Center of Iran (SCI)
Target 9. Encourage the development of content and put in place technical conditions in order to facilitate the presence and use of all world languages on the Internet				
9.1: Proportion of Internet users by language, country level (%)	31.4	26	21	Statistical Center of Iran (SCI)
9.2: Proportion of Internet users by language, top ten languages, global level (%)	N/A	N/A	N/A	
9.3: Proportion of Webpages, by language (%) (Persian Language)	0.9	0.8	*	http://w3techs.com
9.4: Number of domain name registrations for each country-code top-level domain, weighted by population		*166.1 per ccTLD, 104.9 per registration	166.1 per ccTLD, 104.9 per registration	Final WSIS Targets Review
9.5: Number and share of Wikipedia articles by language.	400,000 (451,258, 14 May 2015)	300,000	200,000	http://en.wikipedia.org
Target 10. Ensure that more than half the world's inhabitants have access to ICT's within their reach and make use of them				
10.1: Mobile cellular telephone subscriptions per 100 inhabitants.	91.0	85	76.1	Communication Regulatory Authority (CRA)
10.2: Proportion of households with telephone, by type of network.		97.1	*	Statistical Center of Iran (SCI)
10.3: Proportion of individuals using a mobile cellular telephone.	71.7	61.5	*	Statistical Center of Iran (SCI)

Indicator	2014	2013	2012	Source
10.4: Proportion of individuals using the Internet.	39.35	31.4	26	Statistical Center of Iran (SCI)
10.5: Proportion of households with Internet access, by type of access.	44.73	37.8	*	Statistical Center of Iran (SCI)
Annex 1. Connect all businesses with ICTs				
A.1 Proportion of businesses using computers		70	28.0	Statistical Center of Iran (SCI)
A.2 Proportion of businesses using the Internet, by type of access		*	18.0	Statistical Center of Iran (SCI)
A.3 Proportion of businesses using mobile cellular telephones		90	*	Statistical Center of Iran (SCI)

Note: I.R. Iran. Level of use of computers and Internet to manage individual patient information

Level of use	Local health care	District/regional health care	National health system
Paper	2	1	1
Computerized Data	5	5	5
Computerized Data plus electronic transmission via Internet	5	5	5
Note: 5: Very High (over 75%), 2: Low (Lower 25%), 1: None			

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