International Scholars Journals

African Journal of Estate and Property Management ISSN 9671-8498 Vol. 3 (11), pp. 001-009, November, 2016. Available online at www.internationalscholarsjournals.org © International Scholars Journals

Full Length Research Paper

Information society statistics and indicators: The case of Turkey

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Accepted 12 May, 2016

This study, performed through the basic structures of information society, refers to the global dimensions of change by knowledge economy and information society as statistics which have different indicators to help us determine the position of Turkey on this change. In order to understand the position of Turkey on information society, several indexes were researched. In this study, the level of Turkey as an information society is stated through the digital opportunity, ICT/OI, e-readiness, networked readiness and digital access indexes.

Key words: Information society, knowledge economy, information and communication technologies, index.

INTRODUCTION

It is seen that information technology has spread in a global scale, particularly since 1990's. It could be said that the activities for developing information and communication technologies capacity started earlier before now, and Turkey is on its way of being an information society. In this scope, it is remarkable to witness the formation of TUENA (Turkey Information Infrastructure Master Plan) in the year 1996 and the initiation of TUBITAK on June, 1997. In addition to this, the effort of our country to be an information society realized in line with the European Union (EU) in particular is seen. In the end of the 1990's, EU implemented the Information Society Action Plans and intensified the subject of information society in 2000 Lisbon summit.

The main purpose of this summit was to make EU "a competitive and information-based dynamic economy". In order to benefit from the opportunities which are provided by the information society, EU put into force e-Europe action plan in the year 2000. It has also activated a similar action plan, which involves Turkey and the other candidate countries, with the name of e-Europe+. Turkey continues its efforts to be an information society through the development and action plans as well. For instance, it has dwelt on information and communication technologies as the most important precondition of development in the "Eighth Five-Year Development Plan" (DPT, 2000; DPT, 2006a; DPT, 2006b). The basic indicators concerning the information and communication technologies of our country are shown in Table 1.

As seen in Table 1, Turkey is in a continuous development in terms of the basic indicators concerning However, it is clear that this development is not at the sufficient level yet, with regard to being an information society. Turkey still took the 27th place in the year 2005 and the 29th place in the year 2009 among the OECD countries in terms of the broadband subscribers which is one of the important indicators of the information society (Table 2).

While the rate of households having internet access in Turkey was 7.2% in the year 2004, this rate reached 30% in the year 2009. 30.1% of the households having no internet access stated that the reason for not connecting to internet from home was that they do not need any internet usage. ADSL is the widest internet connection type used in Turkey with 85.6% usage (DIE 2004, 2009). According to the results of the "Household Information Technologies Usage Research" which was first performed in June of the year 2004 by the State Statistics Institute; it was determined that 9.98% of all households has personal computers, 53.64% has cellular/vehicle telephone, 92.19% has television, 5.86% of the households has internet access through personal computer and 2.98% with cellular/vehicle telephone. 7.9 millions out of 47 millions of individuals in 16 - 74 age group use computer and 6.2 millions use internet in the year 2004.

The computer and internet usage rates of individuals in the 16 - 74 age group were 50.5 and 48.6% in males and 30.0 and 28.0% in females, respectively, in the year 2009. In addition, according to the 2004 and 2009 results of DIE, it is seen that there is a great imbalance in terms of age and gender among not only computer but also internet users. Inspite of this imbalance, it could be said that there is a great increase in information and communication technologies.

However, it is obvious that this increase is still quite

Table 1. Basic indicators of ICTs.

Indicators	2002	2005	2006	2007	2008
Main telephone lines per 100 inhabitants	26.9	25.9	25.3	24.3	23.0
Mobile cellular telephone subscriptions per 100 inhabitants	33.2	59.5	70.9	82.8	86.8
Internet users per 100 inhabitants	11.1	14.0	17.7	28.2	32.2
Fixed broadband subscribers per 100 inhabitants	0.03	1.5	2.5	6.1	7.8
Turkish telecom market	10	13	14	17	20
Turkish IT market	-	4	5	6	7
Main fixed telephone lines in operation per 1000 inhabitants	-	18.9	18.8	18.2	17.5
International internet bandwidth per Internet user(bit/s)	145	-	-	8'390	-
Proportion of households with computer	8.0	-	-	28.5	-
Proportion of households with internet	5.0	-	-	18.9	-

Source: World telecommunication/ICT indicators, tubisad.org.tr; OECD, 2005

Table 2. OECD broadband subscribers per 100 inhabitants, by technology, June 2009.

Rank		DSL	Cable	Fibre/LAN	Other	Total	Total subscribers
1	Netherlands	22.5	13.7	1.1	0.8	38.1	6 262 500
2	Denmark	22.4	9.9	3.9	0.9	37.0	2 031 000
3	Norway	22.7	7.7	3.5	0.7	34.5	1 645 619
4	Switzerland	23.3	10.0	0.2	0.3	33.8	2 603 400
5	Korea	7.2	10.5	15.1	0.0	32.8	15 938 529
6	Iceland	30.7	0.0	1.3	0.7	32.8	104 604
7	Sweden	18.5	6.3	6.7	0.1	31.6	2 915 000
8	Luxembourg	26.0	5.3	0.0	0.0	31.3	153 172
9	Finland	24.9	4.1	0.0	0.8	29.7	1 579 600
10	Canada	13.2	15.2	0.0	1.3	29.7	9 916 217
28	Poland	7.4	3.7	0.1	0.1	11.3	4 307 992
29	Turkey	8.5	0.1	0.0	0.0	8.7	6 188 676
30	Mexico	6.3	1.9	0.0	0.2	8.4	8 959 426

Source: OECD broadband portal, 2010.

Table 3. Internet usage and population statistics.

Years	Internet users, (latest data)	Population	% population (Penetration)	Source
2000	2,000,000	70,140,900	2.9	ITU
2004	5,500,000	73,556,173	7.5	ITU
2006	10,220,000	74,709,412	13.9	Comp. Ind. Almanac
2009	26,500,000	76,805,524	34.5	ITU

Source: Internet World Stats 2005, 2009.

insufficient for Turkey. It is seen that a growth rate of 1,225.0% is reached between the years 2000 - 2009.

INFORMATION SOCIETY INDEXES

The evaluation and comparison of the information society are rather performed based on the indicators of the information and communication technologies (ITU 2006). However, taking into consideration the fact that the information and communication technologies have been developed rapidly, it is revealed that it is necessary to review these indicators frequently as well. In this respect, the question of which criteria will be taken into consideration in the evaluation of the information society gets significance. To this end, a summary of the basic composite ICT indicators is presented in Table 4.

Only two of the indexes which are presented in the Table 4, ICT Opportunity Index: ICT-OI" and " Digital

Table 4. Main composite indices for measuring digital opportunity.

Name of index (organisation)	Number of economies	Number of indicators	Comments
Digital Opportunity Index (ITU/UNCTAD/KADO)	180	11	Three clusters: Utilization, Infrastructure and Opportunity.
ICT Opportunity Index (ORBICOM/ITU)	139	17	Compares 'Infostates', 'Infodensity' and 'InfoUse' against an imaginary economy called 'Hypothetica'.
ICT Development Index (UNCSTD)	180	8	Four clusters: Access, connectivity, Usage and Policy
Informational Society Index (IDC)	52	15	Only sparse methodological data is disclosed.
e-Readiness Index (EIU/IBM)	68	31	Six clusters: Connectivity, Business environment, Adoption, Legal and policy environment, social and cultural environment, Supporting e-services. Uses a mix of quantitative and survey data.
Network Readiness Index (InfoDev/WEF/INSEAD)	102	48	Three clusters: Environment, Readiness, Usage. Uses a mix of survey, qualitative and quantitative data.
(Digital Access Index) (ITU)	179	8	Five clusters: Infrastructure, Affordability, Knowledge, Quality, Usage.
Mobile/Internet Index (ITU)	171	26	Three clusters: Infrastructure, usage,market conditions.
Technology achievement index (UNDP)	71 (full data)	8	Four clusters: Creation of technology, Diffusion of recent innovations, Diffusion of old innovations, Human skills.

Source: ITU, 2006; ITU, 2007

Opportunity Index: DOI" World Information Society Summit (Tunis Agenda, para 115), were taken into consideration as the evaluation methodology. Both of the indexes are given in details in Table 5.

Although both of the indexes measure similar phenomenon, they are quite different from each others. Only one indicator (mobile telephone subscribes per 100 persons) took part in both of the indexes. The popularity of the mobile communications and the high speed 2.5 and 3G (third generation) services have made the wireless technologies the basic components of the information society. At this point, it is outstanding that the indicators which are selected for DOI have mobile components.

DIGITAL ACCESS INDEX

In 2003, ITU developed the "Digital Access Index (DAI)", which was presented at the first phase of the World Summit on the Information Society (WSIS). The main objective of the DAI was to measure the overall ability of individuals in a country to access and use ICTs. It was thus built around five categories: infrastruc-ture, affordability, knowledge, quality and actual usage of ICTs. It was based on a methodology that used goalposts (or upper value limits), which were averaged to obtain category scores. Categories were then averaged to obtain the overall index value. DAI (Digital Access Index) measures the access of the individuals of a country to information and communication tech-nologies and their usages. The results concerning the digital access index are shown in Table 6.

Turkey was among countries such as Macedonia, Romania, Thailand and Lebanon in medium access level in the digital access index, 2002.

DIGITAL OPPORTUNĐTY INDEX

There are a number of features of the DOI which makes it ideal for benchmarking progress in building the Information Society (ITU, 2006):

- It covers a large number of economies. The DOI has the widest coverage of any of the existing indices, which makes it the index of choice for a report such as this, which is concerned, *inter alia*, with digital inclusion.
- It has a modular structure, which means that the DOI can easily be combined with other indices for analytical purposes.
- The DOI has a straightforward methodology. The raw ingredients of the index are the 11 separate indicators. As these can be measured relatively easily, policy-makers and other interested parties can check and up-date the data for their country and can also use 'what-if' projections and scenario planning to measure the impact of policies.

Table 5. Bench marking digital opportunity index and ICT opportunity index).

Variation	ICT opportunity index	Digital opportunity index
Methodology	Compiles each country's index in relation to the average of all of the other countries.	Compiles each country's index in relation to the maximum value achievable in each indicator (usually full penetration at 100%).
Number of economies	139 economies	180 economies
Time series	Country index values provided for 1996-2003	Full country coverage for 2004 and 2005 data. 40 leading economies have 2001-2005 data.
Indicators used	Networks: 1. Main telephone lines per 100 inhabitants * 2. Waiting lines / main lines 3. Digital lines / main lines 4. Mobile phones per 100 inhabitants *+ 5. Cable TV subscriptions per 100 inhabitants 6. Internet hosts per 100 inhabitants 7. Secure servers / internet hosts 8. International bandwidth (kbit/s per inhabitant)* Skills: 9. Adult literacy rates 10. Gross enrolment ratios (at primary, secondary and tertiary levels) Uptake: 11. TV equipped households per 100 HH * 12. Residential phone lines per 100 HH 13. PCs per 100 inhabitants * 14. Internet users per 100 inhabitants Intensity: 15. Broadband users/Internet users * 16. Int'l outgoing minutes of telephone traffic per capita 17. Int'l incoming minutes of telephone traffic per capita	Opportunity: 1. Percentage of population covered by mobile telephony * 2. Internet access tariffs as a % of per capita income * 3. Mobile cellular tariffs as a % of per capita income * Infrastructure: 4. Proportion of households with a fixed-line telephone * 5. Proportion of households with a computer * 6. Proportion of households with internet access at home * 7. Mobile cellular subscribers per 100 inhabitants *+ 8. Mobile Internet subscribers per 100 inhabitants * Utilisation: 9. Proportion of individuals that have used the internet * 10. Ratio of fixed-broadband subscribers to total internet * 11. Ratio of mobile-broadband subscribers to total internet *
Top ten economies (with rank in the other index shown in brackets)	1. Denmark (3) 2. Sweden (6) 3. Switzerland (15) 4. Netherlands (9) 5. Norway (8) 6. Canada (14) 7. United States (21) 8. Finland (17) 9. Hong Kong, China (5) 10. Iceland (4)	1. Republic of Korea (17) 2. Japan (19) 3. Denmark (1) 4. Iceland (10) 5. Hong Kong, China (9) 6. Sweden (2) 7. United Kingdom (14) 8. Norway (5) 9. Netherlands (4) 10. Taiwan, China (n.a.)

* Indicators that appear in the common set of core indicators, defined by the Partnership.
+ Indicator that appears in both indices.
Source: ITU Research, 2006.

- The DOI is based on objective criteria measurable indicators (e.g., number of subscribers and price of services), rather than opinion and other subjective data. Regulatory components can, never-theless, be added to the DOI as a separate cluster, providing extra flexibility.
- The DOI is based on standardized indicators, as defined by the Partnership for Measuring ICT for

Table 6. List of countries by digital access index.

High access countries		Upper access countries		Medium access countries		Low access countries	
Sweden	0.85	Ireland	0.69	Belarus	0.49	Zimbabwe	0.29
Denmark	0.83	Estonia	0.67	Lebanon	0.48	Honduras	0.29
Đceland	0.82	Spain	0.67	Thailand	0.48	Syria	0.28
Korea	0.82	Malta	0.67	Romania	0.48	Pakistan	0.24
Norway	0.79	Greece	0.66	Turkey	0.48	Azerbaijan	0.24
Netherlands	0.79	Portugal	0.65	Macedonia	0.48	Tajikistan	0.21

Source: ITU (2003).

Table 7. Digital opportunity index 2005 - 2006.

Economy	Opportunity (2004/05)	Infrastructure (2004/05)	Utilization (2004/05)	Digital opportunity Index(2004/05)	World rank (2005/06)	DOI Score (2005/06)
Korea	0.99	0.74	0.64	0.79	1	0.80
Japan	0.99	0.69	0.46	0.71	2	0.77
Denmark	0.99	0.75	0.37	0.71	3	0.76
Iceland	0.99	0.72	0.37	0.69	4	0.74
Netherlands	0.99	0.67	0.32	0.66	6	0.71
Hong Kong	1.00	0.70	0.38	0.69	8	0.70
Sweden	0.99	0.74	0.35	0.69	9	0.70
UK	0.99	0.68	0.33	0.67	10	0.69
Norway	0.99	0.66	0.34	0.67	12	0.69
Greece	0.99	0.47	0.07	0.51	49	0.53
Turkey	0.97	0.30	0.08	0.45	52	0.52
South Africa	0.90	0.18	0.05	0.38	86	0.42

Source: ITU/KADO Digital Opportunity Platform, 2006.

Development. The Partnership currently comprises 11 different international and regional organisations including ITU, UNCTAD, UNESCO, OECD, Eurostat and the UN Regional Commissions. These are the basis indicators used to compile the DOI. 2004 - 2005 and 2005 - 2006 DOI indexes are seen in Table 7.

Turkey, which was at the 58th position with 0.45 points in the years 2004/2005, took the 52nd place in the years 2005/2006. With regard to the digital status, the results of DOI which examines the economies in three categories are thus:

High DOI scores (0.45 and above)

These economies are mostly developed economies from Europe, North America, East Asia and the Pacific. They include all the OECD countries, except Mexico. These economies provide good digital opportunity for most of their inhabitants, with extensive infrastructure, generally low prices and widespread use of new technologies.

Medium DOI scores (0.30 - 0.45)

This group consists of diverse economies from Latin America, the Caribbean, Asia and North Africa. The upper middle income African states of South Africa, Botswana and Gabon feature in this category, as well as Namibia and Senegal.

Low DOI scores (0.30 and below)

Digital opportunity in these countries is still mostly expressed in terms of potential access to the Information Society, that has not yet been realized. These countries are among some of the poorest in the world, with low levels of infrastructure, limited availability of the Internet and broadband and high prices as a proportion of local incomes. An hour's Internet access per day exceeds the average daily income in most of these countries.

ICT OI INDEX

In Table 8, the BIT status index of the countries is given in terms of the substructure, human capital, population, density indexes which are sub-indexes and the annual average growth rates of the years 2001 - 2005. In terms of the ICT-OI index, our country was among the 63 economies having an ordinary average.

e-READINESS INDEX AND TURKEY

Spending on information and communications technology

Table 8. 2007 ICT-OI values and sub-indices: networks, skills, uptake and intensity, and ICT-OI average annual growth rate 2001 - 2005.

Economy	Networks index *	Skills index **	Uptake index ***	Intensity index ****	ICT-OI value	Average annual growth rate 2001 - 2005
High Average (29 Economies)	432.1	137.5	371.5	451.80	312.17	54.65
Sweden	605.1	153.8	464.5	470.59	377.69	43.52
Luxembourg	675.5	112.0	412.6	607.37	371.10	77.20
Hong Kong	553.7	117.0	366.7	751.74	365.54	57.09
Netherlands	555.6	141.6	472.6	466.09	362.82	53.04
Denmark	616.5	145.8	390.2	483.22	360.79	42.07
Switzerland	548.7	110.3	417.8	618.51	353.60	43.26
Upper average (28 economies)	229.6	122.1	200.7	229.66	185.43	56.17
Slovenia	261.8	146.0	332.2	289.02	246.13	59.12
Aruba	316.9	123.8	155.7	528.52	238.36	68.90
Latvia	228.7	138.5	262.1	275.85	218.77	98.92
Malta	298.3	111.1	202.0	303.39	212.27	32.41
Portugal	253.4	134.8	184.3	306.29	209.57	42.19
Medium average (63 economies)	103.6	110.1	98.5	100.65	101.22	49.19
Uruguay	145.9	128.2	164.0	137.49	143.31	37.66
Argentina	149.4	137.1	135.3	140.23	140.40	37.86
Lebanon	110.6	120.9	153.9	182.19	139.15	49.61
Russia	161.9	139.2	144.7	108.89	137.27	71.29
Brazil	124.2	121.0	168.6	136.78	136.44	56.43
St. Vincent	122.2	120.2	115.6	179.83	132.19	50.08
Costa Rica	121.2	105.0	197.2	115.79	130.58	39.96
Turkey	158.6	116.0	109.6	135.32	128.53	48.84
Low average (63 economies)	26.2	67.3	21.8	72.62	38.16	67.66
Indonesia	57.5	102.6	48.8	72.84	67.68	44.87
Libya	48.5	126.3	42.0	77.07	66.71	46.47
Botswana	82.4	93.1	30.1	83.02	66.16	11.02
Nicaragua	48.3	99.4	44.7	78.98	64.18	35.80
Honduras	57.7	99.6	38.7	72.33	63.35	35.72
Zimbabwe	29.0	78.2	74.3	76.89	60.02	56.03

Source: ITU (2007a,b)

* Network index: fixed telephone lines per 100 inhabitants, mobile cellular subscribers per 100 inhabitants, and international internet bandwidth (kbps per inhabitant).

** Skills index: adult literacy rate, and gross school enrolment rates.

*** Uptake index: computers per 100 inhabitants, Internet users per 100 inhabitants and proportion of households with a TV.

**** Intensity index: total broadband internet subscribers per 100 inhabitants, international outgoing telephone traffic (minutes) per capita.

(ICT) is on the increase again with some buoyancy in developed markets. In emerging markets, expansion of connectivity -individuals' and organisations' access to voice and data communications- continues on a rapid ascent. Broadband Internet access, meanwhile, is beginning to reach critical mass in several countries and is becoming a catalyst for other improvements in the digital economy. Since 2000, the economist intelligence unit has published an annual e-readiness ranking of the world's largest economies. A country's 'e-readiness' is a measure of its e-business environment, a collection of factors that indicate how amenable a market is to Internet-based opportunities.

The six categories (and their weights in the model) and criteria are described by Economist Intelligence Unit and IBM Corporation (EIU, 2007):

1) Connectivity and technology infrastructure weight in overall score: 20%.

Category description: Connectivity measures the extent to which individuals and businesses can access mobile networks and the internet, and their ability to access digital services through means such as digital identity cards.

2) Business environment weight in overall score: 15%.

Category description: In evaluating the general busi-ness climate, the Economist Intelligence Unit screens 70 indicators to provide a comprehensive and forward view of each country's attractiveness as a trading economy and as a destination for business Đnvestment

3) Social and cultural environment weight in overall score: 15%

Category description: Literacy and basic education are preconditions to being able to utilise internet services, but this category also considers a population's "e-literacy" -its experience using the internet, its receptivity to

Table 9. e-Readiness rankings and scores.

Country	2005 rank	2004 rank	2005 score	2004 score	2009 rank	2008 rank	2009 score	2008 score
Denmark	1	1	8.74	8.28	1	5	8.87	8.83
USA	2	6	8.73	8.04	5	1	8.60	8.95
Sweden	3	3	8.64	8.25	2	3	8.67	8.85
Switzerland	4	10	8.62	7.96	12	9	8.15	8.67
UK	5	2	8.54	8.27	13	8	8.14	8.68
Hong Kong	6	9	8.32	7.97	8	2	8.33	8.91
Finland	6	5	8.32	8.08	10	13	8.30	8.42
Netherlands	8	8	8.28	8.00	3	7	8.64	8.74
Norway	9	4	8.27	8.11	4	11	8.62	8.60
Australia	10	12	8.22	7.88	6	4	8.45	8.83
Brazil	38	35	5.07	5.56	42	42	5.42	5.65
Turkey	43	45	4.58	4.51	43	43	5.34	5.64
Argentina	39	37	5.05	5.38	45	44	5.25	5.56
Tayland	44	43	4.56	4.69	49	47	5.00	5.22

Source: Economist intelligence unit and IBM corporation 2009. World Economic Forum, 2005, 2010.

it and the technical skills of the workforce.
4) Legal environment weight in overall score: 10%
Category description: e-business development depends both on a country's overall legal framework and specific laws governing internet use.
5) Government policy and vision weight in overall score: 15%
Category description: e-ready governments supply their constituents citizens and organisations with a clear roadmap for the adoption of technology, and they lead by example in their use of technology to create efficiencies.
6) Consumer and business adoption weight in overall score: 25%
Category description: If connectivity, societal adoption, and legal and policy environments are necessary enabling platforms for e-readiness, then the actual utilisation of digital channels by people and companies is a measure of successful implementation.

The results of the "Index of Readiness for the Information Society" are shown in Table 9.

While Turkey took the 40th place in terms of readiness for information society in the year 2002, it fell back to the 39th place in the year 2003. It claimed the 43rd place again in the year 2009. According to this, it could be said that a decrease is experienced in the year 2009 in comparison with the year 2002 in terms of readiness for information society.

NETWORK READINESS INDEX

The report uses the Networked Readiness Index (NRI) prepared by the World Economic Forum, covering a total of 127 economies in 2007 - 2008 and 134 economies in 2008 – 2009, to measure the degree of preparation of a nation or community to participate in and benefit from ICT developments. The NRI is composed of three component indexes which assesses:

- the environment for ICT offered by a given country or community
- the readiness of the community's key stakeholders - individuals, business and governments.
- and the usage of ICT among these stakeholders

In the Table 10, the network readiness index results are shown.

This ordering was performed by taking into consideration the countries' preparations in transiting to the information society and various indicators of the countries on this subject. In setting up this ordering, a lot of criteria were taken into account including the technical infrastructure indicators, the status of the countries in presenting and developing the services, their technology production capabilities, human capital and legal arrangements. Turkey, which took the 50th place among 82 countries in the year 2002 - 2003, came 56th among 102 countries which were taken into consideration in the report of the year 2003 - 2004. While Turkey took the 52nd place in the year 2004 - 2005, this status decreased to the 61st place in the year 2008 - 2009.

GLOBAL COMPETITIVENESS INDEX

The Global Competitiveness Index (GCI) prepared by World Economic Forum attempts to quantify the impact of a number of key factors which contribute to create the conditions for competitiveness, with particular focus on the macroeconomic environment, the quality of the country's institutions, and the state of the country's technology and supporting infrastructure. The GCI measures "the set of institutions, factors and policies that set the sustainable current and medium-term levels of economic prosperity" (in other words, those factors that facilitate or drive productivity). The index is made up of nine pillars; Institutions, Infrastructure, Macro economy, Health and primary education, Higher education and training, Market efficiency (goods,

Table 10. Results of network readiness index

Country	2006 - 2007 rank	2006 - 2007 score	2008 - 2009 rank	2008 - 2009 score
Denmark	1	5.71	1	5.85
Sweden	2	5.66	2	5.84
Singapore	3	5.60	4	5.67
Finland	4	5.59	6	5.53
Switzerland	5	5.58	5	5.58
Netherlands	6	5.54	9	5.48
United States	7	5.54	3	5.68
Iceland	8	5.50	7	5.50
UK	9	5.45	15	5.27
Norway	10	5.42	8	5.49
Mauritius	51	3.87	51	4.07
Turkey	52	3.86	61	3.91
Brazil	53	3.84	59	3.94

Source: World Economic Forum (2010).

Table 11. Global competitiviness index: GCI.

Country	GCI 2002 Rank	GCI 2003 Rank	GCI 2005 Rank	GCI 2006 Rank	GCI 2008-2009	GCI 2009-2010 Rank
Finland	1	1	2	2	6	6
USA	2	2	1	6	1	2
Sweden	3	3	7	3	4	4
Denmark	4	4	3	4	3	5
Singapore	6	6	5	5	5	3
Switzerland	5	7	4	1	2	1
Iceland	12	8	16	14	20	26
Japan	16	11	10	7	9	8
Netherlands	13	12	11	9	8	10
Germany	14	13	6	8	7	7
UK	11	15	9	10	12	13
Turkey	65	65	71	59	63	61

Source: World economic forum, the global competitiveness Report (2006 - 2007, 2009 – 2010).

labour, financial), Technological readiness, Business sophistication, Innovation (WEF, 2009).

The index attempts to take into account countries' different stages of economic development, and organises the nine pillars into three specific sub-indices:

1) Basic requirements (most important for countries at a factor-driven stage of development).
2) Efficiency enhancers (most important for countries at the efficiency driven stage).
3) Innovation and sophistication factors (most important for countries at the innovation-driven stage).
The “Global Competitiveness index” which is prepared by the World Economic Forum is seen in Table 11.

The table shows that Turkey has seen an impressive improvement in competitive performance over the past year, rising to the 12th places in the GCI between 2005 and 2006. According to Table 12, Turkey took the 61st place in terms of the global competitive power of Turkey. This situation indicates that Turkey de-creased in terms of global competitiveness in the year 2006. Moreover, in the study relating to the competitiveness ordering of the countries with the population over 20 millions, the situation of Turkey is put forward as well (Table 12).

Conclusion

Two basic subjects appear to be of uppermost importance in the discussions relating to the information society. These are the policies which are formed at the national, regional and global scale concerning information and communication technologies and tele-communication infrastructure. The telecommunication infrastructure is not sufficient alone in forming the base for the information society. At the same time, the political and social structure forming this infrastructure should be taken into consideration as well.

While Turkey is in a continuous development in terms

Table 12. Competitiveness rankings of countries population over 20 million.

Countries	1999	2001	2003	2007	2008	2009
USA	1	1	1	1	1	1
Canada	2	2	3	2	3	3
Australia	3	3	2	3	2	2
Germany	4	4	5	5	5	4
UK	6	6	7	7	8	8
France	8	8	8	11	10	12
Malaysia	9	10	4	8	7	6
Japan	10	9	11	9	9	5
Italy	13	13	17	16	21	24
Turkey	18	20	25	22	23	21
India	19	19	20	10	12	13
South Africa	22	17	18	24	27	22
Indonesia	25	24	28	27	25	17
Brazil	17	16	21	23	18	16
Venezuella	24	26	30	28	29	29

Source: Institute of management development 2003
It could be said that Turkey is in a continuous decrease in terms of the global competitiveness between the years 1999-2009.

of the basic indicators concerning information and communication technologies, it could not be said that this development is at the sufficient level yet in terms of being an information society. With regard to DOI, Turkey took part together with Albania, Belarus and Ukraine in the high DOI category having a score of 0.52. In terms of ICT-OI, it took part among 63 economies and had an ordinary average. Turkey took part among countries such as Macedonia, Romania, Thailand and Lebanon at the medium access level in the digital access index, 2002. It also took the 40th place in the year 2002, but fell to the 39th place in the year 2003. Turkey, which took the 45th place in the year 2004, maintained the 43rd place in the year 2005 and also in years 2008 and 2009. Turkey, which took the 50th place among 82 countries in terms of the "Network Readiness Index", also took the 56th place among 102 countries when the report of 2003 - 2004 was taken into consideration. While it took the 52nd place in year 2004 - 2005, it fell to the 61st place in the year 2008 - 2009.

The mobile components as indicators of the indexes are taken into consideration. These evaluate the countries in terms of the information society showing the way of change for Turkey as well.

REFERENCES

DĐE (2004). Hanehalkı Bili□im Teknolojileri Kullanımı Ara□tırması Sonuçları www.tuik.gov.tr/PreHaberBultenleri.do?id=4104

DPT (2006a). Bilgi ve Đleti□im Teknolojileri Özel Đhtisas Komisyonu, Telekomünikasyon Alt Komisyonu Raporu, ßubat .

DPT (2006b). Bilgi ve Đleti□im Teknolojileri Özel Đhtisas Komisyonu, Bilgi Teknolojileri Alt Komisyonu Raporu, Nisan 2006.

DPT (2000). VIII. Be□ Yıllık Kalkınma Planı. www.ekutup.dpt.gov.tr/plan/viii/plan8.pdf

Economic Intelligence Unit (2007). "The 2007 E-readiness Rankings: Executive Summary". http://www.eiu.com/site_info.asp? info_name=eiu_2007 _e_ readiness _rankings.

OECD (2005). OECD Communications Outlook 2005. www.oecd.org/.../0,3343,en_2649_34225_35269391_1_1_1_1,00 &&en-USS_01DBC.html

OECD Broadband Portal (2010). http://www.oecd.org/document/54/0,3343,en_2649_ 34225_38690102 _1_1_1_1,00.html

ITU (2006). World Information Society Report 2006, July 2006. www.itu.int/wisr.

ITU (2007a). ICT/OI Index. http://www.itu.int/ITU-D/ict/publications/ict-oi/2007/ material/ table1. html# high.

ITU (2003). ITU Digital Access Index: World's First Global ICT Ranking
Education and Affordability: Key to Boosting New Technology Adoption.
http://www.itu.int/home/feedback/index.phtml?mail=indicators.

ITU (2007b). Measuring the information society 2007 ICT Opportunity Index and World Telecommunication/ICT Indicators. www.itu.int/ITU-D/ict/publications/ict-oi/2007/ index.html

Internet World Stats (2009). http://www.internetworldstats.com/euro/tr.htm

World Economic Forum (2003). "Network Readiness Index and Methodology: 2002-2003". http://www.weforum.org/pdf/Global_ Competitiveness_Reports/Reports/ GITR_ 2002_ 2003/GITR_NRI_02_03.pdf.

World Economic Forum (2005). "Global Information Technology Report 2004-2005: Networked Readiness Index Rankings". Eri□im:http://www.weforum.org/pdf/ _ Competitiveness_ Reports/Reports/GITR_2004_2005/Networked_Readiness_ Index_Rankings.pdf.

World Economic Forum (2010). The Global Competitiveness Report 2009-2010. http://www.weforum . org/ en/initiatives/ gcp/Global%20Competitiveness%20Report/index.htm