

Global Information Society Watch 2008 Country Report

Republic of Korea

Country situation

Korea is one of the top ranking countries in terms of access to broadband Internet and mobile telephones. According to the International Telecommunication Union (ITU)'s 2007 statistics, the number of Internet users per 100 inhabitants is 72.2, the number of broadband subscribers per 100 inhabitants is 30.62, the number of mobile cellular subscribers per 100 inhabitants is 90.2. In the same statistics, in 2006, the percentage of population covered by mobile signal is 99%. In another statistics from OECD, in 2006 the percentage of households that has broadband access is 94%.

	2001	2002	2003	2004	2005	2006	2007
Subscribers per 100 inhabitants	18.47	21.83	24.22	24.82	25.32	29.08	30.46
Households with broadband access (%)	56.9	68.2	66.7	85.7	92.7	94.0	N/A

Table 1: Growth of the broadband access, 2001-07 (data from the OECD Broadband statistics)

Geographically, there are about thirty thousand people who live in areas where Internet access is impossible. However, except this population almost all citizens in Korea can subscribe to Internet access services. Such high geographical coverage is mainly due to population concentrated in relatively small urban areas and aggressive investments in telecommunication infrastructure by the government and private companies.

Since the early nineties, the government put various policies in place to ease the digital divide problem. The early government efforts include regional informatization initiatives and computer education for farmers and fishermen. However a comprehensive digital divide policy began with the formulation of the first five-year digital divide plan in 2001. Currently the second five-year plan (2006-2010) is in progress. The second plan's major goal is raising the informatization level of vulnerable populations to 80% of that of the general population.

The most vulnerable populations are the disabled, farmers/fishermen, the elderly, and the low-income population. Among these populations, farmers/fishermen and the elderly are lagging behind even more than the disabled and the low-income population. Even within each population, people who are older and less educated have a wider digital divide gap.

The gaps in physical access to the Internet is getting smaller over the years and is very small between the vulnerable populations and the general populations. However the gaps in capacity and usage are still large. The most significant socio-

economic factors for the disabled, the low-income and the farmers/fishermen is age while for the elderly it is education.

Looking into the four populations, people who show relatively less achievement are not using the Internet.

Digital Divide Index

In 2004, the government developed the digital divide index to quantitatively measure the digital divide. Since 2004, the government annually conducts status surveys and publishes its results in the survey report and the Digital Opportunity White Paper.

The annual survey has been conducted by face-to-face interviews with fifteen thousand individuals: three thousand samples from each group, the general population, the disabled, the farmers/fishermen and the elderly.

The questions used in the interview are composed of the items in Table 2: Categories of digital divide measures.

		Sub-categories of the questionnaire items
Access		Accessibility to personal computers (PCs) & Internet, Type of PC, Type of the Internet connection, ownership of ICT devices
Capacity		Competence in the use of PCs & the Internet
Usage ¹	Quantitative	Usage of PC & Internet, hours of PC use
	Qualitative	Helpfulness of PC & the Internet in daily life, Usage of PCs & the Internet in the recommended areas of use

Table 2: Categories of digital divide measures

The digital divide index² is the difference between the informatization score³ of the vulnerable population and that of the general population. Before the calculation of the difference, the informatization score is normalized based on the assumption that the information score of the general population is 100. The survey report also includes the digital divide index in each category using each category's scores instead of the informatization scores.

The 2007 survey results show that the gap in the physical access category is getting smaller in all four populations. However in the capacity and the usage categories, the four vulnerable populations' scores are only about half of those of the general population. The gaps are especially larger for the farmers/fisherman and the elderly.

¹ Usage score = (0.6×Quantitative usage score) + (0.4×Qualitative usage score)

² Digital divide index = {1 - (vulnerable population score/general population score)} × 100

³ Informatization score = (0.3×Access score) + (0.2×Capacity score) + (0.5×Usage score)

	Disabl ed	Low income ⁴	Farmers & Fishermen	Elderl y ⁵	Averag e ⁶
Aggregate	24.0	24.5	45.4	37.4	34.1
Access	11.2	15.8	23.3	9.9	13.5
Capacity	36.6	32.4	69.5	66.3	55.5
Quantitative usage	31.9	30.0	57.6	55.6	47.2
Qualitative usage	36.7	32.8	68.0	59.4	52.0

Table 3: 2007 Digital divide indexes

The survey reports that age and education have the most significant influence among socio-demographic factors on an individual's achievement in informatization. Following age and education, income, occupation and gender have influence in the given order. Factors such as disability, income, and occupation seems to have less influence because these factors are closely related with age and education.

When the four vulnerable populations are segmented further by ages and education, there is a clear difference between those sub-groups. Except for the disabled, people who are thirty and above with no high school education achieved less than eighty percents compared with the general population in the informatization scores. Excluding the elderly and the farmers/fishermen who have a college degree or above education, people who are sixty and above also achieved less than eighty percent. In the low-income population, excluding college graduates, people who are forty or above achieved less than eighty percents. Low-income individuals achieved less even compared to individuals of the same age and education level from the other three populations.

The most striking characteristics of people who achieve less than eighty percent compared to the general population is that they do not use the Internet. In this group of people, only 1.2% of the disabled, 1.4% of the low-income, 0.6% of the farmers/fishermen, and 0.3% of the elderly use the Internet. In contrast, almost 100% of people who achieve more than eighty percent, compared to the general population, in the four populations are using the Internet. Therefore the digital divide policy in Korea should be focused on providing incentives for the Internet non-users to use the Internet and remove barriers that prevents them from using the Internet. The survey report identified top five reasons of not using the Internet: “not knowing how to use it and difficulty of usage”, “difficulty of use by

⁴ Beneficiaries of the NMLSS (National Minimum Living Standard of Security System). For example, in 2007, a household that has four family members and its income is less than 1,205,535 won are eligible for the NMLSS.

⁵ Age over fifty

⁶ Weighted by the size of each group

physical handicaps”, “no need to use”, “not knowing what to do with the Internet”, and “no time for use”.

		Disabled	Low income	Elderly	Farmers & Fishermen
Age 10~19	Middle school graduate and below	113.4	120.4	-	-
	High school graduate	133.8	128.1	-	-
	College graduate and above	-	-	-	-
Age 20~29	Middle school graduate and below	92.5	91.8	-	113.7
	High school graduate	120.0	119.6	-	111.7
	College graduate and above	132.6	124.3	-	127.4
Age 30~39	Middle school graduate and below	89.2	56.1	-	59.4
	High school graduate	107.5	90.4	-	105.4
	College graduate and above	124.6	118.4	-	120.1
Age 40~49	Middle school graduate and below	63.5	50.6	-	58.6
	High school graduate	89.1	76.3	-	90.7
	College graduate and above	124.6	97.7	-	123.3
Age 50~59	Middle school graduate and below	46.5	36.1	55.3	46.3
	High school graduate	74.6	64.3	86.3	75.2
	College graduate and above	105.2	67.9	119.9	106.7
Age 60~	Middle school graduate and below	27.9	22.2	40.8	29.7
	High school graduate	47.1	31.8	68.2	53.5
	College graduate and above	70.8	36.7	93.0	81.2
평균		76.0	75.5	62.6	54.6

Table 4: Relative achievement(%) of the informatization scores of sub-populations by age and education comparing to the general population sample's score.

Human capacity and training

The fact that many Internet non-users states that they do not need to use the Internet or know what to do with the Internet implies that they might not recognize the benefits of using the Internet and what can be done in their daily lives with the Internet. Among the reasons for not using the Internet, “not knowing how to use it and difficulty of use” was the most frequent. It shows that many people simply do not know how to use the Internet and personal computers and feel uncomfortable about using them.

According to the survey, of the people who think they do not need to use the Internet, only 12.5% of them recognize the benefits of the Internet but still do not feel they need to use the Internet. The remaining 87.5% of them do not know the benefits of using the Internet and thus do not think they need to use it.

The government operated many training programs such as rural area personal computer training in the early nineties, “national informatization education” for 27

million citizens from 2001 to 2004. At present, various ministries carry out their own training programs targeting the vulnerable populations. Even with these training programs in place, people still do not know how to use it or why they need to use the Internet. This indicates that training related policies should be reexamined and redesigned.

Most of the training programs have been done in classrooms that are set up in facilities such as social-work institutions, educational facilities, or agricultural technology transfer agency offices. There are some training programs done in their home by instructors visiting them or on-line education. On-line training programs serve more and more trainees every year. A training course usually lasts 10 to 15 hours for on-line training, 20 to 60 hours for training in classrooms. Courses can be roughly categorized into three types: the first type includes courses oriented toward daily life affairs such as on-line banking, shopping, word processing, Internet search, the second type includes courses that are targeted for specific populations such as the disabled or the elderly, and the last type includes courses that provides capacity necessary for jobs or starting businesses. The government support for the training facilities covers costs of instructors, equipment maintenance, broadband subscription and miscellaneous operational costs. While the number of the training facilities is increasing, support for instructors is limited, hence limiting access to those training programs. The government recognizes the shortage of instructors and is trying to train voluntary instructors.

Since on-line courses are meaningless for the Internet non-users, more home-visit training opportunities on top of the in-classroom training must be provided. It is highly unlikely for the farmers and fishermen to be able to attend classes even if the number of training facilities and classrooms is significantly increased because some of them still live far from such places. Also the disabled or the elderly could experience difficulties in moving from their home to the classrooms.

Appropriateness of technology

Another main obstacle found in the survey for the Internet non-users is difficulties caused by physical handicaps. Such difficulties are not only problems for the disabled but also for the elderly. The Korean population is aging very quickly compared to other countries. The ratio of the elderly in the low-income and the farmers/fishermen population is higher than the general population.

Compliance with web content accessibility standards and guidelines is still very low. According to an evaluation of E-Government sites of 198 countries conducted by the Brown university, Korea received the most points overall. However, when one looks at the points of each category – “Online Services”, “Publications”, “Databases”, “Privacy Policy”, “Security Policy” and “W3C Disability Accessibility” – except for the “W3C Disability Accessibility”, Korea received 100% in all these features. In the “W3C Disability Accessibility”, Korea scored 0%. The score is quite low even considering the average scores of 23% for all 198 countries.

The article 20 of the *Anti-Discrimination against and Remedies for Persons with Disabilities Act* that was enacted in April, 2007 prohibits discrimination against disabled persons by individuals, legal persons or government agencies in accessing electronic or non-electronic information. The article provides a base for obligating the accessibility related standards and guidelines that have already been prepared by the national standardization authority. However, the article is no more than a declaration because it lacks any enforcement or specific requirements.

According to government estimate, about 360 thousand individuals among the disabled need some sort of aiding device to use ICT. However, in the last four years, national and local government agencies provided devices in only about 23 thousand cases.

Another promising way to address the technological problem for easing the difficulties experienced by the Internet non-users is to develop and adopt new information access environments using home appliances such as digital TVs instead of the current environment developed around personal computers. Home appliance approach can help the elderly who feel uncomfortable with the keyboard interface and operating systems.

Points for action

- Provide more home-visit training programs for people who have physical or geographical difficulties to attend in-classroom trainings.
- Provide more tech support services that can help solve every day needs and problems.
- Increase the financial support for instructors and support staff.
- Compliance with Web content accessibility guidelines should be made mandatory at least in government procurement of information systems and devices.
- Increase the financial support for providing aiding devices to use ICT for the disabled.
- Support the development of home-appliance based information access technologies, and provide financial assistance for buying and using such appliances in addition to the current support for personal computers and the Internet subscription.

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Korean Statistical Information Service: www.kosis.kr/eng

OECD Broadband statistics: oecd.org/sti/ict/broadband