DIGITAL DIVIDE IN KOREA

Yong-Joong Kang
(klucas@hri.co.kr)

The Korean economy is becoming a digital economy, in which the access to digital tools and skills are important components of personal, organizational and national competitiveness. Fortunately, the share of households with computers soared from 44.5% in 1998 to 66.0% in 2000. It is reported that 16.4 million people, 36% of the population, use the Internet in Korea. In the emerging digital economy, however, there exists a 'digital divide', a gap between information haves and information have-nots. The digital divide may lead to personal, societal or regional inequality on the economic level.

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Measuring the Digital Divide

To evaluate the extent of the digital divide, we look at factors such as income, age, education and gender. In addition, the digital divide index is split into three components: infrastructure, utilization and education. The digital infrastructure index indicates the physical conditions in which people have access to the digital tools like computers, mobile telephones and the Internet. The digital utilization index reflects the frequency of computer and Internet use, document transfers through the Internet, electronic commerce, and information gathering through the Internet and telecommunication. The digital education index indicates the intentional efforts to narrow or correct the digital divide, that is, whether people have been taught about computers and the Internet. The digitalization index is the average value of the three indexes mentioned above.

High Income Bracket, Highly Digitalized

There is a positive correlation between income and level of digitalization. High income earners pulling in more than four million won per month are two times as digitalized as those earning less than one million won. By index, the digital utilization gap is a little wider than that of digital infrastructure. Considering that digital skills are an important tool for personal competitiveness in the digital economy, the neglect of the income-related digital divide may give rise to transmission of poverty from generation to generation.

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Elderly Lag Behind

Old people are observed to be less digitalized than the young, which means a negative correlation between age and digitalization. In digital infrastructure and utilization indexes, people in their twenties are leading, while those in their fifties and

Table 1. Digitalization Index by Income

		Digitalization Index	Infrastructure Index	Utilization Index	Education Index
Monthly Pay	Less than 1 million Won	72.2	63.9	92.3	60.4
	1 million~2 million Won	91.0	91.0	88.3	93.8
	2 million~3 million Won	109.0	112.0	105.7	109.4
	3 million~4 million Won	127.8	127.3	132.9	123.2
	More than 4 million Won	137.5	130.2	158.0	124.2
Country Average		**100.0**	**100.0**	**100.0**	**100.0**
Standard Deviation		26.6	27.7	29.5	26.4

Note : Raw data quoted from 2000 Survey on Conditions and Recognition of Information Society issued by Information Culture Center of Korea in 2000. The indexes are relative values calculated under the assumption that the country average is 100.

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above are lagging. For example, twenty-somethings in Korea are four times as digitalized as their elders in their fifties. This cleavage by age is more pronounced for digital utilization than for digital infrastructure.

Many older people have not acquired the basic skills of information computer technology (ICT). As a result, they are fearful of dealing with and learning digital tools and skills. Meanwhile, teens and twenty-somethings have great interest in digital technology. The digital education index of teens is ten times as high as people in their fifties. In a sense, it is desirable that the future generation - teens and twenty-somethings - is highly digitalized and can play a great role in the future digital economy.

Table 2. Digitalization Index by Age

		Digitalization Index	Infrastructure Index	Utilization Index	Education Index
Age	Teens	151.9	113.6	146.6	195.6
	Twenties	147.1	115.6	171.9	153.9
	Thirties	88.2	96.5	83.3	84.9
	Forties	67.1	104.3	50.7	46.4
	Fifties	35.9	66.2	23.4	18.0
Country Average		**100.0**	**100.0**	**100.0**	**100.0**
Standard Deviation		50.6	20.0	62.9	74.0

Poorly Educated, Poorly Digitalized

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Enrolled students are much more digitalized than graduates. Students have been learning and using digital technology widely in daily life. People who have not graduated junior high school, however, are poorly digitalized. The digital index for them is 27.3, compared with the country average of 100.

Table 3. Digitalization Index by Education Level

		Digitalization Index	Infrastructure Index	Utilization Index	Education Index
Education Level	Secondary School Students	149.3	110.4	141.3	196.4
	College(graduate) Students	196.7	149.5	236.3	204.4
	Junior High School Diploma or less	27.3	57.9	15.7	8.3
	High School Diploma	75.2	90.8	66.9	68.0
	B. A. or more	165.2	135.8	203.5	156.3
Country Average		100.0	100.0	100.0	100.0
Standard Deviation		67.9	36.4	86.2	85.5

By index, inequality is greater for digital utilization and education than for digital infrastructure. The standard deviation of the utilization and education indexes are about two times as large as the infrastructure index. It is notable that the digital education index of the undereducated does not reach a tenth of the country average.

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Males More Digitalized Than Females

A disparity between men and women is also observed and the gap is greater for utilization than for infrastructure. The digital divide in gender might come from the fact that more men than women are employed as white collar workers and the office gives better access to computers and the Internet than the home.

Table 4. Digitalization Index by Gender

		Digitalization Index	Infrastructure Index	Utilization Index	Education Index
Gender	Male	110.2	108.3	119.9	102.3
	Female	88.9	91.4	77.9	97.4
Country Average		100.0	100.0	100.0	100.0
Standard Deviation		15.1	12.0	29.7	3.5

More Serious in Utilization Divide Than in Infrastructur e

From the evidence, it is concluded that a digital divide exists according to income, age, education level and gender, and that the digital utilization divide is more serious than the infrastructure one. First, high income earners, the young, well-educated people and men are more digitalized than low income earners, the old, undereducated people and women. The latter can be called 'digitally excluded class', who cannot access and enhance their living standard using digital technology.

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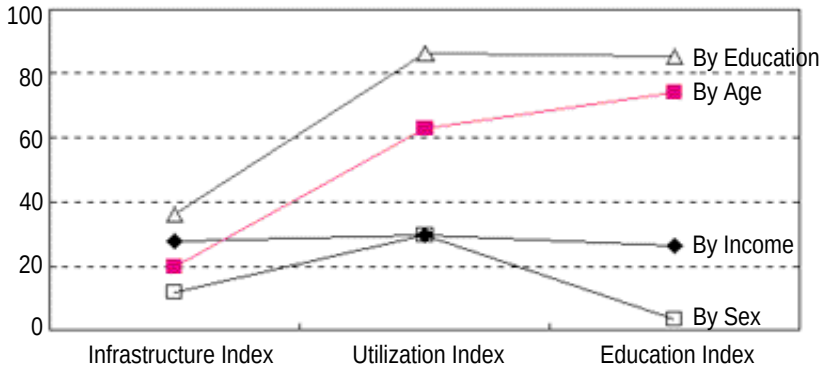
Figure 1. Comparison of Standard Deviation in Digital Indexes



The digital divide is wider for education level and age than for income and gender.

Second, the digital divide is wider for education level and age than for income and gender. In this sense, more attention should be paid to older people over fifty and the people with less than a junior high school diploma.

Third, gaps are wider for digital utilization and education than for digital infrastructure. With the society's interest in computers and the government's cheap PC policy, the gap in digital infrastructure has been reduced. Therefore, the next target for digitalization should be to improve use of existing digital technology.

Efforts To Eliminate Divide Underway

The Korean government is making various efforts to narrow the digital divide. The government plans to spend 12.5 billion Won in 2001 and give people in rural areas, those with lower income, and the disabled an opportunity to own PCs and learn digital technology. While implementing the digital divide related policy, the following thoughts should be considered.

More focus should be put on enhancing digital utilization capability (through public and private education) than on new infrastructure.

First, the digitally excluded people, as a policy target, should be clearly defined. For example, people with lower incomes, the old, the less-educated, and women can be targeted groups. Second, more focus should be put on enhancing digital utilization capability (through public and private education) than on new infrastructure. Third, the cost of using digital tools should be reduced. Expensive telecommunication and Internet access fees may cause people to hesitate from using digital tools in everyday life. Lastly, a differentiated policy is needed to help the various groups. For example, subsidies should be given to the lower income bracket, user-friendly technology should be developed for older people, digital education support should be provided for those with less education, and usage costs should be reduced for women.

Even in an advanced digital economy, like United States, Canada or the United Kingdom, the digital divide is impossible to eliminate perfectly. Nevertheless, with insistent steps to lessen the digital divide, Korea can emerge as one of the leaders in the digital economy. VIP