Abstract

Social Stratification and Internet Use Critique of Digital Divide Studies

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Some authors assert that the digital divide is a serious social problem and the government must improve the situation. According to them, the digital divide reproduces social inequality and exclusion; the have-nots cannot access to worthwhile information especially on the Internet and the information-poor are under great disadvantages in attaining to a higher status, especially in obtaining a higher income. The digital divide theorists often rely on the data showing that the internet-use rates of higher-income groups are much higher than those of lower-income groups. However, they don't examine the trend of the relationship between the internet-use rate and income. If the strength of their relationship has been decreasing, the digital divide may not be so serious as the digital divide theorists argue. Additionally, they don't analyze the relationship, controlling any related variables. Nevertheless, it may be a spuriousness made by the correlation among income, internet use, age, sex and education. Therefore, the aim of this paper is to examine, from a social-stratification perspective with multivariate analyses, whether the digital divide really exists and whether it is a serious social problem in Japan. We consider the characteristics of the digital divide studies and derive the three tasks of our data analyses: the trend of the digital divide, the causal effect of income on internet-use rates, and that of internet-use rates on income. As indices of internet use, we use four variables: e-mail use with a mobile phone, that with a PC, web-browsing with a mobile phone and that with a PC. The four variables are dichotomous, because the quantitative scales of internet-use like hours of net access may not be reliable and valid.
Two datasets are used in our analyses. One is randomly sampled Japanese national data which have been surveyed by the Ministry of Public Management, Home Affairs, Posts and Telecommunications since 1997. The sample size of each

year is between 3500 and 4000. Its response rate is between 55 and 65%. The other dataset is also randomly sampled national Japanese data surveyed in 2002 by an Osaka University group. Its sample size is 1256 and the response rate is 62.8%.

We conduct three analyses. Firstly, from the former dataset, we calculate the correlation coefficients between income and internet-use rate and the ratio of the internet-use rates between higher and lower income classes from 1997 to 2002. The results of our analysis show that the digital divide decreased from 2000 to 2002 but still exists. Secondly, relying on the latter dataset, we conduct logistic regression analyses to estimate the effect of household income on internet-use rates controlling the effects of sex, age, education and occupational status. The results show that household income has a significant positive effect on internet-use rates even after controlling the related variables. Thirdly, relying on the latter dataset, we estimate causal effects of the four indices of internet use on personal income with OLS, controlling the same variables as those of the second analyses. The results of our analysis show that internet use doesn't have a significant effect on personal income except for an index: e-mail use with PC. We argue that these results don't support the argument of the digital divide studies. From the results of the three analyses, we conclude that the digital divide exists in Japan but it is not a serious social problem, because internet use cannot reproduce social stratification and it still doesn't create a serious inequality of life chance in Japan. Higher income does raise internet-use rates, but not vice versa. Internet use is just a luxury good in Japan.