

Estimation in Mixed Mode Survey

Combined with Telephone and Internet Survey

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1. Estimation in Mixed-Mode survey

The major advantages of Internet survey are the high speed and low costs of data collection, so a considerable growth in the use of Internet surveys can be expected in the future. As for now, the Internet surveys are mostly used for the populations with high Internet coverage. The use of self-selected Internet surveys is also popular, but it provides less generalized results. Because the Internet population for survey is skewed, it is more skewed seriously in public opinion poll.

So in this study, we proposed three methods to overcome the disadvantage of Internet survey estimator. First we adopted the mixed-mode survey estimation using telephone and Internet survey. That is, we proposed the combined estimator of telephone and Internet surveys. The type of the mixed-mode estimator is weighted average of the two estimators by telephone and Internet surveys.

Second, when no other frames were available in the first case, we used the method using the prior survey information if it can be obtained. In particular, we can use the past vote rate data as a prior information in the public opinion poll. The last data could correct the bias of the estimator over Internet survey.

Third, when we couldn't use the two previous methods, we constructed the post-stratified estimator applying post-stratifying variables such as sex, age, job etc. for the Internet survey data. It is so-called post-stratified estimator.

For actual analysis we used the 16th general election data at 4-13-2000, which was collected through telephone and Internet by Gallup Korea Inc., and found the possibility of the three proposed

estimators.

From the result we obtained desirable estimators that can solve the bias problem of Internet survey. And we checked the efficiency of the mixed-mode survey, the estimator using the prior information and the post-stratification estimator.

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RESUME

In this study we present three methods to solve Internet survey's weakness, which is not covered total population completely. Three methods are mixed-mode survey method, prior information method, and post-stratification method. For real analysis we used the 16th general election data of Gallup Korea Inc. and checked the three estimator's possibility. At the case of Internet survey is not good in opinion poll, three methods improve the quality of the result. That is, three methods that we proposed will be a substitute proposal to overcome the disadvantage of Internet survey.