

WEIGHTING AND CALIBRATION ADJUSTMENTS SERVICES

All survey data must be weighted before unbiased estimates could be produced from the resulting data. This corrective process, which is no longer a luxury, is becoming progressively more important as rates of response to surveys continue to decline. While reflecting the imposed sampling design, which often includes differential selection probabilities, weighting increases the external validity of survey estimates by improving the representation of respondents vis-à-vis their target population.

Weighting Survey Data

As part of our comprehensive umbrella of services for survey and market research applications, PreVision, Marketing Systems Group offers weighting services using the latest methodologies. We offer the services listed below for all survey types, including those relying on hybrid samples selected from different sampling frames.

1. Securing target population benchmarks from the **Census Bureau**, including the latest estimates from the **American**

Community Survey (ACS) and Current Population Survey (CPS).

2. Imputation of missing data for all variables used for weighting, using cutting-edge Hot-Deck imputation procedures.
3. Upon request, nonresponse bias analysis and application of interim weight adjustments to counter the observed patterns of nonresponse.
4. Creation of final analysis weights, using a multivariate adjustment procedure that realigns respondents against several benchmark distributions simultaneously.
5. Production of a comprehensive publication-ready methodology report that details all of the above steps, including a summary of the population benchmarks used for weighting adjustments.

Calibration Adjustments

As survey researchers continue to experiment with hybrid sampling techniques to reduce survey cost and improve coverage, special calibration procedures will be

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needed to weight and blend sample supplements that may have compromised representation. With such samples, it will be necessary to include behavioral and attitudinal adjustments that go beyond geodemographic corrections. Moreover, such samples need to be blended in an optimal fashion, for which we have developed special procedures.

Needed Data for Weighting & Calibration

To provide the above services, MSG will require a subset of the final and edited survey data items that will be needed to produce analysis weights. While we can work with all data types, it will be necessary for each respondent to carry a unique ID and all relevant data items in numerical format. Moreover, skipped items and those with missing values should be clearly and consistently marked to facilitate the imputation process.

Consultation Services

In addition to weighting and calibration services, **Marketing Systems Group** also provides support that span across all

stages of survey sampling projects. Such services include assistance with developing technical proposals; sampling designs; questionnaire development; data collection; imputation of missing survey data; fusion of ancillary data; analysis of weighted data; compilation of public-use data; as well as creation of technical reports.

- 1 Oh, H. L. and Scheuren, F. J. (1983). Weighting Adjustment for Unit Nonresponse, in W.G. Madow, I. Olkin, D. B. Rubin (eds.), *Incomplete Data in Sample Surveys*, Vol. 2, New York: Academic Press, pp. 143-184.
- 2 <https://support.sas.com/resources/papers/proceedings16/SAS3520-2016.pdf>
- 3 Folsom, R. E. and Singh, A. C. (2000). The Generalized Exponential Model for Sampling Weight Calibration, *Proceedings of the American Statistical Association, Survey Research Methods Section*, pp. 598-603.
- 4 Fahimi, M., F. Barlas, and R. Thomas (2015). Scientific Surveys Based on Incomplete Sampling Frames. *Survey Practice*, Vol. 8, no 5, 2015, December Issue.