

2009 Media Tracker: Methodology

Preface

This volume contains the methodology for the 2009 Media Tracker Survey, which has been run by Continental Research on behalf of Ofcom.

The Media Tracker Survey looks at the media penetration and usage habits of adults in the United Kingdom, as well as their attitudes across a range of media related issues. Issues examined include consumers' attitudes towards programming standards, the amount of advertising shown on TV, and the impartiality of various news media.

The tracker runs twice per annum, in April and October and results are combined for publication. In 2009, the overall unweighted sample size across the two waves was 2114 and the effective sample size was 1845.

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1.1 Research Methodology

The Media Tracker utilises a two stage sampling process, with postcode sectors as the first stage unit and individuals within the selected postcode sector as the second stage. The postcode sectors are selected with probability proportional to the number of adults in the sector and a constant sample size of six respondents per sector is applied. This combination of PPS sampling of the postcode sector and a fixed number of respondents per selected sector generates a random sample, where each respondent has the same probability of selection.

Postcode sectors were chosen as the primary sampling unit in preference to Output Areas. Although OA's are more homogeneous, the relatively small size of an OA means that the

primary sampling units would need to be changed every 2-3 years, as sample by then would have been exhausted. In contrast, postcode sectors typically contain around 2,700 households and can be used for many years without exhausting the sample. Combined with using local quotas, this approach provides stability of the sample and ensures compatibility between waves, thus generating a robust historic series.

The sample size for each region in the UK was set so that smaller regions and nations (by population) such as Wales and Northern Ireland were boosted to allow for individual analysis, and larger regions such as London and the South East were consequently down weighted to maintain the overall sample size of approximately 1,000 per wave.

Before the sample is drawn, all postcode sectors are sorted within each region by:

- Urbanity
- Cable %
- Deprivation index

A PPS sample is then drawn from this sorted file, ensuring that the selected sample in each region covers the full range of urbanity and also attempts to cover the right spectrum of sampling units by cable percentage and deprivation. This process controls the profile of households by cable percentage and deprivation variables to a degree such that weighting should only be necessary to correct relatively minor variations between the sample and the universe.

As the questionnaire is long (45 minutes+), an in-home face to face methodology is utilised, with individuals in the selected households being chosen to meet sector based quotas. In the 2009 surveys, quotas were set for each selected postcode sector as follows, using 2001 Census data to derive the quotas. As different data is available in Great Britain and Northern Ireland different quotas were set as follows:

Great Britain:

- Gender – male/female
- Age – 15-24, 25-44, 45+
- Working status – working/not working
- Tenure – owner occupied, LA rented, other
- Social class – AB, C1, C2, DE

Northern Ireland

- Gender – male/female
- Age - 16-34, 35+
- Working status – working/not working
- Social class – AB, C1, C2, DE

1.2 Sources of Error

As in all samples the estimates from the survey are subject to various sources of error. The total error in a survey estimate is the difference between the estimate derived from the data collected and the true (unknown) value for the population. The total error consists of two main elements; the sampling error and the non-sampling error. Good sample design minimises the potential for non sampling error to occur through, for example, bias. Sample size and more importantly effective sample size is the main influence on sampling error.

Reporting in the Media Tracker is designed to take account of sampling error. When testing for significant differences between different sub-populations, all testing is undertaken on the effective sample size:

- The sampling error is the error that arises because the estimate is based on a survey rather than a census of the population. The results obtained for any single sample may, by chance, vary from the true values for the population but the variation would be expected to average to zero over a number of repeats of the survey.
- The standard error is the estimated value of the sampling error. Our estimate for a variable, plus and minus the standard error for the variable, gives a range in which the true unknown value for the population should lie. The closer the standard error to 0, the more reliable the estimate.
- Effective sample size is the size of simple random sample (where everyone has an equal chance of being chosen) which would have the same level of accuracy as that given by the Media Tracker. The design effect is the ratio of the variance of the Media Tracker over the variance over the associated random sample. The closer this ratio is to 1, the smaller the impact of the design effect. Effective sample sizes for key subgroups, including those on which quotas have been set, are shown below.

When results are compared between separate groups within a sample, different results may be obtained. The difference may be “real”, or it may occur by chance (because not everyone has been interviewed). To test if the difference is a real one – i.e. if it is “statistically significant” – we have to know the size of the samples, the percentages giving a certain answer and the degree of confidence chosen. The difference is “statistically significant” if the lowest value possible for one value (i.e. lower limit of confidence interval) is higher than the highest possible value for the other.

1.3 Weighting

At the analysis stage, data from the two waves is combined and treated as one survey. The data is then weighted in total within each region by the variables cited above – gender, age, working status and social class. Weighting necessarily reduces the effective sample size, unless all targets are met exactly. In practice, with seven weighting variables to be applied, this is unlikely and the key ambition is to maximise the effective sample size so that sampling error does not increase unduly.

The targets used to weight the data were as follows:

MALE	50%
FEMALE	50%
15-24 YRS	17%
25-44 YRS	36%
45-64 YRS	31%
65+	16%
AB	23%
C1	31%
C2	19%
DE	28%
WORKING	58%
NOT WORKING	42%
NE	4%
NW	11%
Yorkshire	8%
EM	7%
WM	9%
East	9%
London	12%
SE	15%
SW	8%
Scotland	9%
Wales	5%
NI	3%

The cable % is not weighted specifically, but weighting has little effect on this, changing an unweighted national figure from 49% to a weighted figure of 50%.

The two waves are combined as one survey and then the data is weighted as a whole.

Appendix 1: Sample Design

To ensure consistency with trend data, the sample approach to sampling has been used as in previous waves, using Postcode Sectors as the basic building block for sampling, and then using quota control by four key variables (age, gender, working status and SEG) to control the sample interviewed within each sampling point.

First Stage

The postcode sectors in the UK were grouped into sampling units (SUs), which were then were stratified by region and rural/urban:

- firstly, all the SUs were sorted by region,
- the SUs were then sorted within region by rural/urban.

The sample extracted was checked for close correspondence to the UK population on two key variables:

- Deprivation Index for Great Britain. Currently there is no deprivation index for Northern Ireland.
- Cable/ non-cabled area

Since region has been used as the first sorting variable, regional distribution of SUs will be more or less in proportion to the quotas set within each region.

Second stage

The size of a SU is measured by the number of households it contains. The SUs were selected with a probability proportionate to size. This ensures that all households within an SU have an equal chance of being selected, regardless of the size of the SU in which a household is situated. The number of interviews per SU was 6.

Appendix 2: Effective Sample Sizes

As mentioned earlier, weighting reduces the effective sample size and increases sampling error. In the regions that were over sampled, we would expect the weighting to have more effect in those regions, bringing down the weighting efficiency. With a wide array of rim weights, the impact of weighting on the effective sample size varies by subgroup, as follows:

	Unweighted base	Effective Base	% efficiency
TOTAL	2114	1845	87%
MALE	1055	924	88%
FEMALE	1059	921	87%
15-24 YRS	355	301	85%
25-44 YRS	785	706	90%
45-64 YRS	638	551	86%
65+	336	291	87%
AB	480	422	88%
C1	642	530	83%
C2	398	359	90%
DE	594	540	91%
WORKING	1167	1013	87%
NOT WORKING	947	838	88%
North /East	138	136	99%
North /West	210	205	98%
Yorkshire /Humber	148	142	96%
East Mids	139	131	94%
West Mids	186	183	98%
East	91	73	80%
London	225	205	91%
South East	382	377	99%
South West	194	186	96%
Scotland	180	177	98%
Wales	113	111	98%
Northern Ireland	108	101	94%

Overall, the weighting efficiency is 87%, which is acceptable in terms of such a complex weighting regime. In terms of the key subgroups for which quota controls were set, the variation in weighting efficiency runs from 83% for social class C1 to 91% for social class DE. Again, the variations in sampling efficiency are quite consistent from one subgroup to another confirming that the sampling regime in practice generated a sample profile close to that expected from the demographic profile of the UK.

At a regional level, the weighting efficiency is lowest for East and London and close to 100% for a number of regions including North East, North West, West Mids, South East, Scotland and Wales.

With these effective sample sizes, the confidence intervals applicable to various subgroups are as follows:

Effective sample size	10% or 90%	20% or 80%	30% or 70%	40% or 60%	50%
Total (1,845)	1.4	1.8	2.1	2.2	2.3
Male (924)	1.9	2.6	3.0	3.2	3.2
C1 (530)	2.6	3.4	3.9	4.2	4.3
Wales (111)	5.6	7.4	8.5	9.1	9.3