

## Censuswide – Methodology

We have processes and techniques that we apply to each survey to help maintain the quality of our data, they are;

- Google reCAPTCHA, this is the market leading software for website security and ensuring that responses are given by humans who are engaged with the process and is generally considered to make it virtually impossible for automated respondents to enter the survey.
- Cookies, these are small files saved on the user's computer to make sure that respondents who enter the survey cannot then re-enter the again later.
- IP address checks, we have automated checks to make sure that the respondent is a valid respondent based on their IP address.
- Exclusion of contradictory combinations of answers, for example in this survey respondents who are 18-24 years old are not able to say they have been a landlord for more than 10 years.

We are very careful to only use reputable panels, and panels that have certain data quality procedures in place, they are;

- A clear policy on removing respondents who give fraudulent responses.
- Regular cleaning of the panel checking for duplicate or suspicious accounts.
- Data finger printing software, such as Relevant ID, which gathers a large number of data points from a respondent's computer, such as operating system version, browser version, plug-in, etc., and assigns a relative weight to each data point. The data gathered is put through deterministic algorithms to create a unique digital fingerprint of each computer, and removed if too similar.

Respondents are closely monitored while the survey is active.

- Special interest is paid to any respondent seen to be completing questions at unusual speeds or entering information that does not align with their profile. Data from these respondents is removed and an investigation is launched. If we discover a genuine issue, these respondents are removed from our panel.

With techniques used, such as:

- False opt-in data – making sure the information they provide matches the data on their profile.
- Speed of completion – making sure respondents are not answering the questionnaire at speed.
- Straight-lining – making sure respondents are not answering option A for every question.

That is our general approach to data quality and we have found it very successful in making sure we have valid responses. This means we are very confident in the data that we produce.

We also have a number of quality control procedures in place to make sure the outputs are consistent. Each project is run by an experienced Research Executive we have the following procedures in place to help deliver consistent outputs;

- We spend 3 months training our Research Executives in our processes before they are allowed to work on live projects. During this time they are trained and run dummy projects that are thoroughly checked and feedback is given, they are only then allowed to work on live projects when they have consistently outputted results without any amendments needed and they are still overseen by a senior member of the team when this training is complete.
- The whole process is overseen by our Production Manager, Research Consultant and Head of Technical Logistics. All three have years of experience with our processes and external experience as well as an impeccable quality record.
- We make sure that our standard outputs are automated as much as possible in their production to try and minimise any potential for error from manual tasks being performed. We use industry leading software to help run and check our outputs.
- Any errors that occur are also looked into by a senior member of the team, fed back to the Research Executive and reviewed to see if there are new or improved procedures that can be introduced to make sure it is never repeated.

The final part of the data quality process are manual checks on the data which are run on the majority of our projects. This is a manual process and is done a project-by-project basis and the checks will depend upon the questions and survey itself, however there are certain general areas that we check to verify respondents are giving genuine views and that they are paying attention to the questions. If respondents fail any of these checks, they are removed from the data and reported back to the panel team. The following general checks and criteria are used;

- Speeding, we are able to measure the time taken to complete the survey but for individual questions, to make sure due attention is being paid. We firstly find the average time taken by respondents to complete the survey, which is used to benchmark against individual respondents, any respondent who fall under the time deemed to be too quick are removed from the survey.
- Straight lining, this is a technique used in matrix questions to make sure accurate answers are given and appropriate attention is being paid. Any respondents who give repetitive answers, where it is not logical to do so are removed from the survey.
- Open ended text check, any open ended text is checked to make sure the responses are logical, on topic and given the due care and attention required. Again any respondent failing this will be removed from the survey.