A Glossary of Survey Terminology

You may come across a range of technical terms when planning client surveys. We have provided brief explanations of the main terms below. Please do let us know if you come across others that it would be helpful to include.

ABS	Australian Bureau of Statistics –a useful source of information on Census data and the SEIFA indicators of socio-economic advantage and disadvantage.
Administrative data	data collected primarily to aid the operation and meet the reporting requirements of service providers, such as the data entered into client information systems. Samples of clients to be surveyed can be selected from administrative data, using sampling frames.
Aggregated data	data that combines individual records. For instance, the percentage of female clients that are satisfied with the service they received is based on an aggregation of data from all female clients.
Anonymisation	protects the privacy of individuals. The more aggregated the data the less risk that individuals will be identifiable. For instance, reporting findings by meaningful age brackets (where the findings are reasonably consistent across the age bracket) rather than by individual years of birth.
Attitude	psychological predispositions which are inferred from responses to survey questions. For example, “I don’t like to ask for help”.
Availability bias	conducting surveys on the easiest clients to contact rather than a representative sample. This undermines the generalisability of findings because easy to contact clients are likely to differ in their characteristics and experience from those that are harder to contact.
Benchmarking	comparing the findings of monitoring data to an accepted standard.
Bivariate analysis	analysis comprising two variables, such as a cross-tabulation of gender and age.
Call-back	to maximise the quality of a sample, clients who have been identified to participate but do not do so initially should be re-contacted. A telephone survey company will specify the number of call-backs it will undertake. Between 3 and 5 is recommended at different types of the week and day.
CAPI	computer assisted personal interviewing. This is a questionnaire programmed into, for instance, a laptop computer which face-to-face interviewers use to record client responses. The advantage of a programmed questionnaire is that it is possible to build in complex routing of questions (see Routing) and logic checks (see Logic checks). It also saves data entry costs.
CASI	computer assisted self-interviewing. As with CAPI, this uses a questionnaire programmed into, for instance, a laptop computer. Respondents are given the computer and complete the questionnaire directly. Where reading ability is a concern, ACASI provides an audio reading of the questions to respondents through headphones. It is most often used for sensitive topics such as drug use and family violence.
CATI	computer assisted telephone interviewing. This uses a programmed questionnaire, hosted on the interviewer’s computer. Interviews are conducted in person by telephone and the interviewer captures responses into the questionnaire. See also CAPI.

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Categorical data	data which is divided into groups, such as service types or gender categories. Continuous data can be grouped into categorical data.
Central limit theorem	this is the statistical theory which underpins random sampling. If infinite random samples are drawn they will have the same average (mean) as the population from which they are drawn.
Chi-square	a common method for testing the statistical significance of findings (see Statistical Significance). It compares the observed pattern of results with the expected distribution if there was no relationship between the variables.
Closed questions	questions where respondents have to select from pre-defined options, such as agree or disagree, or remote, regional, metro (contrast with Open questions).
Coding	a process for reducing a large variety of responses to a smaller set of categories, usually on the basis of similar constructs or themes. For example, legal matter types could be coded into Civil, Criminal, Family.
Cognitive interview	these types of interviews can be used to test whether respondents will respond to survey questions as intended. A small number of respondents are probed on their understanding of the question to explore their cognitive process.
Cohort effects	each generation or age group has different life-experiences which may be relevant to analysing trends over longer periods of time
Confidence interval	describes the likely range within which the actual population finding lies, given the estimated finding from the randomly drawn sample. For example, if a sample survey finds that 50% of clients are satisfied, and the 95% confidence interval is +/-5%, then there is a 95% chance that between 45% and 55% of all clients in the population are satisfied. Larger samples and more extreme percentages will tend to narrow the confidence interval. A narrower confidence interval means the estimate is more precise, and can detect smaller 'true' differences in findings drawn from different sub-groups or at different time periods.
Continuous data	numeric variables that have an infinite number of values, such as time or age (but not age groups). Means, medians and ranges can be computed for continuous data.
Coverage error	the extent to which a sample is not representative of the population from which it is drawn because not all members of that population had an equal chance of selection.
Cross-sectional	a survey that collects data at one point in time only (in contrast to Longitudinal research)
Cross-tabulation	a method of presenting quantitative data to show the relationship of two or more variables, such as findings for age groups within the gender categories by metro/regional/remote areas.
Data cleaning	tidying up data prior to analysis in accordance with a pre-agreed approach. For instance, where a question that should have been skipped has been answered, this data would be deleted.
Dependent variable	the outcome measure of interest, such as the client satisfaction rate. Multivariate techniques assess the impact of one or more independent variables on the dependent variable.
Descriptive statistics	analytical techniques that describe data, such as frequency counts and cross-tabulations, in contrast to multivariate techniques.
Design effects	some sampling techniques reduce the precision of estimates e.g. Cluster sampling), while others (e.g. Stratified sampling) increase it. Where this occurs the design effect must be incorporated into the weighting strategy.

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Focus group	a group discussion which allows for individual responses to be influenced by others. Can be useful for exploring what matters to clients and how they respond to others experiences. Findings from qualitative research methods such as this can be validated using population surveys
Harmonised questions	where questions are asked in an identical way across surveys or as the question is asked in the Census, this enables direct comparisons to be made between surveyed populations. Comparisons of client profile to Census profile on these questions will show how clients differ from the general population.
Incentives	small gifts or payments offered to clients to incentivise them to participate in a research project, discussion group or survey. Incentives are usually not necessary for short surveys but are often offered for discussion groups and longer surveys. When resources are limited they can be offered as a “chance to win” (subject to lottery rules) or only to sample that are proving hard to persuade to participate.
Index	where a group of questions measure one underlying factor, they may be combined into an index. An example would be where the responses to individual questions asking about different aspects of a service are combined into an overall index of satisfaction. This shouldn’t be attempted without applying analytical techniques to ensure all of the questions are measuring the same underlying factor.
Inferential statistics	analytical techniques which allow inferences to be made about the population from which the sample was drawn, by computing measures of statistical significance.
Informed consent	research ethics requires that individuals asked to participate in a survey know the purpose of the survey, and how their responses might be used.
Likert scale	usually a five or seven point scale asking for strength of, for instance, agreement or disagreement with a statement.
Skip logic	survey questionnaires often include routing whereby the questions asked are conditional on the answers to previous questions. For example, only clients whose legal problem is no longer ongoing will be asked about their satisfaction with the outcome. While this streamlines the experience of the survey, it does require very careful checking of the survey program to ensure the skip logic is being applied correctly.
Logistic regression	a type of Regression, that predicts whether an event will occur or not on the basis of measured factors when the measure of interest (dependent variable) is dichotomous (e.g. yes/no). As with Regression, it is an analytical technique that controls for people having multiple characteristics.
Longitudinal research	surveys the same clients on more than one occasion (in contrast to Cross-sectional research). While it can be useful to follow-up clients for a period after they have received a service, the longer this period is the more challenging it will be to reach a representative sample
Margin of error	statistical theory (Central Limit Theorem) allows the calculation of the likely range in which an estimate drawn from a sample falls, assuming random sampling. The smaller the margin of error, the greater the precision of the estimate. Confidence intervals are calculated by adding and subtracting the margin of error from the estimate, for a given level of confidence in the likelihood the sample represents the population finding.
Mean	the average score calculated by adding all responses and dividing by the number of responses. Can only be calculated from continuous data, such as age (not age groups). Means are required for some statistical and further analytical purposes, but, unless these data points are excluded, they are affected by extreme outliers.
Median	the middle response when all responses are arranged in increasing or decreasing order, or the average of the two middle scores where there are an even number of responses. The median can be determined from any ordinal data and the median score is the one that half of respondents were above, and half were below. Medians are not affected by extreme outliers.

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Mode effects	are the impact on findings of the method used to question respondents, such as face-to-face, telephone or self-completion. Mode effects are not necessarily predictable as there is an interaction with, for example, the survey topic and the characteristics of the interviewer and respondent. For example, for a sensitive topic a self-completion method can elicit greater levels of disclosure. But for 'why' type questions, an interviewer can achieve more complete and thoughtful responses. Mode will also have an impact on coverage error and response rates.
Multiple choice	allowing more than one option to be selected in answer to a question. It is important to report a question was multiple choice to explain why the total number of responses may exceed the number of respondents.
Multivariate techniques	analytical techniques that manage multiple dependent and independent variables, such as Regression and Logistic regression.
Nominal data	is data with no upward or downward progression, such as Postcode or Gender. This contrasts with Ordinal data.
Open questions	questions without predefined response options. Respondents responses can be recorded verbatim or a summary written/typed in. For analysis, it may be necessary to Code responses into a smaller set of categories.
Ordinal data	is data which can be ranked or ordered into a progression, whether or not the gaps between the categories are consistent. For example, age or income brackets and educational attainment. This contrasts with Nominal data.
Panel survey	an arrangement where the same group of people are surveyed on a number of occasions. Many survey companies retain panels. It is important to consider how the panel members were recruited and how representative they are of the population of interest.
Percentage vs percentage points	two methods of reporting data that are often confused. If 50% of people were satisfied in year 1, and 55% were satisfied in year 2, this is a 5 percentage point increase but a 10 percent increase in satisfaction (because 100*(55-50)/50 = 10).
Pilot survey	testing how questions in a survey are understood and/or the mechanisms for delivering a survey.
Probability sample	a method of sampling that incorporates random sampling. The sample of survey participants selected from the population of interest where all members of that population have a known and non-zero chance of selection. See also random sample.
Proportion	the number of respondents that gave one of two or more possible responses, divided by the total number of responses. Multiplying by 100 will turn a proportion into a percentage.
Quota sample	an attempt to create a sample which represents the population, for instance by interviewing proportions of men and women and each age group fixed by reference to their distribution in the population. Quota samples are cheaper than random samples, but strictly speaking cannot be used for tests of statistical significance which assume a probability sample.
Random sample	an unbiased method of selecting a sample. In a simple random sample, everyone in the population has the same chance of being included in the sample and this is therefore the simplest form of a probability sample.
Regression	a method of analysis to identify the factors (independent variables) that have an impact on the measure of interest (the dependent variable). Multiple regression identifies the relative importance of each independent variable on the dependent variable, while controlling for the impact of other independent variables. For example, you find that in a regional area the prevalence of legal problems seems to be lower for people who do not speak English well. But you know that this group are also less likely to be employed and less likely to drive, both factors that tend to increase the chance of experiencing a legal problem. By including English language status, employment status and vehicle use in a regression model you determine that once differences in employment status and vehicle use are controlled for, non-English speakers do not have a lower prevalence of legal problem experience than English speakers. They are not at lower risk because of their cultural background, but because they are less exposed to some types of legal problems.

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Representativeness	the aim of a survey is to sample the experiences of a group of respondents whose experiences are representative of the population from which the sample was drawn. This allows findings from the sample to be generalised to the population. The traditional method to achieve this is by drawing a Random sample, where each member of the population has an equal chance of being selected for the survey.
Response distribution	refers to the pattern of expected responses. For sample sizes above 30, the normal distribution will be a good estimate for continuous data (see central limit theorem) and the binomial distribution for proportions. The binomial distribution shows that for a given sample size the margin of error of an estimate is greatest for the mid-point, a reported percentage of 50%.
Response rate	the proportion of those selected for the survey that completed the survey. As people who participate in surveys may differ from those who do not, in general a higher response rate increases the Representativeness of the sample.
Response scale	ordered options for respondents to select their answer from, such as 'strongly agree', 'moderately agree', 'moderately disagree', 'strongly disagree'. Longer response scales, such as from 1 (strongly agree) to 10 (strongly disagree) will be more sensitive and are well understood by respondents. They also avoid differential interpretation of words such as 'slightly' and 'moderately'. Odd numbered scales will include a middle 'neutral' option (neither agree or disagree). With an even number of options respondents are required to express either a positive or negative response. Researchers are divided on whether scales should include a neutral option, as there is concern that they can provide an 'easy' option for respondents who aren't inclined to give the question too much thought. However, without a neutral option respondents are forced into a expressing a position they may not have. If there is no neutral option, a 'don't know' or 'not applicable' option could be provided instead. What does matter is not changing between odd and even numbered option scales over time as this may undermine comparability.
Routing	within a questionnaire a response to one question may route to another question. For instance, if the respondent says English is not the main language they speak at home, this may route to a question asking what is the main language they speak at home.
Sampling	unless the population of interest is very small, it is not necessary to survey everyone. Instead a sample can be drawn that is large enough to provide sufficiently precise findings. Probability sampling uses randomisation to select the sample, whereby all members of the population could be included and the probability of being included in the sample is known (and can be corrected for by Weighting). In non-probability sampling, the chance of any individual being included is not known. Convenience and Quota sampling are examples of non-probability sampling. These methods tend to be cheaper and easier and done well may reflect the characteristics of the population. However, strictly speaking statistical tests are not appropriate for non-probability samples.
Sampling error	when measurements are based on only a sample of a population, they generally will not give the same finding as if the whole population was measured. However, if multiple representative samples are taken they take a predictable distribution with the majority of measurements falling close to the population measurement. This statistical property is used to determine the margin of error of estimates. In an unbiased simple random sample, the larger the sample size the smaller the sampling error.
Sampling frame	is the source from which participants in research or a survey are selected. For instance, a sampling frame can comprise a list of all clients in the population of interest. It is important that the sampling frame has good coverage of the population of interest. For instance, land line telephone directories are no longer considered good sampling frames for general population samples, unless you are only interested in the diminishing number of households with a landline that didn't opt out of the directory.
Sample size	the number of respondents completing the survey. This will usually be smaller than the number of respondents sampled to participate.

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Seasonality	if the nature of legal problems or the services provided vary at different times in the year, there is a risk that survey findings may be undermined by seasonality. To avoid this it is recommended the survey takes place at the same time of year and away from public and other holidays.
SEIFA	ABS's Socio-Economic Indexes for Areas provides measures of socio-economic conditions by geographic area. There are four types of SEIFA, with each providing alternative indicators of the level of disadvantage of a geographic area. SEIFA provides a summary profile of an area, but the level of disadvantage of individuals within an area can vary substantially. It is therefore important to also consider how homogenous or heterogenous an area's population is when drawing conclusions about the likely number of disadvantaged people that reside there. Most geographies (e.g. LGA, postcode) can be assigned to a SEIFA classification.
Self-report survey	these are surveys where respondents complete the questionnaire themselves (on paper, by text, on tablets or online) in contrast to those where an interviewer completes the questionnaire (either face-to-face or by telephone).
Statistical significance	a type of analysis to determine whether the findings, such as the difference in satisfaction between men and women, is likely to reflect a real difference. It asks the question: how often a difference of this size would be found by chance. If the answer is not very often, there is an increased confidence that the difference is a real difference.
Stratified sampling	the population of interest is divided up into a number of groups or strata, such as area of law and/or type of service and/or metro/regional/remote. The sample is then drawn from each strata to ensure that the sample includes participants from each of these different groups. Within a strata, random sampling should be used. If the 'within strata' sample sizes are not proportionate to the size of each strata's population, the sample will need to be weighted for reporting of findings related to the combined population of interest.
Variable	is a data point that can vary. Each question on a survey will produce a different variable. In a database, the term 'field' is often used.
Weighting	corrects for bias introduced through the sample design or resulting from differential response rates. For instance, if an equal number of Information and Advice clients are sampled from a population where Information clients out number Advice clients ten to one, then the data from the Information clients will have to be down-weighted and that from the Advice clients up-weighted so that their impact on the findings for the population of interest is proportionate to their distribution in the population of all help line clients.