

(See: Responsible Data for M&E in the African Context)



TIP SHEET 6

Selecting analysis methods and uses

Method	Description	Used for numeric data	Used for text data	Describing data	Seeking relationships	Seeking trends	Exploring unknown patterns	Predictive models
<u>Correlation</u>	A statistical measure ranging from +1.0 to -1.0 that indicates how strongly two or more variables are related.	✓			✓			
<u>Cross-tabulations</u>	Using contingency tables of two or more dimensions to indicate the relationship between nominal (categorical) variables.	✓		✓	✓			
<u>Data mining</u>	Computer-driven automated techniques that run through large amounts of text or data to find new patterns and information.	✓				✓	✓	
<u>Frequency tables</u>	A visual way of summarising nominal and ordinal data by displaying the count of observations (times a value of a variable occurred) in a table.	✓		✓				
<u>Measures of central tendency</u>	A summary measure that attempts to describe a whole set of data with a single value that represents the middle or centre of its distribution. The mean (the average value), median (the middle value) and mode (the most frequent value) are all measures of central tendency.	✓		✓				
<u>Measures of dispersion</u>	A summary measure that provides information about how much variation there is in the data, including the range, inter-quartile range and the standard deviation.	✓		✓			✓	
<u>Multivariate descriptive</u>	providing simple summaries of (large amounts of) information (or data) with two or more related variables. Specific methods include multiple regression; factor analysis; cluster analysis.	✓		✓			✓	

TIP SHEET 6 (continued)



Method	Description	Used for numeric data	Used for text data	Describing data	Seeking relationships	Seeking trends	Exploring unknown patterns	Predictive models
<u>Non-parametric inferential statistics</u>	Methods for inferring conclusions about a population from a sample's data that are flexible and do not follow a normal distribution (i.e. the distribution does not parallel a bell curve), including ranking; the chi-square test, binomial test and Spearman's rank correlation coefficient.	✓			✓	✓	✓	✓
<u>Parametric inferential statistics</u>	Methods for inferring conclusions about a population from a sample's data that follows certain parameters: the data will be normal (i.e. the distribution parallels the bell curve); numbers can be added, subtracted, multiplied and divided; variances are equal when comparing two or more groups; and the sample should be large and randomly selected.	✓			✓	✓	✓	✓
<u>Summary statistics</u>	Provide a quick summary of data which is particularly useful for comparing one project to another, before and after.	✓		✓				
<u>Time series analysis</u>	Observing well-defined data items obtained through repeated measurements over time.	✓				✓		✓
<u>Textual analysis</u>	Analysing words, either spoken or written, including questionnaire responses, interviews, and documents.		✓				✓	
<u>Content analysis</u>	Reducing large amounts of unstructured textual content into manageable data relevant to the (evaluation) research questions.		✓	✓			✓	
<u>Thematic coding</u>	Recording or identifying passages of text or images that are linked by a common theme or idea allowing the indexation of text into categories.		✓	✓				

TIP SHEET 6 (continued)



Method	Description	Used for numeric data	Used for text data	Describing data	Seeking relationships	Seeking trends	Exploring unknown patterns	Predictive models
<u>Framework matrices</u>	A method for summarising and analysing qualitative data in a two-by-two matrix table. It allows for sorting data across cases and by theme.		✓	✓			✓	
<u>Timelines and time-ordered matrices</u>	Aids analysis by allowing for visualisation of key events, sequences, and results.		✓		✓	✓		