1. **DESCRIPTIVE RESEARCH DESIGN:** Descriptive research is defined as a research method that describes the characteristics of the population or phenomenon that is being studied. This methodology focuses more on the "what" of the research subject rather than the "why" of the research subject.

2. **FOUR GROUP, SIX STUDY DESIGN:** A type of true experimental design where test units are randomly allocated to two experimental groups and two control groups. One of the experimental groups and one of the control groups is measured. Afterwards both experimental and control groups are measured. Six measurements are taken in all and the design aims to account for pre-testing bias and pre-test manipulation interaction bias.

3. **CONSTRUCT VALIDITY VS PREDICTIVE VALIDITY:** *Construct validity* defines how well a test or experiment measures up to its claims. A test designed to measure depression must only measure that particular construct, not closely related ideals such as anxiety or stress. *Predictive validity* is a measure of how well a test predicts abilities. It involves testing a group of subjects for a certain construct and then comparing them with results obtained at some point in the future.

4. **DECISION MAKING TOOL:** Decision making tools and techniques are often spoken about together, but here we will make a distinction. Such things as visual aids and other helpful instruments are decision tools, and techniques are the processes used to arrive at a decision.
   - Marginal Analysis
   - SWOT Diagram
   - Decision Matrix
   - Pareto Analysis

5. **OPEN ENDED VS CLOSE ENDED QUESTIONNAIRE:** Closed-ended questions are those which can be answered by a simple "yes" or "no," while open-ended questions are those which require more thought and more than a simple one-word answer.

6. TYPE I ERROR VS TYPE II ERROR

Possible Hypothesis Test Outcomes		
Decision	Accept H_o	Reject H_o
H_o is true	Correct Decision (No error)	Type 1 Error
	Probability = 1 - α	Probability = α
H_o is false	Type II Error	Correct Decision (No error)
	Probability = β	Probability = 1 - β

TYPE I ERROR (or α Risk or Producer's Risk): In hypothesis testing terms, α risk is the risk of rejecting the null hypothesis when it is really true and therefore should not be rejected. In other words, the alternative hypothesis is supported when there is inadequate statistical evidence for doing so (too much risk). This can be thought of as overreacting to data results that might be due just to chance alone.

TYPE II ERROR (or β Risk or Consumer's Risk): In hypothesis testing terms, β risk is the risk of failing to reject the null hypothesis when it is really false and therefore should be rejected. In other words, the alternative hypothesis is not supported even though there is adequate statistical evidence to show that supporting it meets the acceptable levels of risk. This can be thought of as under reacting to data results that are probably real and not due just to chance alone.

7. **RUN TEST VS. SIGN TEST:** *A run-test* is a statistical procedure that examines whether a string of data is occurring randomly from a specific distribution. *The sign* test is a non-parametric test that is used to test whether or not two groups are equally sized. It is based on the direction of the plus and minus sign of the observation, and not on their numerical magnitude. It is also called the binominal sign test, with p = 0.5.

8. **BRAND SWITCHING AND LOYALTY:** Brand switching is a situation where a brand loses a once loyal customer to a competitor. In other words, a shopper changes their buying habits, choosing deliberately to purchase another brand instead of their usual choice.

9. SEMANTIC DIFFERENTIAL SCALE: Semantic Differential Scale is a survey or questionnaire rating scale that asks people to rate a product, company, brand or any "entity" within the frames of multi-point rating options.

10.   FACTOR ANALYSIS VS. COHORT ANALYSIS: *Factor analysis* is a statistical method used to describe variability among observed, correlated variables in terms of a potentially lower number of unobserved variables called factors. *Cohort analysis* is a particular design of longitudinal study in which the unit of analysis is followed at specified intervals over a long period, often many years. The key feature of cohort analysis is that they collect repeated measures from the same sample at different points in time.
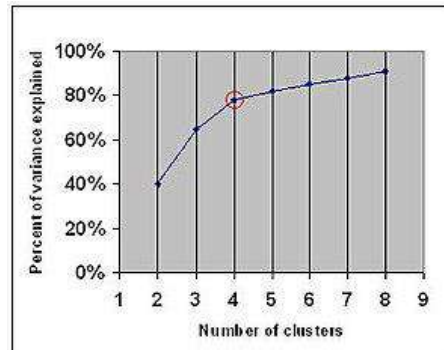
11.   CONTROLLED EXPERIMENTS: A controlled experiment is simply an experiment in which all factors are held constant except for one: the independent variable. A common type of controlled experiment compares a control group against an experimental group. All variables are identical between the two groups except the factor being tested.

12.   MCNEMAR VS MANN-WHITNEY TEST: In statistics, *McNemar's test* is a statistical test used on paired nominal data. It is applied to 2 × 2 contingency tables with a dichotomous trait, with matched pairs of subjects, to determine whether the row and column marginal frequencies are equal (that is, whether there is "marginal homogeneity").

The Mann-Whitney U test is used to compare differences between two independent groups when the dependent variable is either ordinal or continuous, but not normally distributed.

13. ELBOW CRITERION: The Elbow method is a heuristic method of interpretation and validation of consistency within cluster analysis designed to help finding the appropriate number of clusters in a dataset.

14. ASSUMPTIONS IN NON-PARAMETRIC TESTS: Non parametric tests are used if the assumptions for the parametric tests are not met, and are commonly called distribution free tests. The advantage of non-parametric tests is that we do not assume that the data come from any particular distribution (hence the name).

15. SELECTION ERROR: The type of sampling error that results from following an incomplete or improper selection process in sampling (see sample). Often, respondents who are not relevant to the study are used in surveys. For example, ownership of a car may be a prerequisite for an interview, but a respondent may be selected who merely has the use of a car, rather than owning one.

16. PURPOSE OF ORAL PRESENTATION: The main purpose of an oral presentation is to present subject content in an organized, concise and effective manner to a live audience. When delivering an oral presentation, certain challenges require ingenious techniques to engage into an impromptu interaction with the audience members.

17. OBSERVATION TECHNIQUE: Observational marketing research is a qualitative method of collecting and analyzing information obtained through directly or indirectly watching and observing others in natural or planned environments.

18.   PROBABILITY SAMPLING: Probability Sampling is a sampling technique in which sample from a larger population are chosen using a method based on the theory of probability. For a participant to be considered as a probability sample, he/she must be selected using a random selection.

19.   COMPARE LABORATORY AND FIELD EXPERIMENT: *Laboratory experiment* is an experiment carried out in a controlled setting where variables can be carefully controlled. Participants are aware they are being studied although they may not know the true aims of the study. *Field experiments* are carried out in the real world, away from a laboratory. The advantage of this type of experiment is that it is very practical. Field experiments also allow experiments to take place, with no confounding variables being introduced. Field experiments are often used to study participant's behavior when they have no idea they are being watched. This allows the experimenter to gather true data.

20.   EQUAL PROBABILITIES CRITERION: Concept in decision theory which assigns equal prior probabilities to all possible events where nothing is known about the likelihood of their occurrence. The Laplace criterion uses all the information by assigning equal probabilities to the possible pay offs for each action and then selecting that alternative which corresponds to the maximum expected pay off. This is one of the decision making technique under the conditions of uncertainty.