Discuss any four (4) research methods. Give any example for each method.

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| Research methods are strategies, processes or techniques used in the collection of data or evidence for analysis in order to uncover new information or create better understanding of a topic. There are different types of research methods which use different tools for data collection. The most frequently used methods include experiments, surveys, questionnaires and interviews.  **Experiments:** The experimental research method involves manipulating one variable to determine if changes in one variable causes a change in another variable. The Experimental approach uses two sets of variables. The first variable sets as a constant, which researchers use to measure the differences on the second variable. Any research conducted under scientifically acceptable conditions uses experimental methods. The success of experimental studies depends on the researcher confirming the change of a variable based solemnly on the manipulation of the constant variable. The research should establish a notable cause and effect. Time is an important factor in establishing a relationship between the cause and effect. The researcher studies the invariable behavior between cause and effect. Experimental research clearly has its advantages, it gives researchers a high level of control; researchers are able to manipulate variables so they can create a setting that lets them to observe the phenomena they want. They can remove or control other contributing factors that may affect the overall results. Since experimental research allows researchers to have full control when conducting experimental research studies, they are able to manipulate variables and use as many variations as they want to create an environment where they can test their hypothesis.  **Surveys:** Survey research is the process of conducting research using surveys that researchers send to survey respondents. It is a type of quantitative research whereby investigators administer a survey to a sample or to the entire population to describe the attitudes, behaviors, or characteristics of the population. In this procedure, survey researchers collect quantitative, numbered data using questionnaires (e.g., mailed questionnaires) or interviews (e.g., one-on-one interviews) and statistically analyze the data to describe trends about responses to questions and to test research questions or hypotheses. There are two fundamental types of surveys: The first type f survey is a cross sectional survey: In a cross-sectional survey design, the researcher collects data at one point in time. For example, when middle school children complete a survey about bullying, they are recording data about their present views. This design has the advantage of measuring current attitudes or practices. It also provides information in a short amount of time, such as the time required for administering the survey and collecting the information. A cross-sectional study can examine current attitudes, beliefs, opinions, or practices. Attitudes, beliefs, and opinions are ways in which individuals think about issues, whereas practices are their actual behaviors.The second type of survey is the Longitudinal Survey: Longitudinal survey involves the procedure of collecting data about trends with the same population, changes in a cohort group or subpopulation, or changes in a panel group of the same individuals over time. Thus, in longitudinal designs, the participants may be different or the same people. example of a longitudinal design would be a follow-up with graduates from a program or school to learn their views about their educational experiences.  **Questionnaires:** A questionnaire is a research instrument that consists of a set of questions or other types of prompts that aims to collect information from a respondent. A research questionnaire is typically a mix of [close-ended questions](https://www.questionpro.com/close-ended-questions.html) and [open-ended questions](https://www.questionpro.com/open-ended-questions.html). Open-ended, long-form questions offer the respondent the ability to elaborate on their thoughts. The data collected from a data collection questionnaire can be both [qualitative](https://www.questionpro.com/blog/qualitative-market-research/) as well as [quantitative](https://www.questionpro.com/blog/quantitative-market-research/) in nature. A questionnaire may or may not be delivered in the form of a [survey](https://www.questionpro.com/tour/surveys.html), but a survey always consists of a questionnaire. An example includes a customer satisfaction software, a questionnaire used to in any situation where there is an interaction between a customer and an organization. A customer satisfaction software could be used to determine if staff members are offering an excellent customer service and whether they give a positive overall experience.  **Interview:** An interview is a [qualitative research](https://www.questionpro.com/blog/qualitative-research-methods/) technique that involves asking open-ended questions to converse with respondents and collect elicit data about a subject. The interviewer in most cases is the subject matter expert who intends to understand respondent opinions in a well-planned and executed series of [questions and answers](https://www.questionpro.com/article/survey-question-answer-type.html). Interviews are similar to focus groups and surveys when it comes to garnering information from the target market but are entirely different in their operation – [focus groups](https://www.questionpro.com/blog/focus-group/) are restricted to a small group of 6-10 individuals whereas [surveys](https://www.questionpro.com/tour/) are quantitative in nature. Interviews are conducted with a sample from a population and the key characteristic they exhibit is their conversational tone. There are three fundamental types of interviews in research: (1) Structured interviews: are types of interviews where the interviewer asks a particular set of predetermined questions. In structured interviews questions are planned and created in advance, which means that all candidates are asked the same questions in the same order. The advantage with structured interviews is that all candidates in a study are asked the same questions, its easy to compare and validate their answers. (2) An unstructured interview is a type of interview in which the interviewer asks questions that are not prepared in advance. In unstructured interviews, questions arise spontaneously in a free-flowing conversation, which means that different candidates are asked different questions.  The difference between experimental and survey research methods is that experimental method involves laboratory research while survey involves field research. The experimental research method is most applicable in proving theories or hypotheses. On the other hand, surveys are best applicable in situations where the researcher wants to understand the notions of a group of people. |