

Research Methods

Research Methods

Classifications of Data

- Quantitative
- Qualitative
- Mixed
- Primary
- Secondary

Techniques List

Research techniques are a wide range of methods used to collect, analyze, and interpret data. They are used to answer research questions and test hypotheses. The choice of technique depends on the research objectives, the nature of the data, and the resources available.

Quantitative techniques involve the collection and analysis of numerical data. They are used to measure the frequency, distribution, and relationships between variables. Examples include surveys, experiments, and statistical analysis.

Qualitative techniques involve the collection and analysis of non-numerical data. They are used to explore the meanings, experiences, and perspectives of individuals. Examples include interviews, focus groups, and content analysis.

Mixed methods research combines both quantitative and qualitative techniques to provide a more comprehensive understanding of a phenomenon. Examples include surveys with open-ended questions and experiments with qualitative observations.

Quantitative

Quantitative research involves the collection and analysis of numerical data. It is used to measure the frequency, distribution, and relationships between variables. Quantitative research is often used to test hypotheses and to make generalizations about a population.

Quantitative research is characterized by its objectivity, reliability, and generalizability. It uses standardized procedures and statistical methods to analyze data. Quantitative research is often used in fields such as psychology, sociology, and economics.

Qualitative

Qualitative research involves the collection and analysis of non-numerical data. It is used to explore the meanings, experiences, and perspectives of individuals. Qualitative research is often used to understand the context and complexity of a phenomenon.

Qualitative research is characterized by its subjectivity, flexibility, and depth. It uses open-ended questions and unstructured interviews to collect data. Qualitative research is often used in fields such as anthropology, sociology, and education.

Techniques List

- Surveys
- Interviews
- Focus groups
- Content analysis
- Case studies
- Experiments
- Observations
- Discourse analysis
- Grounded theory
- Ethnography

Types of data

There are two different types of data and that is primary and secondary data.

Primary data is data that is collected directly from the source. It is often used to explore a new area of research or to test a hypothesis. Primary data is often collected through surveys, interviews, and experiments.

Secondary data is data that has been collected by someone else. It is often used to explore a topic that has already been studied. Secondary data is often collected through books, articles, and databases.

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Research Designs

Research design refers to the overall strategy that a researcher uses to collect and analyze data. It is a plan or blueprint for the study that guides the researcher in the selection of participants, the collection of data, and the analysis of the data.

Research design is important because it determines the validity and reliability of the research findings. A well-designed study will be able to answer the research question and to make generalizations about the population.

There are many different types of research designs, each with its own strengths and weaknesses. The choice of design depends on the research objectives, the nature of the data, and the resources available.

Key Issues

- Validity
- Reliability
- Accuracy
- Precision

Precision

Precision refers to the consistency of the measurements. It is the degree to which repeated measurements of the same quantity yield the same result. Precision is important because it allows the researcher to detect small differences between groups or conditions.

Validity

Validity refers to the accuracy of the measurements. It is the degree to which the measurements reflect the true value of the variable being measured. Validity is important because it allows the researcher to make accurate conclusions about the population.

Accuracy

Accuracy refers to the closeness of the measurements to the true value of the variable being measured. Accuracy is important because it allows the researcher to make accurate conclusions about the population.

Reliability

Reliability refers to the consistency of the measurements. It is the degree to which repeated measurements of the same quantity yield the same result. Reliability is important because it allows the researcher to detect small differences between groups or conditions.

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A research technique is a specific method or procedure used to collect, analyze, and interpret data. It is a set of steps or procedures that are followed to achieve a specific goal.

An experimental technique is a method or procedure used to collect, analyze, and interpret data. It involves the manipulation of one or more variables and the measurement of the resulting effect.

A survey technique is a method or procedure used to collect, analyze, and interpret data. It involves the collection of data from a large number of people through a questionnaire or interview.

A case study technique is a method or procedure used to collect, analyze, and interpret data. It involves the in-depth study of a single case or a small number of cases.

Quantitative

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Research Designs

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Key Issues

Key issues are the main points or topics that are discussed in a research paper. They are essential for understanding the research and drawing conclusions from the data.

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Quantitative

Quantitative research is a formal way of presenting research by using numerical data to get information. This involves having to test the hypothesis or having to find the relationships in the research. This type of research is a deductive type of research. It is designed to notice the differences in research, relationships or causality.

Advantages

- can be people friendly as the design is important
- there is an opportunity to reduce the participants bias
- the participant can stay anonymous
- data can be structured properly
- it is also easily accessible to most people

Disadvantages

- the questions might be too complex if the form isn't designed correctly
- there may be some control issues
- there is no opportunity for any sort of probing questions
- there is also some potential for low response rates

Techniques list

There are many different techniques that you can use as for quantitative research. The different techniques such as non-participant observation, questionnaires and field-based data. Questionnaires are used to be able to collect large amounts of data from large groups. But this method could be effected by the other person giving speech instead of giving numbers so you will have to ask questions that you can reply with numbers. There are advantages and disadvantages of using questionnaires. Advantages of questionnaires is that it is people friendly, the person taking part can be anonymous and it is easily accessible to most people. disadvantages are that there maybe control issues, no opportunity for probe questions and there is potential for low response rates.

Research Designs

There are loads of different research designs that are used in sport. research designs is the general structure of research. the most common types of research designs are the experimental, cross-sectional, case study, longitudinal and comparative research methods.

Experimental research is being able to look at the effects of an independent variable on a dependent variable. This could be used in sport by coaches trying to be able to find out what their athletes weaknesses are based on their performances.

cross sectional research design in involves people using a diverse range of participants that have different backgrounds, age and gender. an example of this would be if someone wanted to find out the amount of certain races involvement in certain sports.

Case study research is when you have to investigate something special over a long period of time. so this will take in the development of the area of your investigation over a certain time period and in the certain environment.

longitudinal research involves measuring the same variables over long periods of time. This requires you to be able to loads of resources and effort to be able to get this type of research.

longitudinal research invovles measuring the same type of variables

Comparative research designs is research that is when the researcher is when they compare two different things while trying to discover something.

Quantitative

Quantitative research is when your research contains words more frequently than using numbers. This research is used to look at feelings, opinions and emotions. This type of research tends to be fairly inductive which means that it can be developed through research. Qualitative data tries to explain the differences, relationships or causality. Qualitative data can also be used to be able to create quantitative data from this. An example would be recording how many people play sports so that they can spend time with their friends.

Advantages of observations can be called right at that time rather than depending on recall, they can also research in natural settings instead of doing it in research settings, they can identify the behaviors that aren't clear to the person doing an interview, they can also find indications of behavior that people might not disclose.

Disadvantages
the researcher can misunderstand what they are seeing
it can be hard to identify the correct type of data
if the person knows what they are doing for their research and they might react differently so they might invalidate their whole project.

Techniques List

There are three different types of qualitative data collection which are interviews, focus groups and observations. Each type of data collection method has certain disadvantages and also advantages. Interviews are conversations that have a purpose. There are four different types of interview techniques which are structured, unstructured, semi-structured and focus groups.

A structured interview is an interview that is already set out so you can't change any of the questions so that the participant has to give certain responses.

An unstructured interview is when it is an interview that has a starter question and then progresses through the interview with a natural conversation.

Semi-structured interviews are interviews that follow guides which will allow for probing questions which will go further in depth of the topic that you are talking about. This interview technique is quite effective to get more information from the interviewee.

Focus group is a group-based interview which is where the group starts to interact to be able to get their data. This tends to be similar to a semi-structured interview, it's just that it has a group of people, just not.