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Introduction to Research Methods

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MGM 333

Part 1: Starting the research process

CH1: Major research paradigms (Cont.)

Lecture 2

Chapter
01

Major research paradigms





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Session Outline

Chapter
01

Session Outline

- ☐ Research Philosophies
 - ✓ Positivist research
 - ✓ Post-positivism and mixed methods research (MMR)
 - ✓ Interpretivist research
- ☐ Research Outcome
- ☐ Research Logic
- ☐ Data sources and types
- ☐ Qualitative or quantitative methodology
 - ✓ Qualitative research design
 - ✓ Quantitative research design
 - ✓ Mixed methods research



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Research Philosophies

- **Positivism:**
Associated with quantitative research
- **Interpretivist / constructivist**
Associated with qualitative research
- **Post-positivism:**
Mixed methods

- Positivists see the world as a collection of observable facts which can be measured.

Ontological stance - Realism

- There exists a single, tangible, objective reality. We can understand it through the laws that govern it.

Epistemological stance - Objectivist / dualist

- Objective observation leading to discovery of that reality

Methodology

- Experimental, objective observation.

Purpose

- predication / control / explanation / verification (1798–1857) (1596-1650)

□ What can we 'know'?

- "... those who are seeking the strict way of truth should not trouble themselves about any object concerning which they cannot have certainty equal to arithmetic or geometrical demonstration" (Descartes, as cited in Lines, 2001, p. 172).
- If it can't be counted or measured with certainty then we can never truly know it.
- Questions: What? How much? Relationships / casual effect Those best answered with Numerical precision Hypothesis formulation

- Post-positivists see the world as a collection of observable facts which can be measured objectively but flawed

Ontological stance - Critical realism

- Belief in a social reality but acceptance that knowing this reality will always be inhibited by imperfections detecting its nature. The imperfections are due to human fallibility

Epistemological stance - modified dualist / objectivist

- Acceptance that independence is not possible but objectivity is seen as the goal and demonstrated by external verification

Methodology- Modified experimental

- Experimental, objective observation.

Purpose

- predication / control / explanation / Generalizations

□ What can we 'know'?

- Very similar to that of Positivism
- What? How much?
- Relationships / casual effect
- Those best answered with Numerical precision
- Hypothesis formulation / falsification
- The more 'qualitative' notion of 'interpretation' is often included in the approach allowing for the possibility of prior knowledge impacting on the perceptions of results.

- **Interpretivism / Constructivism Interpretivism** is used as a covering term for a number of approaches to research, essentially the areas we are concerned with can be grouped into two distinct groups;

يستخدم التفسير / التفسير البنائية كمصطلح شامل لعدد من مناهج البحث ، ويمكن تجميع المجالات التي نهتم بها في مجموعتين متميزتين ؛

- **‘empirical interpretivism’** (constructivism) dealing with investigation in natural settings of social phenomena

➤ "التفسيرية التجريبية" (البنائية) التي تتناول التحقيق في البيئات الطبيعية للظواهر الاجتماعية

- **‘critical theory’** engaging in ideologically orientated investigation examining current thought and social structures.

➤ "النظرية النقدية" منخرطة في تحقيق موجه أيديولوجيًا ، ودراسة الفكر الحالي والبنى الاجتماعية.

Ontological stance - Relativism

- Interpretivists belief that realities are multiple, constructed and holistic, there is no single, tangible reality, instead there are only the complex, multiple realities of the individual.

Epistemological stance - Transactional / subjectivist:

- All descriptions are time and context bound; it is impossible to separate cause from effect as all entities are in a state of simultaneous shaping

Methodology- Modified experimental

- Empathetic interaction: Interpretivists take the stance that any research activity will leave the subject of the research in an altered state

Purpose

- transfer of findings based on contextual applicability:

	Positivism	Post-positivism	Interpretivist / constructivist
Ontological stance	'Realism' Belief in a tangible, social reality. This reality exists independently of those 'creating' the reality. A social reality can exist just as a natural reality exists [water remains water whether someone is swimming in it or not]	'Critical Realism' Belief in a social reality but acceptance that knowing this reality will always be inhibited by imperfections in detecting its nature. The imperfections are due to human fallibility.	'Relativist' Belief in multiple, constructed realities that cannot exist outside of the social contexts that create them. Realities vary in nature and are time and context bound.
Epistemological stance	Objectivist / Dualist. Investigator and investigated are independent of each other.	Modified dualist / objectivist. Acceptance that independence is not possible but objectivity is seen as the goal and demonstrated by external verification.	Transactional / subjectivist. The results of the investigation are a product of interaction between the subject and the investigator. What can be known is a result of the interaction.
Methodological stance	Experimental / manipulative. Hypothesis testing, variables identified prior to the investigation. Empirical testing is conducted in order to establish the 'truth' of the proposition. Predominantly quantitative. Analysis by variables.	Modified experimental / manipulative. Hypothesis testing but more emphasis placed on context. Quantitative & qualitative. Analysis by variables.	Empathetic interaction. Investigator interacts with the object of the investigation. Each construction of reality is investigated in its own right and is interpreted by the investigator. Qualitative including hermeneutics & dialectic interchanges Analysis by case
Purpose	Prediction / control / explanation. Framing of general laws.	Prediction / control / explanation. Generalisations	Understanding / reconstruction. Transfer of findings.



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Research Outcome

❑ Types of Business Research:

- ❖ Applied Research
- ❖ Basic Research

❑ The main distinction between applied and basic research:

- ✓ Applied research is specifically aimed at solving a currently experienced problem.
- ✓ Basic research has a broader objective of generating knowledge and understanding of phenomena and problems that occur in various organizational settings.

Both types of research follow the same steps of systematic inquiry to arrive at solutions to problems

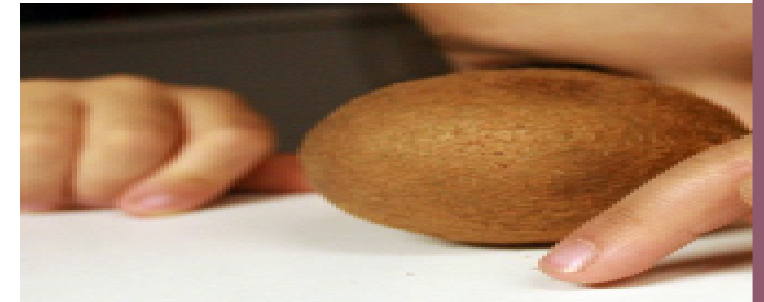
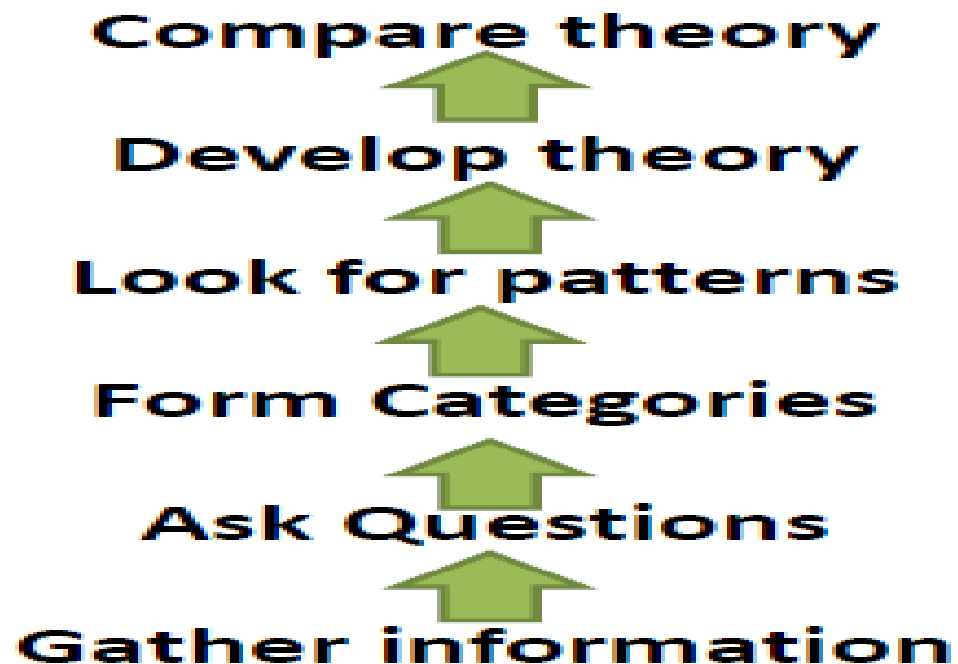
❑ **Deductive reasoning:** application of a general theory to a specific case.

Ex.: Hypothesis testing

❑ **Inductive reasoning:** a process where we observe specific phenomena and on this basis arrive at general conclusions.

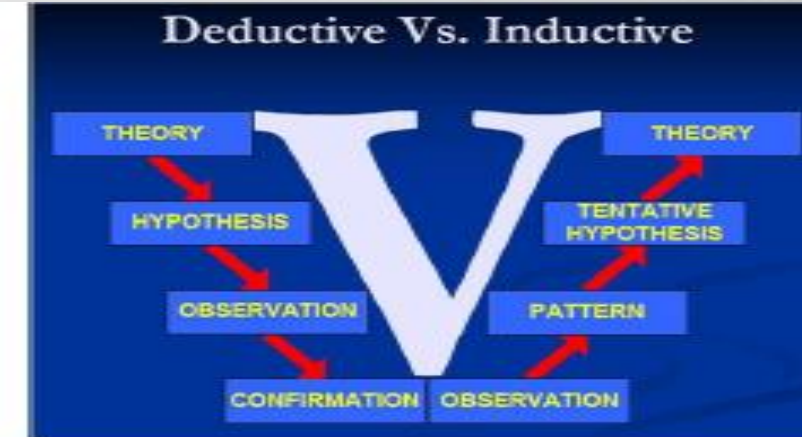
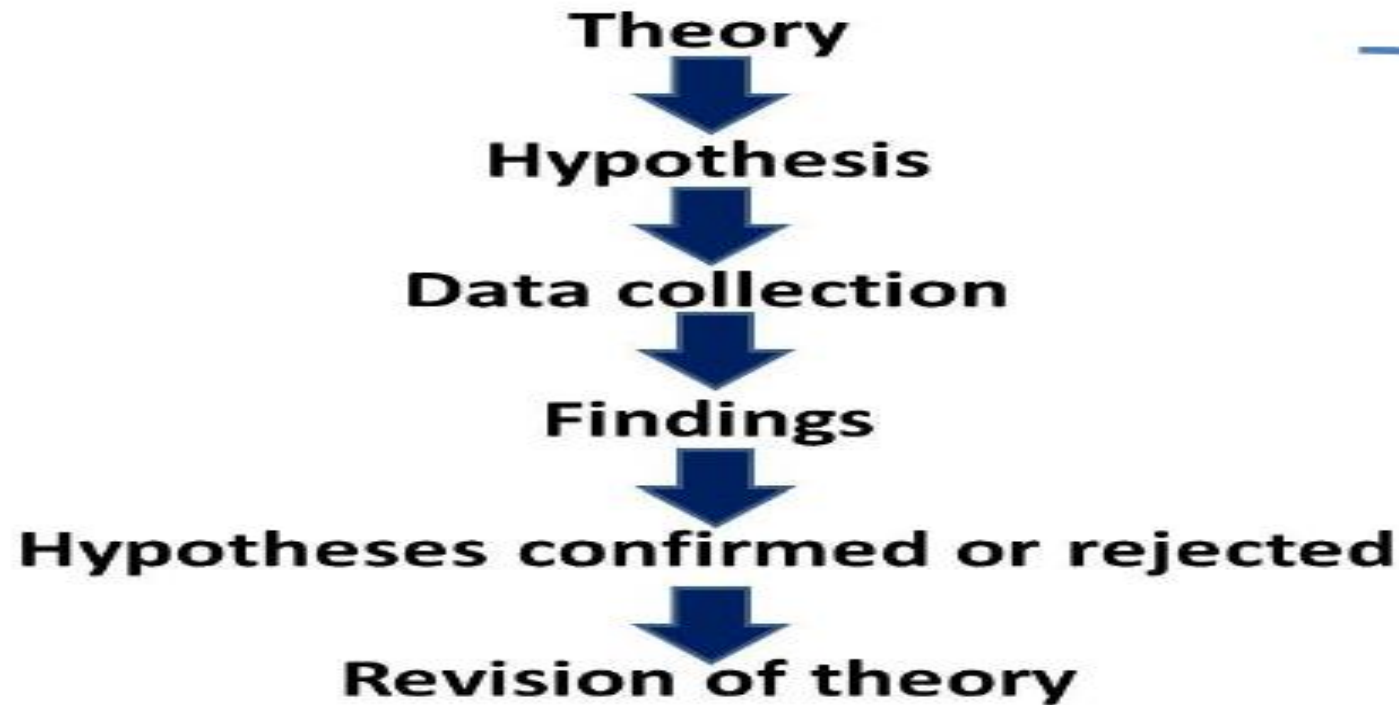
Both inductive and deductive processes are often used in research

The Process of Inductive



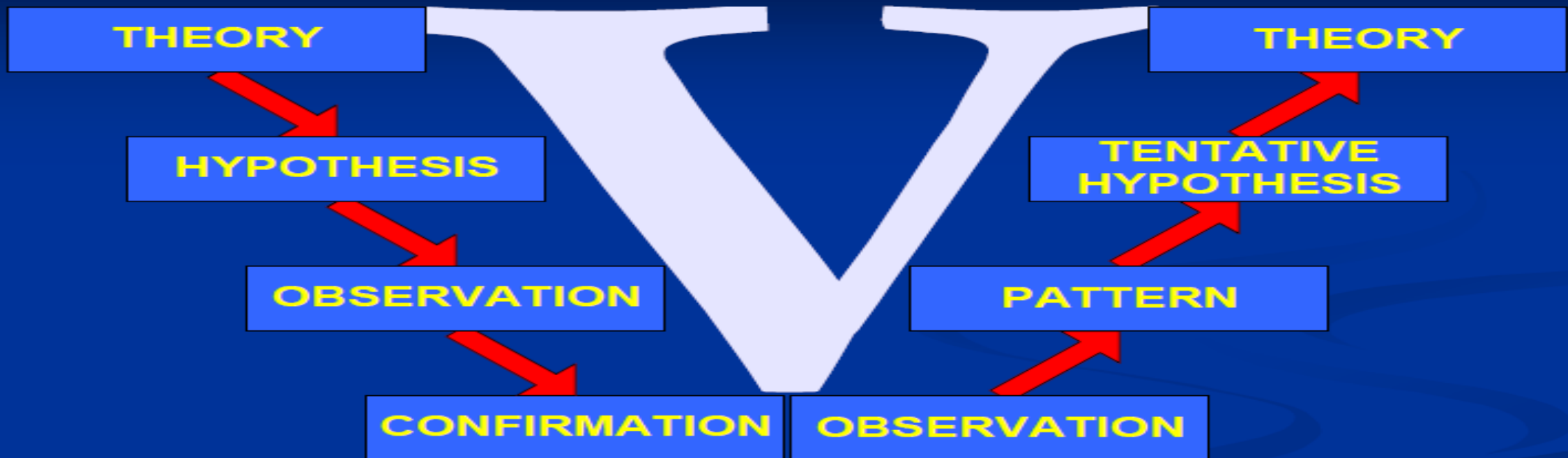
**Methodology
used in
qualitative
research**

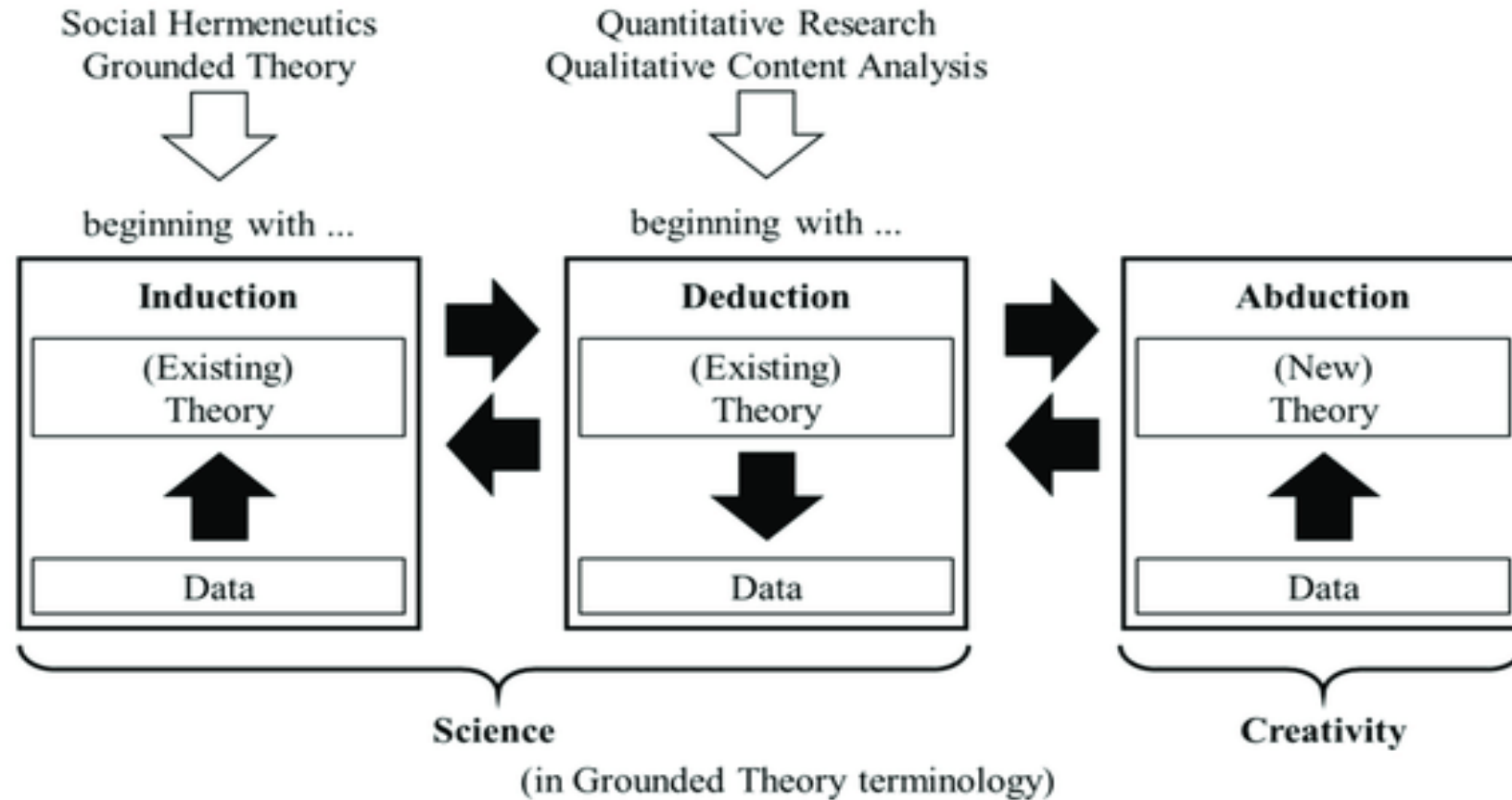
The Process of Deductive



Methodology
used in
quantitative
research

Deductive Vs. Inductive







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Data sources and types

☐ Secondary data

The information collected by others for a purpose other than the project at hand, but may be useful for the project....or Data collected and processed by one researcher and reanalyzed for a different purpose by another researcher

☐ Primary data

☐ Original data collected for the purpose of the research problem

- Observation, questionnaire, interview and tape recording, experiment results

- ❑ **Internal sources:** accounting records, sales data, commercial reports and other miscellaneous records.
- ❑ **External sources:** academic journals, dissertations, thesis, newspapers, books etc

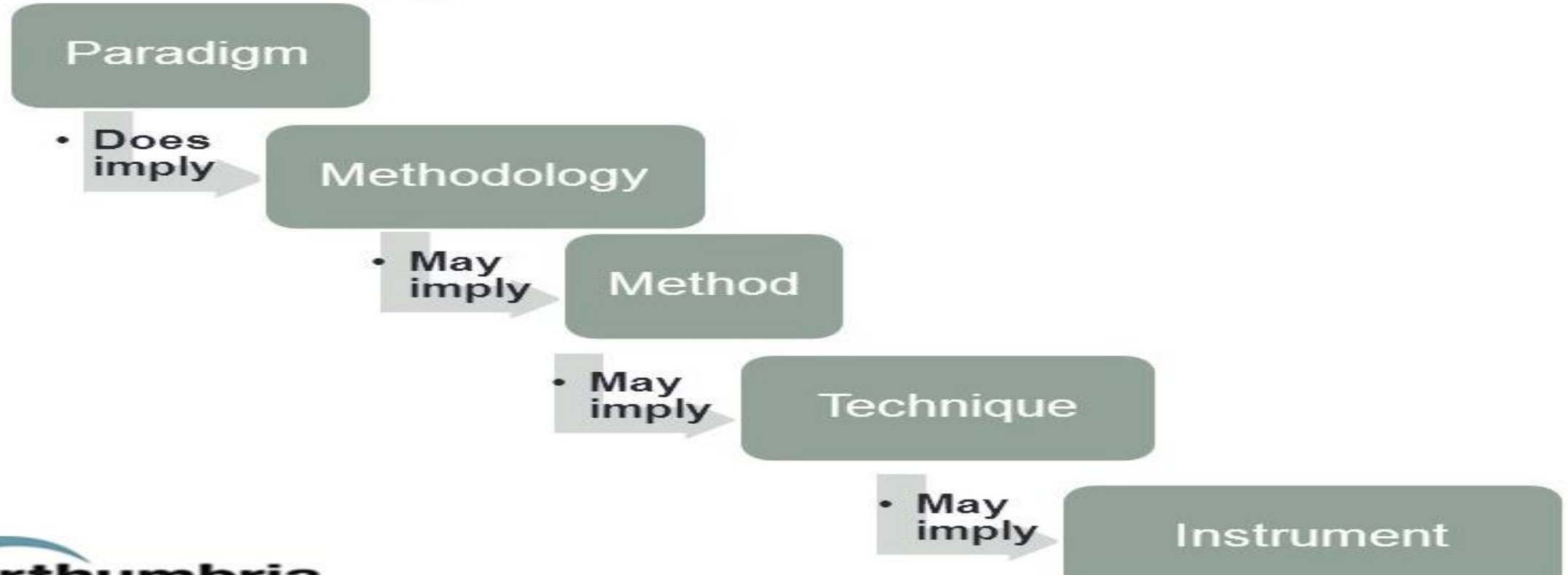


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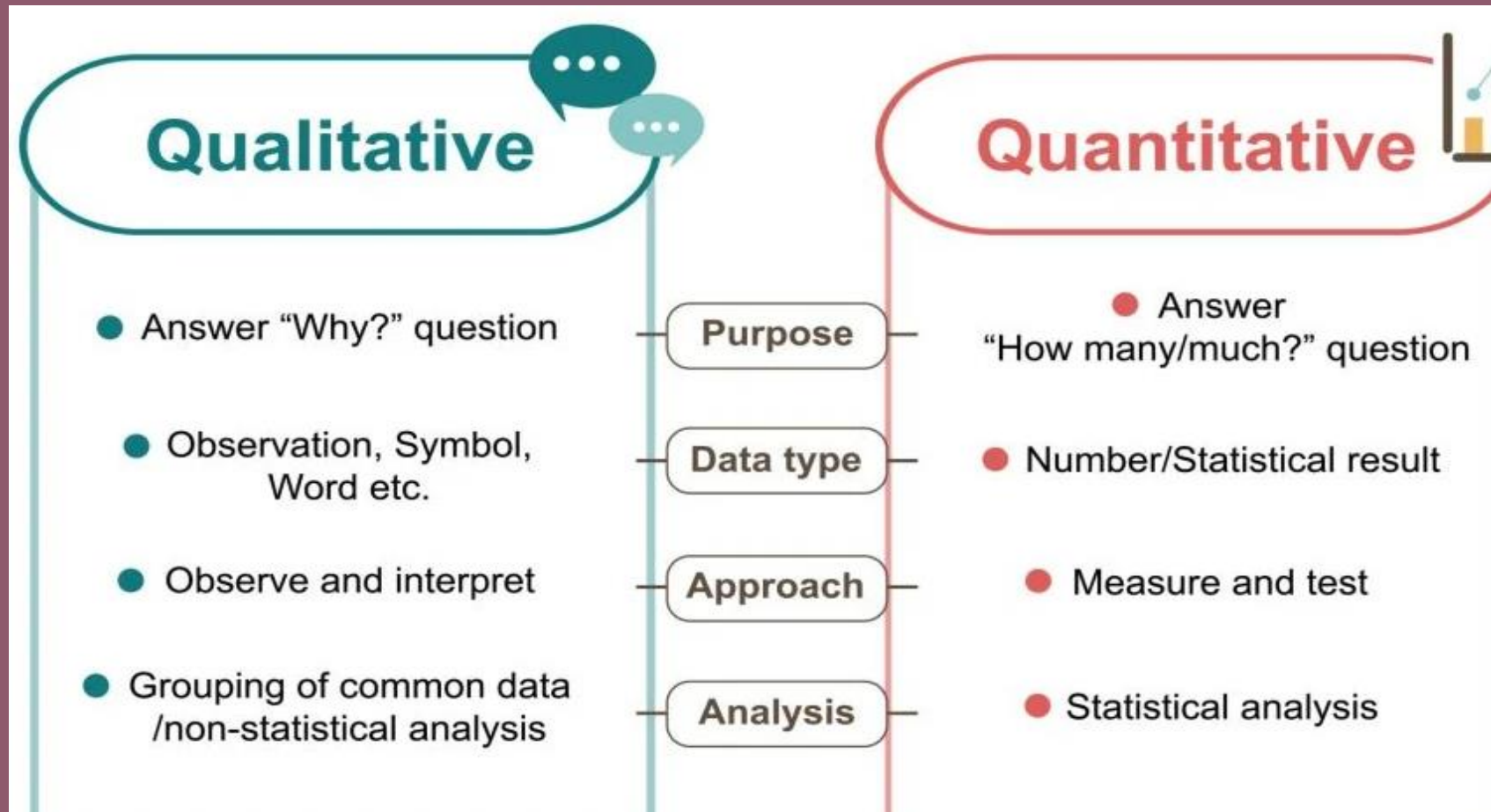
Qualitative or quantitative methodology?

Qualitative or Quantitative methodology?



northumbria

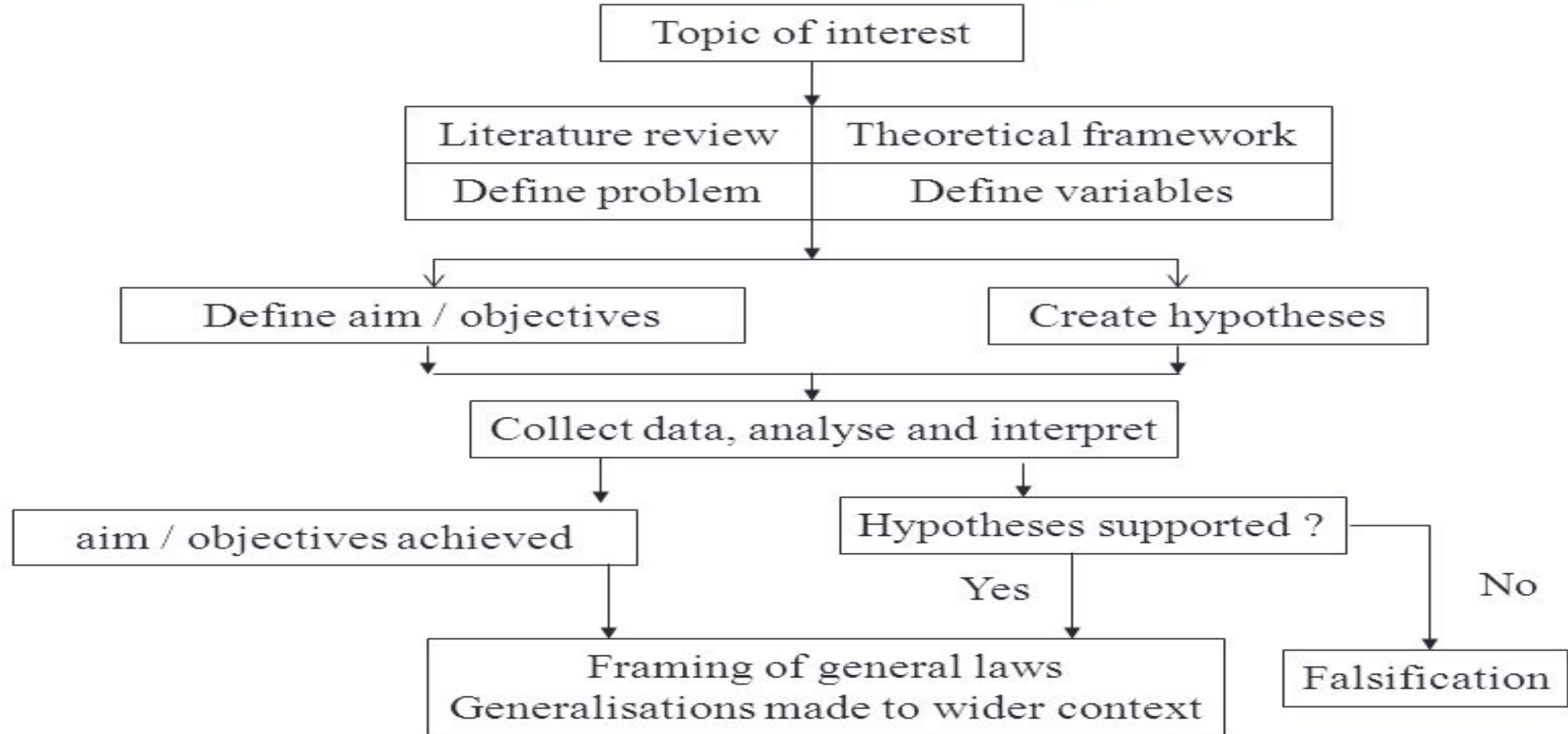
- **Research methodology:** This is the theoretical perspective of the research, that is the overall nature of the research activity.
- **Research method:** This is the bounded system created by the researcher to engage in empirical investigation, the overall approach, often referred to as a 'strategy.'
- **Research techniques:** These are the individual data collection techniques applied within the method. The most obvious example of lack of distinction between method and techniques is the use of the terms 'survey' and 'questionnaire'; very often the two are used interchangeably within the research methods literature.
- **Research instrument:** This is the devise that is designed or trained to collect the data necessary to provide insight or offer answers to the questions being asked.



- Quantitative research begins with a theoretical framework established from the literature review a hypothesis will emerge and the variables within that hypothesis can be identified.
- The notion of a hypothesis can also be translated into research aims and objectives it is only compulsory to have a hypothesis when true experimental research is chosen as the method select the most appropriate research method calculate the sample and design the data collection within that method.

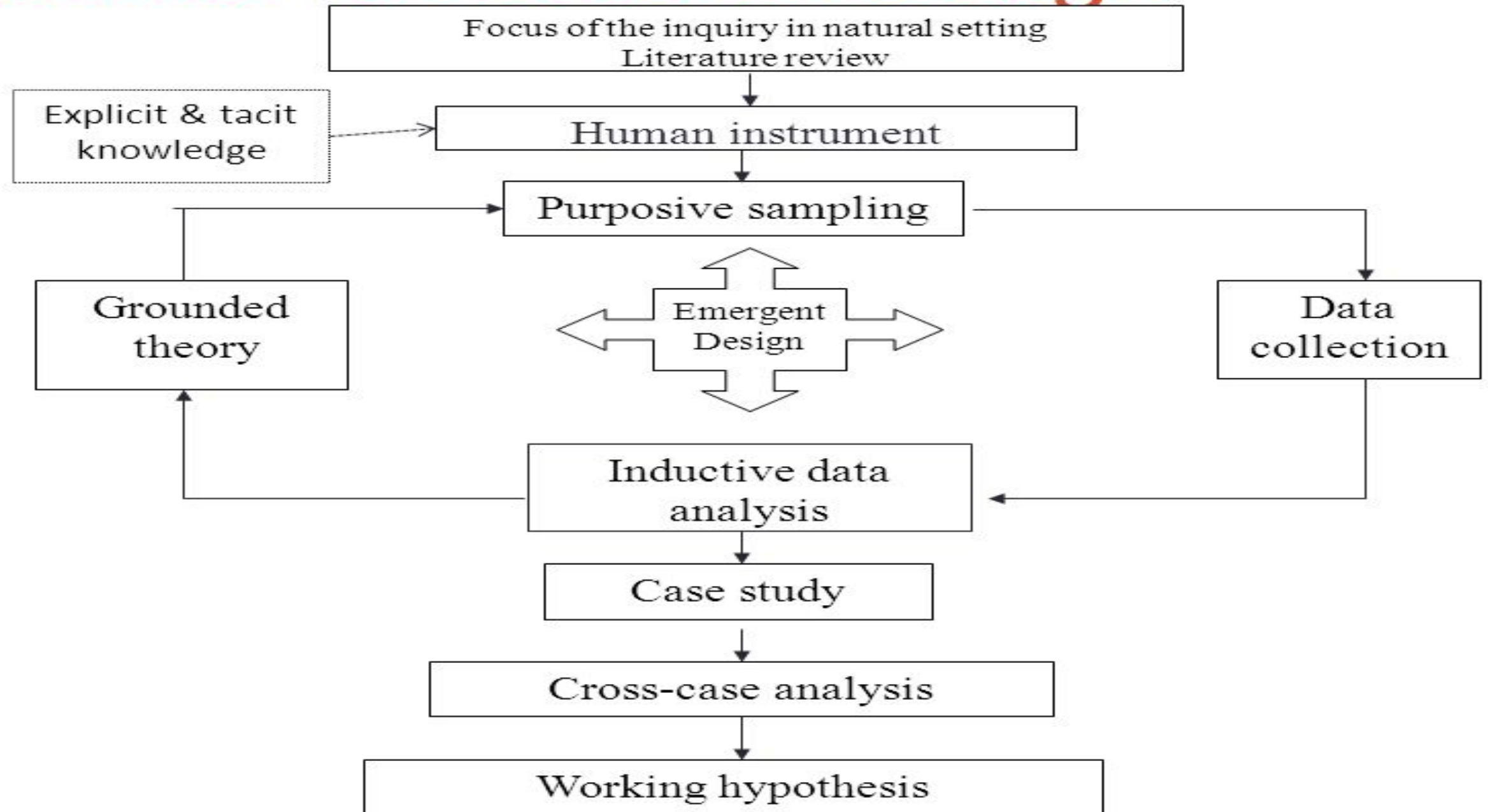
- Once data collection is complete it is then time to process and analyze the data.
- With data analysis complete the researcher then has the 'evidence' to either falsify or support the hypothesis.

Quantitative research design



- The emergent design of qualitative research does not allow for a detailed plan before the research begins 'the research design must therefore be 'played by ear'; it must unfold, cascade, roll, emerge' (Lincoln and Guba, 1985 p.203)
- **Human research instrument:** The researcher plays the role of 'instrument' trained to capture the data as it 'comes in'
- **Emergent design** Responding the story as it reveals itself
- **Negotiated outcomes** Interaction between the researcher and the researched – interpretation based on the relationship between the two.

Qualitative research design



The Difference between Qualitative and Quantitative Methods

	Quantitative	Qualitative
Principal orientation to the role of theory in relation to research	Deductive Testing of theory	Inductive Generation of theory
Epistemological orientation	Natural science model, in particular positivism	Interpretivism
Ontological orientation	Objectivism	Constructionism

(Bryman, 2006)

The Difference between Qualitative and Quantitative Methods

	Quantitative	Qualitative
Common Purpose	Test Hypotheses or Specific Research Questions	Discover Ideas, used in Exploratory Research with General Research Objects
Approach	Measure and Test	Observe and Interpret
Data Collection Approach	Structured Response Categories Provided	Unstructure, Free-Form
Research Independence	Researcher Uninvolved Observer. Results Are Objective.	Researcher Is Intimately Involved. Results Are Subjective.
Samples	Large Samples to Produce Generalizable Results	Small Samples – Often in Natural Settings
Most Often Used	Descriptive and Causal Research Designs	Exploratory Research Designs



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CLASSIFICATIONS OF MIXED METHODS DESIGNS

- Triangulation Design
- Exploratory Design
- Explanatory Design

Creswell, J.W. and Plano Clark, V.L., 2011. Choosing a mixed methods design. *Designing and conducting mixed methods research*, 2, pp.53-106.

- The most common and well-known approach to mixing methods is the Triangulation Design. The purpose of this design is “to obtain different but complementary data on the same topic”

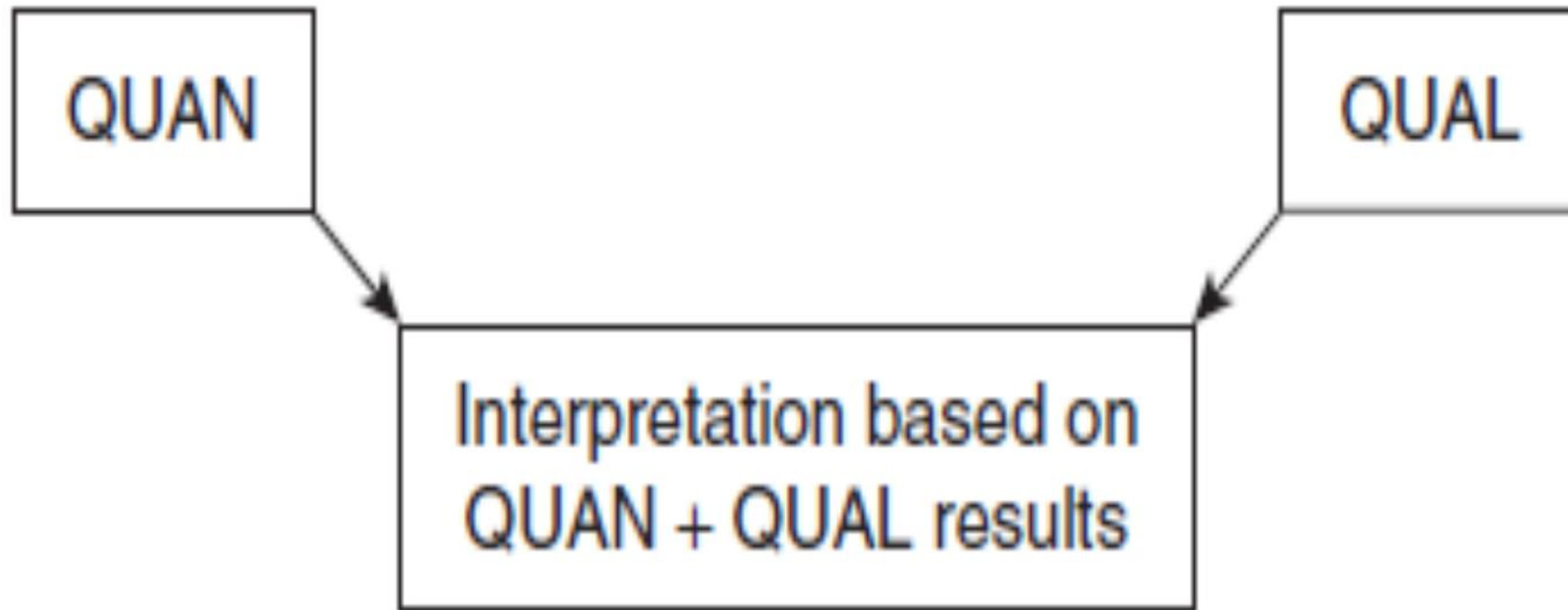
Creswell, J.W. and Plano Clark, V.L., 2011. Choosing a mixed methods design. *Designing and conducting mixed methods research*, 2, pp.53-106.

- The Triangulation Design is a one-phase design in which researchers implement the quantitative and qualitative methods during the same timeframe and with equal weight.
- The single-phase timing of this design is the reason it has also been referred to as the “concurrent triangulation design”

Triangulation Design Procedures:

- It generally involves the concurrent, but separate, collection and analysis of quantitative and qualitative data so that the researcher may best understand the research problem.
- The researcher attempts to merge the two data sets, typically by bringing the separate results together in the interpretation

(a) Triangulation Design

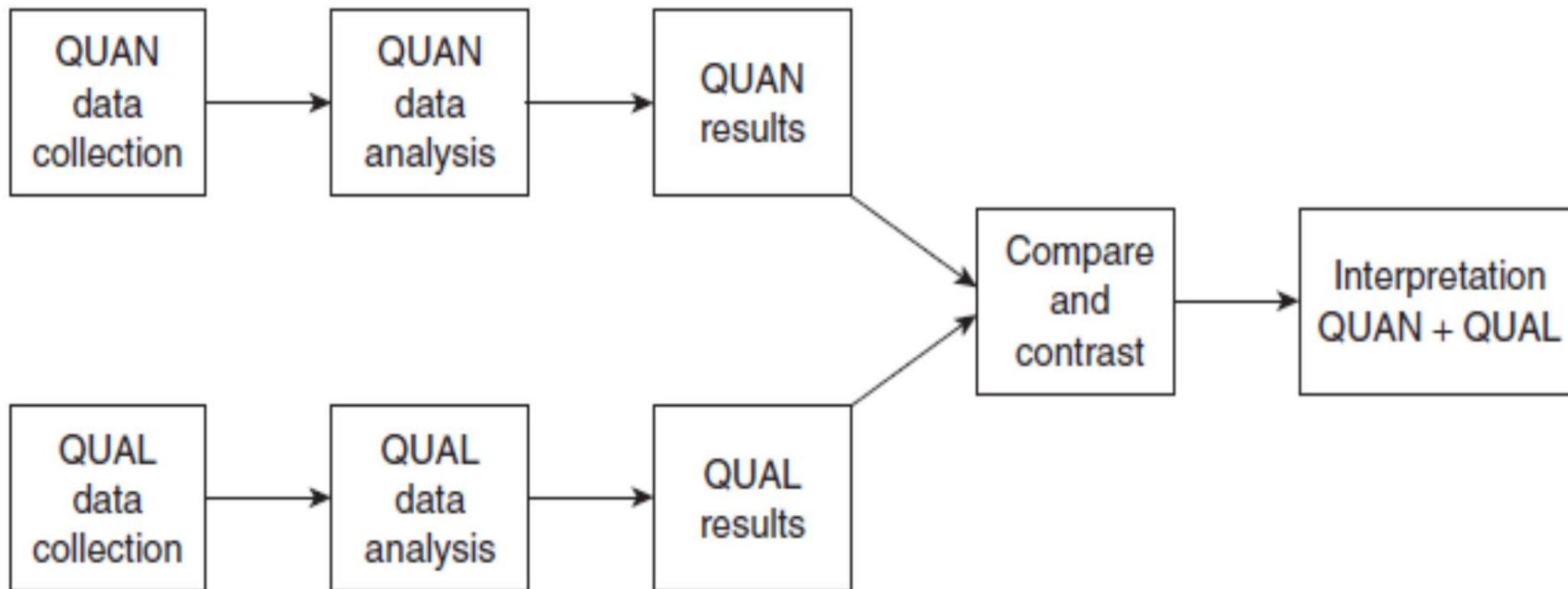


- **Variants of the Triangulation Design:**
- the convergence model
- the data transformation model
- the validating quantitative data model

- **Variants of the Triangulation Design: The four variants are:**
- the convergence model
- the data transformation model
- the validating quantitative data model
- the multilevel model

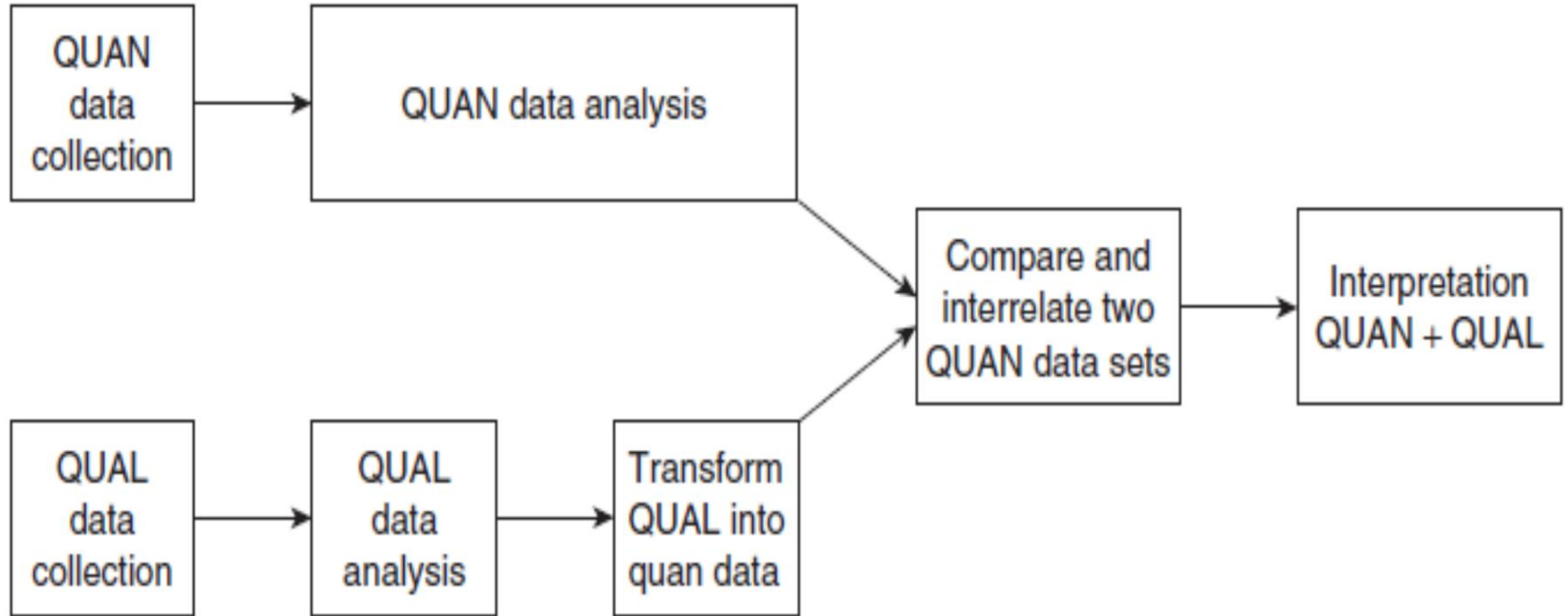
- The convergence model represents the traditional model of a mixed methods triangulation design.
- In this model, the researcher collects and analyzes quantitative and qualitative data separately on the same phenomenon and then the different results are converged (by comparing and contrasting the different results) during the interpretation. Researchers use this model when they want to compare results or to validate confirm, or corroborate quantitative results with qualitative findings

(b) Triangulation Design: Convergence Model



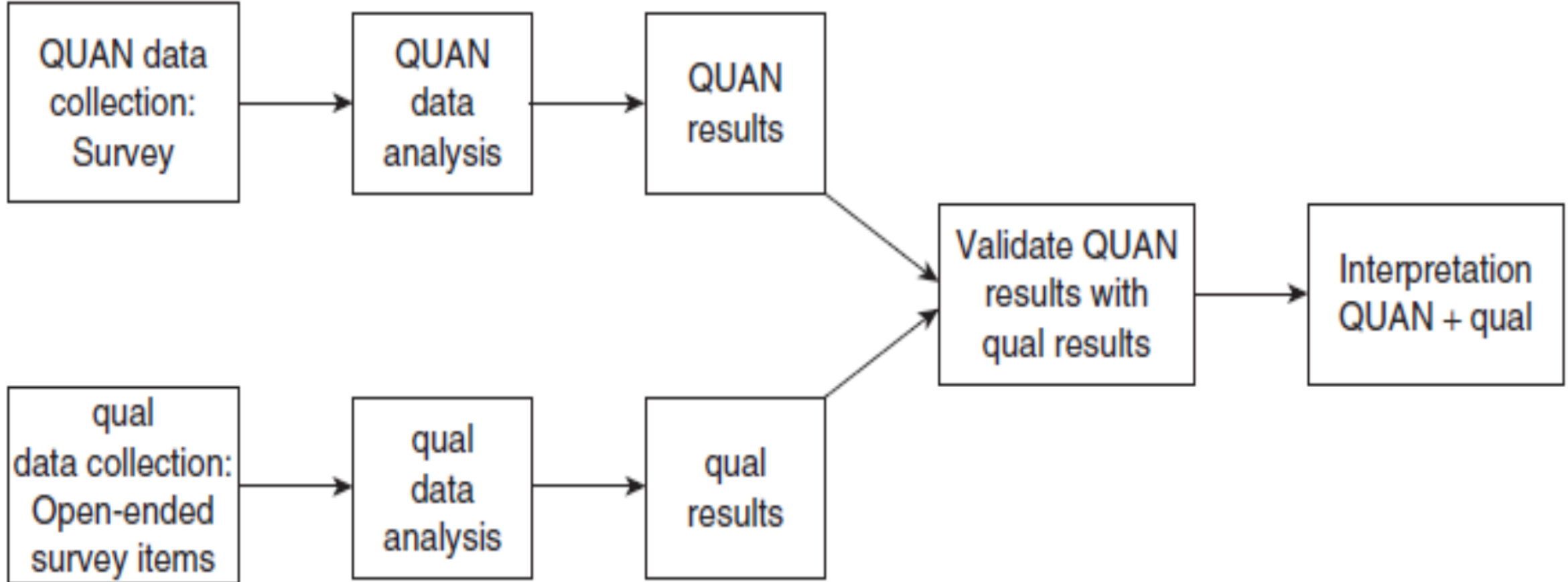
- This model also involves the separate collection and analysis of quantitative and qualitative data sets. However, after the initial analysis, the researcher uses procedures to transform one data type into the other data type.
- This is accomplished by either quantifying qualitative findings or qualifying quantitative results
- This transformation allows the data to be mixed during the analysis stage and facilitates the comparison, interrelation, and further analysis of the two data sets

(c) Triangulation Design: Data Transformation Model (Transforming QUAL data into QUAN)



- when they want to validate and expand on the quantitative findings from a survey by including a few open-ended qualitative questions.
- In this model, the researcher collects both types of data within one survey instrument.
- Because the qualitative items are an add-on to a quantitative survey, the items generally do not result in a rigorous qualitative data set.
- However, they provide the researcher with interesting quotes that can be used to validate and embellish the quantitative survey findings

(d) Triangulation Design: Validating Quantitative Data Model



- The Explanatory Design is a two-phase mixed methods design. The overall purpose of this design is quantitative results.
- This design starts with the collection and analysis of quantitative data. This first phase is followed by the subsequent collection and analysis of qualitative data.
- The second, qualitative phase of the study is designed so that it follows from (or connects to) the results of the first quantitative phase.

- As with the Explanatory Design, the intent of the two-phase Exploratory Design is that the results of the first method (qualitative) can help develop or inform the second method (quantitative).

- This design is based on the premise that an exploration is needed for one of several reasons:
 - ✓ Measures or instruments are not available
 - ✓ the variables are unknown
 - ✓ there is no guiding framework or theory.
 - ✓ Because this design begins qualitatively, it is best suited for exploring a phenomenon
- ❑ This design is particularly useful when a researcher needs to develop and test an instrument because one is not available or identify important variables to study quantitatively when the variables are unknown

Table 4.2 The Major Mixed Methods Design Types

<i>Design Type</i>	<i>Variants</i>	<i>Timing</i>	<i>Weighting</i>	<i>Mixing</i>	<i>Notation</i>
Triangulation	• Convergence • Data transformation • Validating quantitative data • Multilevel	Concurrent: quantitative and qualitative at same time	Usually equal	Merge the data during the interpretation or analysis	QUAN + QUAL
Embedded	• Embedded experimental • Embedded correlational	Concurrent or sequential	Unequal	Embed one type of data within a larger design using the other type of data	QUAN(qual) or QUAL(quan)
Explanatory	• Follow-up explanations • Participant selection	Sequential: Quantitative followed by qualitative	Usually quantitative	Connect the data between the two phases	QUAN → qual
Exploratory	• Instrument development • Taxonomy development	Sequential: Qualitative followed by quantitative	Usually qualitative	Connect the data between the two phases	QUAL → quan



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Thank You

