Methods: Quantitative - Qualitative

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Objective

- The overall presentation is aimed at enabling participants to learn:
  - (a) methodological bases of research methods
  - (b) current trends in social science research methods.
- Preparing for research process through proposal writing – the first stage researchers begin to make decisions/choices about methods.
Objective

• This lecture challenges all of us to think beyond a descriptive understanding of quantitative and qualitative research methods.

• It challenges to strive towards a methodological understanding of research methods.
Method and Methodology

• Method and methodology are not the same thing, although in everyday idiom the two are treated as synonymous.
• Often, the two are also confused to be one.
• Method refers to tools, and techniques of data collection and interpretation.
• Methodology refers to the philosophical/theoretical justification of our choice and employment of methods.
Methods

• In this first presentation, our focus is on ‘Methods’ in research in the social sciences. Some of our points will be relevant to natural science research too.

• We will ask and try to find answers to three simple questions:
  i.  What is method in scientific research? and
  ii.  Why method?
  iii. Why is method considered so central to scientific research?

It is with answers to these questions that we can really understand the quantitative-qualitative debate in the social science methodology.
Research

- Research is an exercise in ‘scientific’ knowledge production.
- ‘Scientific’ in its minimalist sense suggests ‘systematic’ creation of knowledge, through the application of intellectual labour.
- In its deeper meaning, ‘scientific’ here entails the researcher’s awareness of, and sensitivity to, epistemological and methodological foundations of research as an exercise in the creation of new knowledge.
Method in Research

• Method emerges and becomes crucially relevant in **four stages of knowledge production**.
  i. **Preparation** for research and proposal writing.
  ii. **Doing research** through data collection.
  iii. **Interpretation** and analysis of data.
  iv. Defense of the **validity** of research findings and generalizations.
Research Methods

• The idea of ‘scientific research’ also has a narrow meaning in most of the natural and social science research.
• It understands the idea of ‘scientific’ primarily in empiricist, positivist sense of it.
• In this meaning, scientific research is identified primarily with the quantitative method in social research.
• Qualitative methods have emerged as an alternative paradigm to the quantitative methods in the positivist social sciences.
• There are now argument to transcend qualitative/qualitative divide.
Methods

Methods have two meanings in the research process:

i. **Methods of data collection** - through field and archival research

ii. **Methods of interpreting data** – through theoretical approaches

These figure in two stages of the research process.
Method

Question of Method initially poses itself to us with regard to the nature of ‘raw material’ on which the output of intellectual labour is constructed:

As Data/evidence, type of data, sources of data.
Method

• In the second stage, method arises in relation to ‘how to make sense of our data.’

• This presupposes a theoretical approach.

• It is through theoretical eyes that we see, make sense of, and construct ‘stories’ from, data gathered through research.

• Data by themselves don’t tell us anything. They tell us what we want them to tell us. That is why method in interpretation –theory – becomes crucial in research.
Why Method

Why is ‘Method’ necessary in scientific research?

It is by the validity of our research methods that the validity of our ‘knowledge claims’ or ‘truth claims’ are evaluated and judged.

‘Knowledge claims’ are our conclusions arrived at through research.
Science and Knowledge Claims

• Scientific knowledge claims are different from (a) metaphysical,
  (b) speculative, and (c) Logic-based knowledge claims.

These three types do not require evidence to back the validity of knowledge claims.

In contrast, validity of knowledge claims in modern science is based on the soundness, correctness, tenability, openness, transparency, publicness, and testability of the method.
Centrality of Method

• Method became the central criterion of validity in justifying scientific knowledge claims with the development of ‘Scientific Method’ in modern science.

• In the history of the methodology of modern science, this discovery is attributed to philosophers who developed the Empiricist Method – Francis Bacon, David Hume and Rene Descartes.

• ‘Scientific Method’ became constitute the line of demarcation between metaphysical knowledge claims and scientific knowledge claims.
Centrality of Method

• Metaphysical method employed deductive reasoning, relying on general axioms (‘universal scientific truths’ or ‘axioms’) as criterion of justifying knowledge claims about specific cases of study.

• Bacon in his *Novum Organum* argued that this metaphysical method led to ‘false knowledge’ and affirmation of dogmatic knowledge.
Centrality of Method

- The new Scientific Method’ in contrast argued for ‘inductive method.’
- Scientific knowledge production begins with specific cases of study, collects data through observation, tests hypotheses, and then arrives at generalizations.
- Because of the centrality of ‘observation’ or experience, this new scientific method is called ‘Empiricist Method.’
Modern social sciences began to emerge during the mid-19th century in Europe and later America. What we treat as modern social science is essentially an European invention, further developed later in America. Thus, the methodological history of modern social sciences is the history of European/Western social sciences. Both paradigms of qualitative and quantitative research method in the social sciences have European origin.
Two Methods: Definitions

We can define the two methods methodologically in the following manner:

**Quantitative Method**: It tries to capture and represent ‘reality’ by means of quantifiable/quantified data, collected through ‘observation.’ Such data are reliable because they are objective, impersonal, testable and verifiable.

Methods and Tools: Sample Surveys, statistical data, questionnaires, structured interviews.

Interpretation of quantitative data seeks to identify patterns and trends of a phenomenon by observing the statistical distribution of occurrences of a particular behavior of the phenomenon, within a given temporal and spatial template.
Quantitative Method – Epistemological Claims

i. Quantitative Method has a major Epistemological claim.

ii. It is the **Claim to OBJECTIVITY** in knowledge production.

iii. Quantitative Method is supposed to ensure ‘Objective Knowledge.’
Quantitative Method- Epistemology

• Because, it

i. Excludes the subjective dimension.
ii. Leaves no room for personal values, pre-judgments, or preferences of either the investigator or the human subject.
iii. Maintains clear separation between the data and subjective views of research participants.

• This is called ‘Fact-Value’ separation in the scientific method.

• Quantifiable data are ‘brute facts’, insulated from subjectivity of either researcher or research participants.
Quantitative Method

• How are ‘brute facts’ obtained?
• Through OBSERVATION – experiments, sensory observation.
• Observation is thus regarded in empiricism as the criterion of demarcation between science and non-science.
• In social sciences, field research is the primary method for ‘scientific observation.’
Qualitative Method

• Qualitative Method in social sciences is a post-empiricist innovation.

• It emerged in response to, and rejection of, the adaptation of scientific method of natural sciences in the study of society.
Qualitative Method

• Qualitative Method: It tries to capture and represent ‘reality’ by means of narratives, recollections, stories, extended accounts etc. provided by ‘subjects’ or ‘research participants.’

• It focuses on ‘subjective representation’ of social reality by the researcher as well as research participants.

• Methods and Tools: Qualitative and extended interviews, participant and informal observations, personal narratives, personal histories, memoirs and recollections, biographies.
Qualitative Method

• Takes seriously the ‘subjective’ factor. “People make their social world and ‘social reality’ ‘subjectively.’ (‘Social Construction of Reality’ argument).

• Data and subjective views of research participants are fused.
Quantitative Method-Origins

- Quantitative Method emerged when the method of natural sciences were adopted in study of society.
- Its history goes back to mid-19th century when there was a conscious attempt in Europe to create a ‘social SCIENCE’, in the image of natural sciences.
- August Comte and Emile Durkheim were its pioneers.
Two Methods

• Throughout the twentieth century, quantitative and qualitative methods/approaches constituted two rival paradigms in social science research.
• They are (a) Empiricist/positivist, and
• (b) post-empiricist, post-positivist.
Plurality of Methods

• There has also been an argument for the need to overcome quantitative-qualitative divide in social sciences.
• This is a part of a larger movement for a non-dualistic social science; beyond objectivist-subjectivist, quantitative-qualitative, micro-macro, empirical-normative etc. dualisms.
• Plurality of methods approach is associated with this movement.
• Its epistemological claim is that dualisms prevent understanding of complexity of social reality in its totality.