

RESEARCH METHODOLOGY

LECTURE 2

1

THE RESEARCH PROCESS: AN EIGHT-STEP MODEL

- ❑ Research methodology and methods are taught in several ways in many academic disciplines at various levels by people committed to a variety of research paradigms.
- ❑ Though paradigms vary in their contents and substance, their broad approach to enquiry, in the author's opinion, is similar.
- ❑ Although the basic logic of scientific methodology is the same in all fields, its specific techniques and approaches will vary, depending upon the subject matter.

- ❑ Therefore, the model developed here is generic in nature and can be applied to a number of disciplines.
- ❑ It is based upon a practical and step-by-step approach to research enquiry that at each step provides a wide range of methods, models and procedures to choose from.

EXAMPLE:

- You want to go out for a drive.
- Before you start, you must decide where you want to go and then which route to take.
- If you know the route, you do not need to consult a street directory, but, if you do not know the route, then you need to use one.
- Your problem is compounded if there is more than one route.
- You need to decide which one to take.

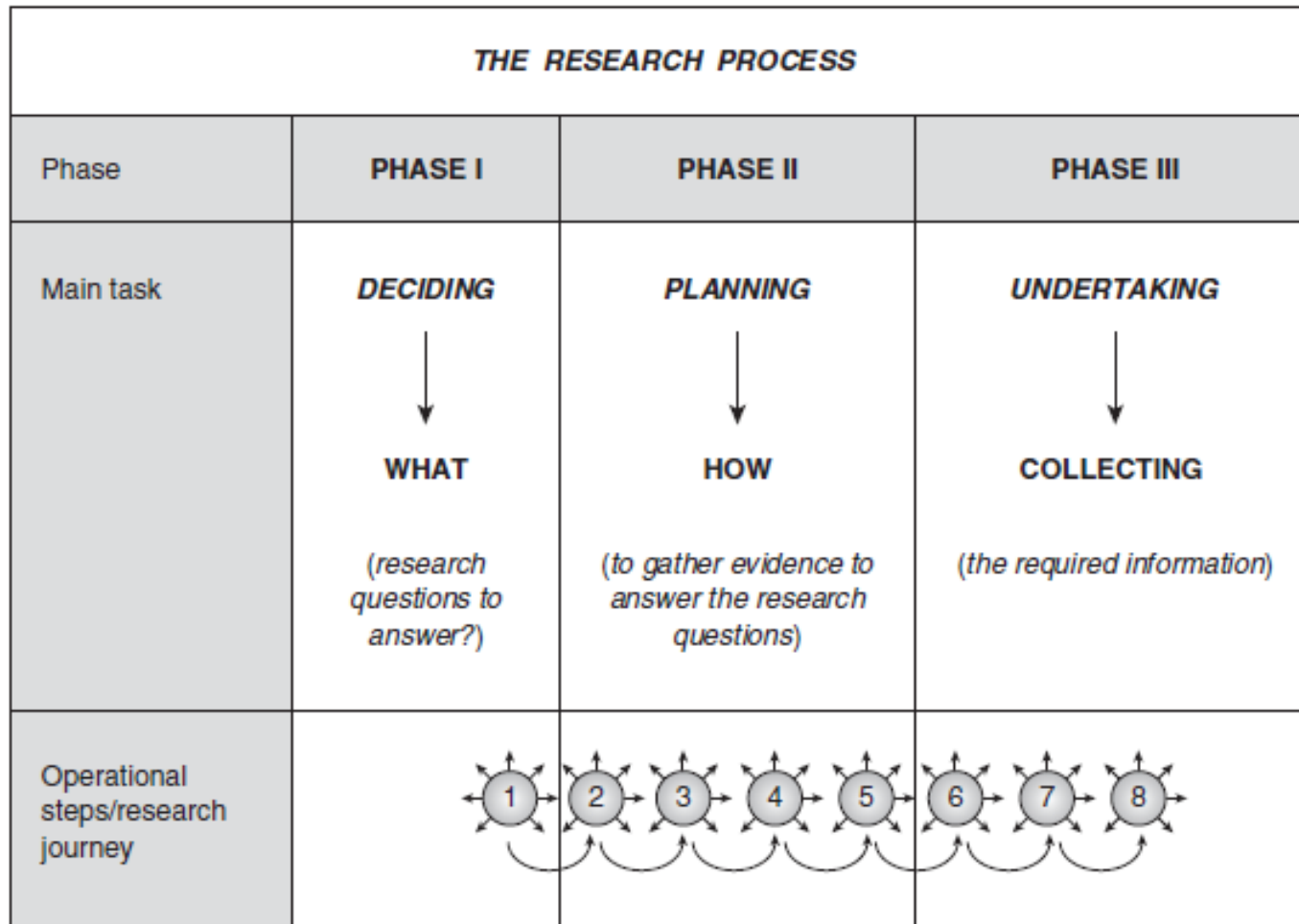
THE RESEARCH PROCESS

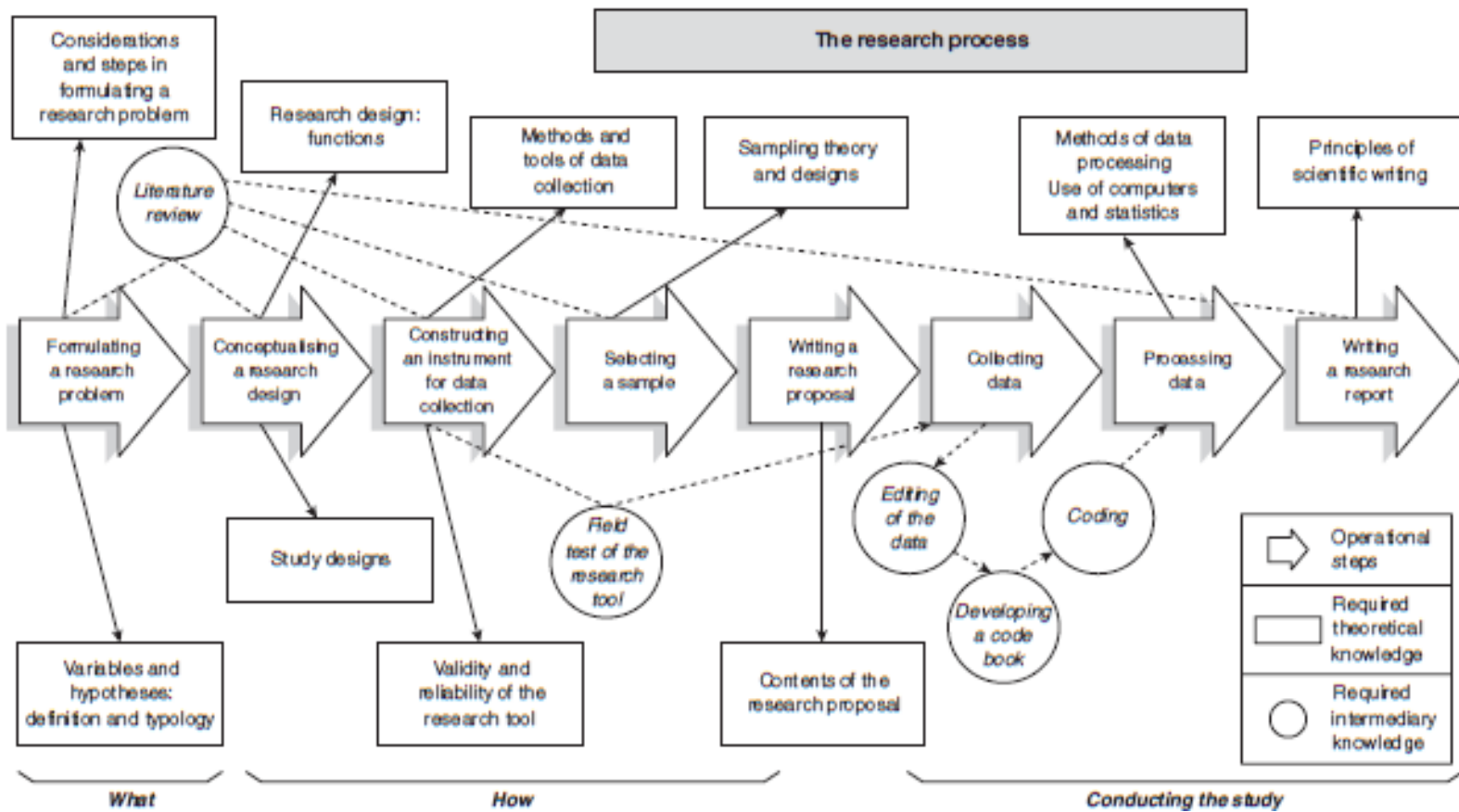
- The research process is very similar to undertaking a journey.
- As with your drive, for a **research journey** there are also two important decisions to make.
- The first is to decide what you want to find out about or, in other words, what **research questions** you want to find answers to.
- Having decided upon your research questions or research problems, you then need to decide how to go about finding their answers.
- The path to finding answers to your research questions constitutes research methodology.

THE RESEARCH PROCESS

- Just as there are posts along the way as you travel to your destination, so there are practical steps through which you must pass in your research journey in order to find the answers to your research questions.

THE RESEARCH PROCESS





THE RESEARCH PROCESS

- The sequence of these steps is not fixed and with experience you can change it.
- At each operational step in the research process you are required to choose from a multiplicity of methods, procedures and models of research methodology which will help you best achieve your **research objectives**.
- This is where your knowledge base of research methodology plays a crucial role.

RESEARCH JOURNEY

- The process that you follow to find answers to your research journey.

RESEARCH QUESTIONS

- Questions that you would like to find answers through your research, such as 'What does it mean to have a child with ADHD in a family?', or 'what is the impact of immigration on family roles?'.
- Research questions become the basis for research objectives.

RESEARCH OBJECTIVES

- Specific statements of goals that you set out to be achieved at the end of your research journey.

DIFFERENCE BETWEEN RESEARCH QUESTIONS AND RESEARCH OBJECTIVES

- The main difference between research questions and research objectives is the way they are worded.
- Research questions take the form of questions whereas research objectives are statements of achievements expressed using action-oriented words.

DECIDING WHAT TO RESEARCH

- A: Deciding what to research
 - Step one: Formulating a research problem
- B: Planning how to conduct the study
 - Step two: Conceptualizing a research design
 - Step three: Constructing an instrument for data collection
 - Step four: Selecting a sample
 - Step five: Writing a research proposal
- C: Conducting a research study
 - Step six: Collecting data
 - Step seven: Processing and displaying data
 - Step eight: Writing a research report

DECIDING WHAT TO RESEARCH-

STEP ONE: FORMULATING A RESEARCH PROBLEM

- Formulating a research problem is the first and most important step in the research process.
- A research problem identifies your destination: it should tell you, your research supervisor and your readers *what* you intend to research.
- The main function of formulating a research problem is to decide what you want to find out about.

- It is important to evaluate the research problem in the light of financial resources, the time available, and your own and your research supervisor's expertise and knowledge in the field of study.
- It is equally important to identify any gaps in your knowledge of relevant disciplines, such as statistics required for analysis.
- Also ask yourself whether you have sufficient knowledge about tools and techniques you plan use.

PLANNING HOW TO CONDUCT THE STUDY

STEP TWO: CONCEPTUALIZING A RESEARCH DESIGN

- An extremely important feature of research is the use of appropriate methods.
- Research involves systematic, controlled, valid and rigorous exploration and description of what is not known.
- It also involves identifying gaps in knowledge, verification of what is already known and identification of past errors and limitations.
- The main function of a research design is to decide, describe, justify and explain *how* you will find answers to your research questions.

- Do not confuse the study design and research design.
- The study design is just one part of the research design. The research design also includes other parts which constitute the research process.
- When selecting a research design it is important to ensure that it is *valid*, *workable* and *manageable*.

□ Research Design:

- A research design is a procedural plan that is adopted by the researcher to answer questions validly, objectively, accurately and economically.
- A research design therefore addresses questions that determine the path you are proposing to take for your research journey.

STEP THREE: CONSTRUCTING AN INSTRUMENT FOR DATA COLLECTION

- Anything that becomes a means of collecting information for your study is called a 'research tool' or a 'research instrument',
- For example interview schedules, questionnaires, notes on field observations, field diaries, information collected from secondary notes, interview guides.
- The construction of a research instrument is the first 'practical' step in carrying out a study. You will need to decide how you are going to collect data for the proposed study and then construct a research instrument for data collection.

- If you are planning to collect data specifically for your study (**primary data**), you need either to construct a research instrument or to select one that has already been constructed.
- If you are using **secondary data** (information already collected for other purposes), you will need to identify what information is needed and then develop a form to extract the required data.

- Research instrument: Anything that becomes a means of collecting information for your study is called a 'research instrument' or a 'research tool'.
- For example interview schedules, questionnaires, notes on field observations, field diaries, information collected from secondary notes, interview guides.

- Primary data: Information collected for the specific purpose of a study either by the researcher or by someone else.
- For example: Interview transcripts, Statistical data, etc.
- Secondary data: Sometimes the information required is already available in other sources such as journals, previous reports or censuses, and you extract that information for the specific purpose of your study.

STEP FOUR: SELECTING A SAMPLE

- The basic objective of any sampling design is to minimize, within the limitation of cost, the gap between the values obtained from your sample and those prevalent in the study population.
- When selecting a sample you should attempt to achieve two key aims of sampling:
 - (i) the avoidance of **bias** in the selection of a sample; and
 - (ii) the attainment of maximum precision for a given outlay of resources.

- Bias: A deliberate attempt either to conceal or highlight something that you found in your research or to use deliberately a procedure or method that you know is not appropriate but will provide information that you are looking for because you have a vested interest in it.

STEP FIVE: WRITING A RESEARCH PROPOSAL

- Having done all the preparatory work, the next step is to put everything together in a way that provides adequate information about your research study, for your research supervisor and others.
- This overall plan, called a research proposal, tells the reader about your research problem and how you are planning to investigate it.
- Broadly, a research proposal's main function is to detail the operational plan for obtaining answers to your research questions.

- Research proposal: A research proposal details your operational plan as to how you are going to find answers to your research questions.
- It outlines the various tasks you plan to undertake to fulfil your research objectives or obtain answers to your research questions.
- A research proposal must tell you, your research supervisor and a reviewer the following information about your study:
 - *what* you are proposing to do;
 - *how* you plan to proceed;
 - *why* you selected the proposed strategy

C: CONDUCTING A RESEARCH STUDY

STEP SIX: COLLECTING DATA

- Having formulated a research problem, developed a study design, constructed a research instrument and selected a sample, you then collect the data from which you will draw inferences and conclusions for your study.
- In this phase you *actually collect the data*. For example, depending upon your plans, you might commence interviews, mail out a questionnaire, conduct nominal/ focus group discussions or make observations. Collecting data through anyone of the methods may involve some ethical issues.

STEP SEVEN: PROCESSING AND DISPLAYING DATA

- The way you analyze the information you collected largely depends upon two things: the type of information (descriptive, quantitative, qualitative or attitudinal); and the way you want to communicate your findings to your readers.
- It is also necessary to decide upon the type of analysis required (i.e. frequency distributions, cross-tabulations or other statistical procedures, such as regression analysis, factor analysis and analysis of variance) and how it should be presented.

STEP EIGHT: WRITING A RESEARCH REPORT

- Writing the report is the last and, for many, the most difficult step of the research process.
- This report tells the world what you have done, what you have discovered and what conclusions you have drawn from your findings.
- If you are clear about the whole process, you will also be clear about the way you want to write your report.
- Your report should be written in an academic style.

THE RESEARCH PROCESS: AN EIGHT-STEP MODEL

