

Introduction to Research



Lecture objectives

At the end of the lecture the student should be able to demonstrate the following key messages:

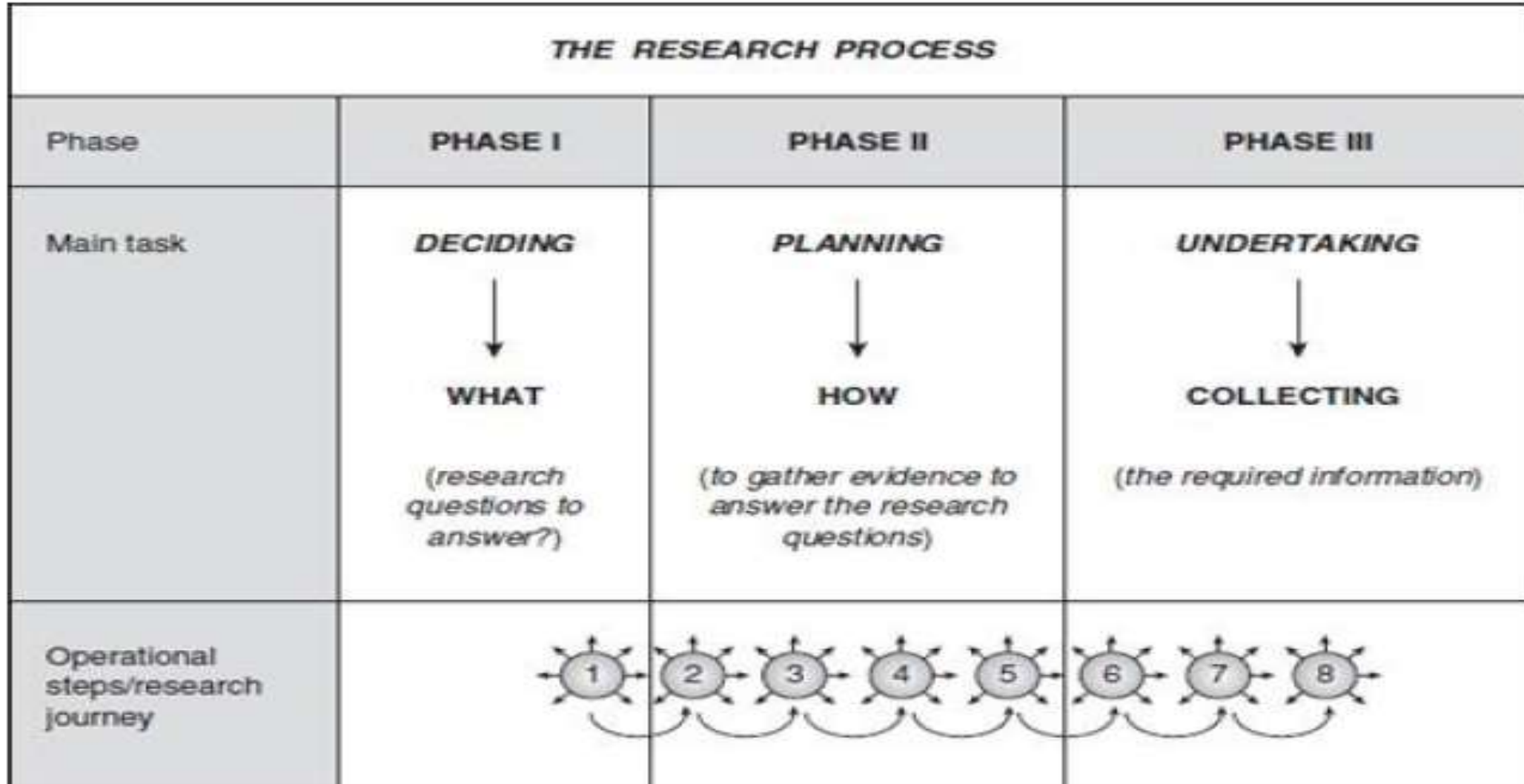
- The eight-step model for carrying out research
- PHASE I DECIDING WHAT TO RESEARCH
- Step I Formulating a research problem
- PHASE II PLANNING A RESEARCH STUDY
- Step II Conceptualizing a research design
- Step III Constructing an instrument for data collection
- Step IV Selecting a sample
- Step V Writing a research proposal
- PHASE III CONDUCTING A RESEARCH STUDY
- Step VI Collecting data
- Step VII Processing and displaying data
- Step VIII Writing a research report
- The functions of the literature review in research
- How to carry out a literature search
- How to review the selected literature
- How to write a literature review



The research process: an eight-step model

- The first is to decide **what** you want to find out about or, 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 journey



Differences between qualitative and quantitative research

Qualitative Research

Aims at analyzing ideas and formulation hypothesis

Insights are analyzed and interpreted, i.e., contextual

Uses open-ended questions
Small sample size

Interviews and focus groups
Subjective

Quantitative Research

Aims at proving a hypothesis

Statistical analysis of the data
Large sample size

Closed-ended questions
Objective

Eight-step model



Phase I: deciding what to research

- **Step I: 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.
- The more specific and clearer you are the better, as everything that follows in the research process – study design, measurement procedures, sampling strategy, frame of analysis and the style of writing of your dissertation or report – is greatly influenced by the way in which you formulate your research problem.
- The main function of formulating a research problem is to decide what you want to find out about

Phase II: planning a research study

- Step II: conceptualizing a research design
- An extremely important feature of research is the use of appropriate methods as it is enabling you to arrive at valid findings, comparisons and conclusions.
- The main function of a research design is to explain how you will find answers to your research questions.
- A research design should include the following: the study design, and the logistical arrangements that you propose to undertake, the measurement procedures, the sampling strategy, the frame of analysis and the timeframe.
- When selecting a research design, it is important to ensure that it is valid, workable and manageable.

Step III: constructing an instrument for data collection

- A 'research tool' or a 'research instrument': is anything that becomes a means of collecting information for your study, for example, questionnaires and 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.

Step IV: selecting a sample

- Sampling is selecting the group that you will actually collect data from in your research.
- sampling designs:
 1. Random/probability sampling designs
 2. Non-random/non-probability sampling designs .
- The type of sampling strategy you use will influence your ability to make generalizations from the sample findings about the study population.

Step V: writing a research proposal

- A research proposal, tells a reader about your research problem and how you are planning to investigate. Its main function is to detail the operational plan for obtaining 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.
- It should contain the following information about your study:
 - a statement of the objectives of the study;
 - a list of hypotheses, if you are testing any;
 - the study design you are proposing to use;
 - the setting for your study;
 - the research instrument(s) you are planning to use;
 - information on sample size and sampling design;
 - information on data processing procedures;
 - the study's limitations; and the proposed time-frame.

Phase III: conducting a research study

- **Step VI: 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 conclusions for your study.
- For example, you might commence interviews, mail out a questionnaire, conduct focus group discussions or make observations.

Step VII: processing and displaying data

- **Qualitative analysis:**

- manually analyze the contents of your notes (content analysis)
- use a computer program such as, Nvivo

- **Quantitative analysis:**

- (i.e. frequency, or other statistical procedures) and how it should be presented.
- You will also need to identify the variables to be subjected to these statistical procedures.

Step VIII: writing a research report

- Writing the report is the last and, for many, the most difficult step of the research process.
- **This report informs the world;**
 - What you have done
 - What you have discovered
 - What conclusions you have drawn from your findings.
- Your report should be written in an academic style and be divided into different chapters and/or sections based upon the main themes of your study.

PHASE I DECIDING WHAT TO RESEARCH: STEP I Formulating a Research Problem

- **This operational step includes four topics:**
 1. Reviewing the literature
 2. Formulating a research problem
 3. Identifying variables
 4. Constructing hypotheses

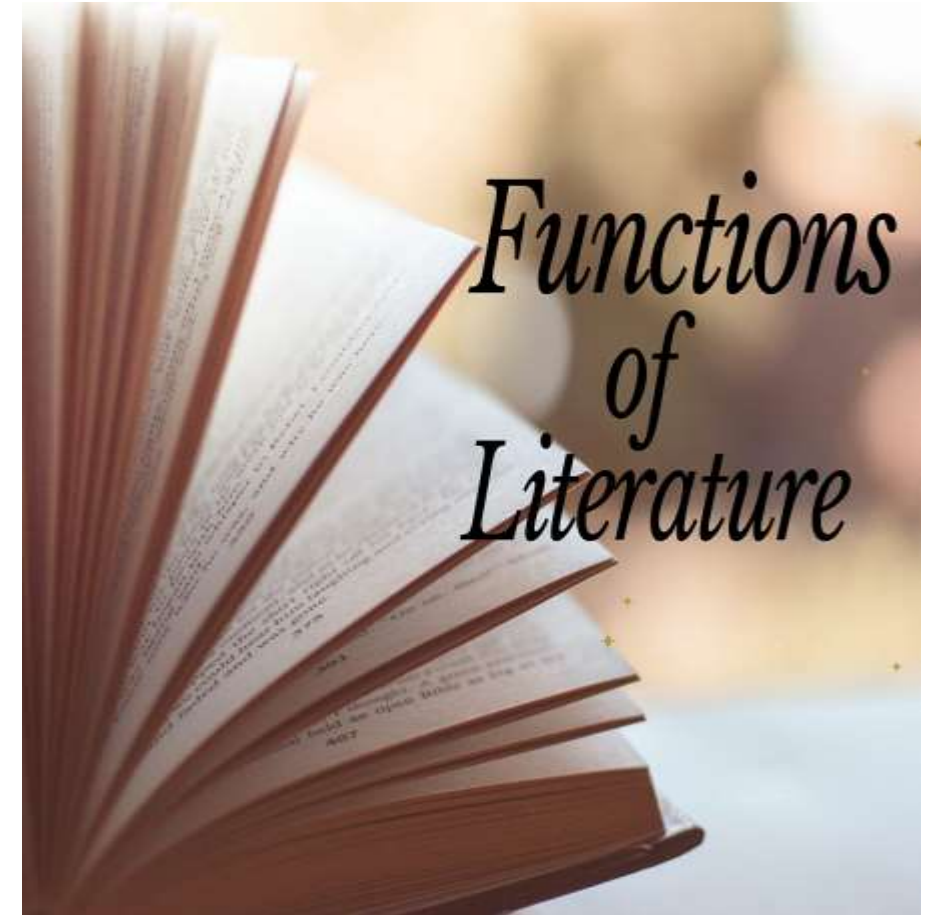
Literature review

- **The literature review** is an integral part of the research process and makes a valuable contribution to almost every operational step. It has value even before the first step; that is, when you are merely thinking about a research question that you may want to find answers to through your research journey.



The literature review functions:

- It provides a theoretical background to your study.
- It helps you establish the links between what you are proposing to examine and what has already been studied.
- It enables you to show how your findings have contributed to the existing body of knowledge in your profession.
- It helps you to integrate your research findings into the existing body of knowledge.



The literature review can help in four ways.

1. Bring clarity and focus to your research problem;
2. Improve your research methodology;
3. Broaden your knowledge base in your research area
4. Enabling you to contextualize your findings

Bringing clarity and focus to your research problem

- The LR play an extremely important role in shaping your research problem because the process of reviewing the literature helps you to understand the subject area better.
- **When reviewing the literature;**
- **what** aspects of your subject area have been examined by others
- what they have found out about these aspects
- what gaps they have identified and what suggestions they have made for further research.
- All these will help you gain a greater insight into your own research questions and provide you with clarity and focus which are central to a relevant and valid study.
- It will help you to focus your study on areas where there are **gaps** in the existing body of knowledge, thereby enhancing its relevance.

Improving your research methodology

- Going through the literature acquaints you with the methodologies that have been used by others to find answers to research questions similar to the one you are investigating.
- A literature review tells you if others have used procedures and methods similar to the ones that you are proposing, which procedures and methods have worked well for them and what problems they have faced with them.
- By becoming aware of any problems and pitfalls, you will be better positioned to select a methodology that is capable of providing valid answers to your research question. This will increase your confidence in the methodology you plan to use and will equip you to defend its use.

Broadening your knowledge base in your research area

- Ensure you read widely around the subject area in which you intend to conduct your research study.
- It is important that you know what other researchers have found in regard to the same or similar questions
- What gaps exist in the relevant body of knowledge.
- It helps you to understand how the findings of your study fit into the existing body of knowledge.

Enabling you to contextualize your findings

- Obtaining answers to your research questions is comparatively easy: the difficult part is examining how your findings fit into the existing body of knowledge.
- How do answers to your research questions compare with what others have found?
- What contribution have you been able to make to the existing body of knowledge?
- How are your findings different from those of others?
- Undertaking a literature review will enable you to compare your findings with those of others and answer these questions. It is important to place your findings in the context of what is already known in your field of enquiry.

How to review the literature

- If you do not have a specific research problem, you should review the literature in your broad area of interest with the aim of gradually narrowing it down to what you want to find out about. After that the LR should be focused around your research problem.
- A danger in reviewing the literature without having a reasonably specific idea of what you want to study;

steps involved in conducting a literature review:

1. Searching for the existing literature in your area of study.
2. Reviewing the selected literature.
3. Writing the literature reviewed.

Searching for the existing literature

- You have at least some idea of the broad subject area and of the problem you wish to investigate, in order to set parameters for your search.
- Some sources that can be used in LR:
 - Books;
 - Journals;
 - The Internet.

Books

- The main advantage is that the material published in books is usually important and of good quality, and the findings are ‘integrated with other research to form a coherent body of knowledge’.
- The main disadvantage is that the material is not completely up to date, as it can take a few years between the completion of a work and its publication in the form of a book.

Journals

- Journals provide you with the most up-to-date information, even though there is often a gap of two to three years between the completion of a research project and its publication in a journal.
- As with books, you need to prepare a list of the journals you want to examine for identifying the literature relevant to your study.
- Select one of these journals and, starting with the latest issue, examine its contents page to see if there is an article of relevance to your research topic. If you feel that a particular article is of interest to you, read its abstract. If you think you are likely to use it, depending upon your financial resources, either photocopy it, or prepare a summary and record its reference for later use.

The Internet

- Through an Internet search you can identify published material in books, journals and other sources with immense ease and speed.
- Searching through the Internet is very similar to the search for books and articles in a library using an electronic catalogue, as it is based on the use of keywords.
- An Internet search basically identifies all material in the database of a search engine that contains the keywords you specify, either individually or in combination.

Reviewing the selected literature

- While going through the literature you should carefully and critically examine it with respect to the following aspects:
- Note the methodologies adopted (study design, sample size and its characteristics, measurement procedures, etc.) and the criticisms of them.
- Notice where there are significant differences of opinion among researchers.
- Ascertain the areas in which little or nothing is known – the gaps that exist in the body of knowledge.

Writing up the literature reviewed

- Your writing about the literature reviewed should be thematic in nature, that is based on main themes;
- The sequence of these themes in the write-up should follow a logical progression;
- Various arguments should be substantiated with specific quotations and citations from the literature
- Should adhere to an acceptable academic referencing style.

*Thank
you!*