



# Introduction to Research Basics

A Guide for Students

Dr. Mohamed Shafraz

Senior Lecturer / Head of Department of Software Engineering and Information  
Systems

# What is Research?

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- **Definition:** Systematic investigation to establish facts or principles or to collect information on a subject.
- **Purpose:**
  - To explore and understand phenomena
  - To develop new theories or test existing ones



# Types of Research

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- **Basic Research:** Conducted to increase fundamental knowledge (e.g. a study on how the weather affects mood)
- **Applied Research:** Aimed at solving practical problems (e.g. a study to explore ways to reduce carbon emissions).
- **Qualitative Research:** Focuses on understanding concepts, thoughts, or experiences.
- **Quantitative Research:** Involves the collection and analysis of numerical data.





# The Research Process

1. Identify a Research Problem
2. Review Literature
3. Formulate a Hypothesis or Research Questions
4. Design the Study
5. Collect Data
6. Analyze Data
7. Interpret Results
8. Report Findings



# Identifying a Research Problem

## **Sources :**

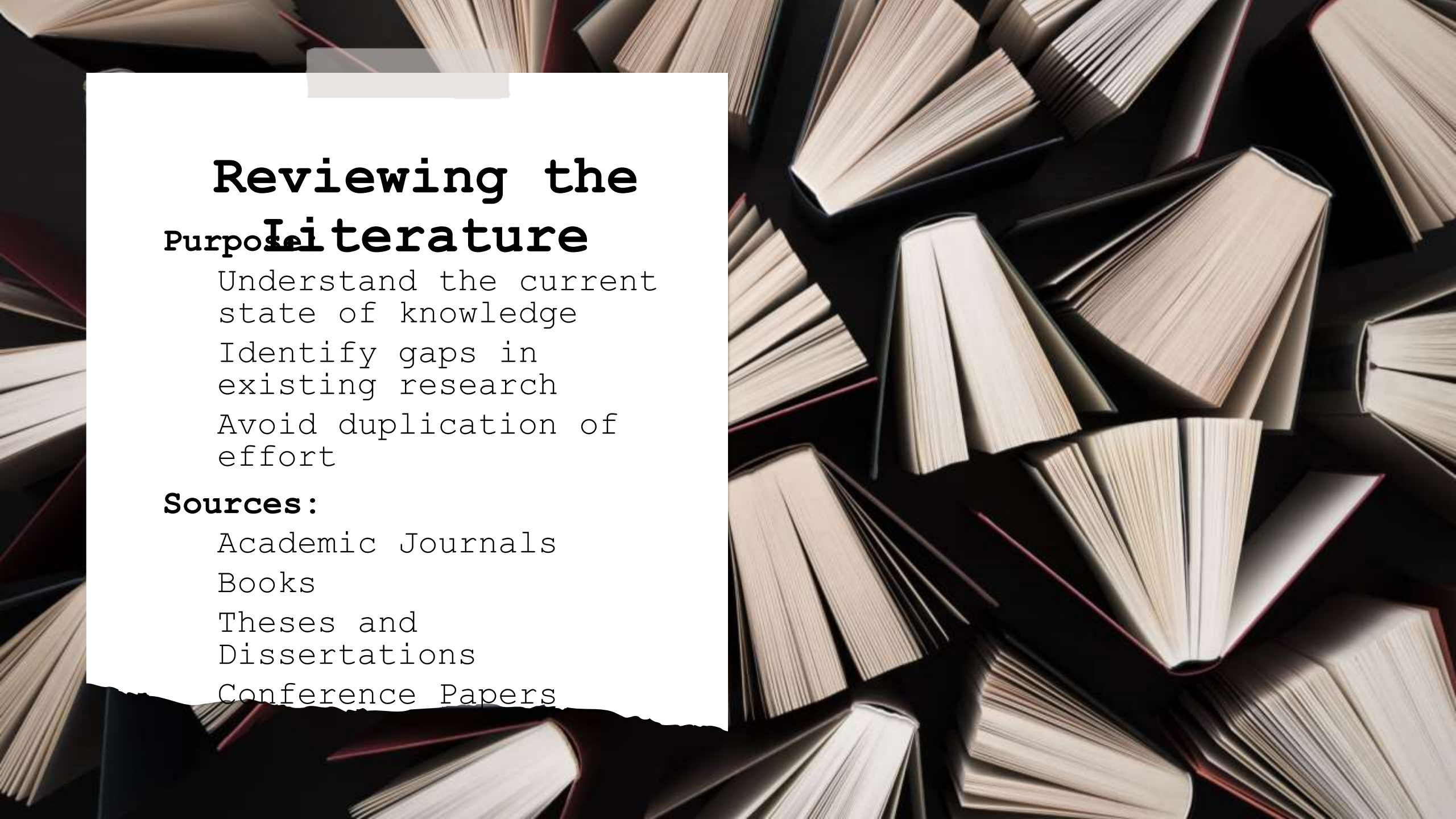
- Existing Literature
- Real-World Issues
- Previous Research
- Personal Interest

## **Criteria:**

- Relevance
- Feasibility
- Novelty







# Reviewing the Literature

## Purpose:

- Understand the current state of knowledge
- Identify gaps in existing research
- Avoid duplication of effort

## Sources:

- Academic Journals
- Books
- Theses and Dissertations
- Conference Papers



# Formulating a Hypothesis or Research Questions

- **Hypothesis:** A testable prediction about the relationship between variables.

Example: "Students who eat breakfast will perform better on a math exam than students who do not eat breakfast." (Simple hypothesis)

- **Research Questions:** Open-ended questions aimed at exploring a specific aspect of the problem.

Example 1: How do capital structure decisions affect the financial performance of small and medium-sized enterprises (SMEs)?

Example 2: What is the role of innovation in sustaining competitive advantage in technology firms?



# Designing the Study

## **Types of Research Designs:**

- Experimental
- Correlational
- Descriptive
- Case Study

## **Considerations:**

- Sample Selection
- Data Collection Methods
- Ethical Considerations



# Data Collection Methods

## Quantitative Methods:

- Surveys
- Experiments
- Secondary Data Analysis

## Qualitative Methods:

- Interviews
- Focus Groups
- Observations

# Analyzing Data

## Quantitative Analysis:

- Statistical Tests
- Data Visualization
- Software Tools (e.g., SPSS, Excel)

## Qualitative Analysis:

- Thematic Analysis
- Content Analysis
- Software Tools (e.g., NVivo)



# Interpreting Results

- **Contextualizing Findings:** Compare with existing literature and theoretical framework.
- **Limitations:** Identify and discuss potential weaknesses in the study.
- **Implications:** Discuss the significance of the findings for theory, practice, and future research.



# Reporting Findings

## Structure of a Research Report:

- Introduction
- Literature Review
- Methodology
- Results
- Discussion
- Conclusion
- References

Formats: Journal Articles,  
Conference Papers,  
Theses/Dissertations

# Ethical Considerations in Research



## **INFORMED CONSENT:**

ENSURE PARTICIPANTS  
ARE FULLY INFORMED  
ABOUT THE STUDY.



## **CONFIDENTIALITY:**

PROTECT THE PRIVACY  
OF PARTICIPANTS.



## **INTEGRITY:**

CONDUCT RESEARCH  
HONESTLY AND REPORT  
FINDINGS ACCURATELY.



# Tips for Successful Research

- Start Early
- Stay Organized
- Keep Detailed Notes
- Seek Feedback
- Stay Ethical



# Resources for Undergraduate Researchers



University Library



Online Databases (e.g., JSTOR, PubMed)



Writing Centers



Research Advisors/Mentors



Academic Journals

# Conclusion

- **Recap:** The importance of research and the steps involved.
- **Encouragement:** Engage in research to enhance learning and contribute to your field.
- **Questions:** Open the floor for questions.

