



Lecture of Principles of Scientific Research

Introduction to Scientific Research: How to conduct your research?

06.10.2022

Winter Semester 2022-2023

What is Research?



What is Research?

- Research is an investigation into a particular topic or into a social, business, or technology phenomena

Adapted from Hanna Krasnova
(Advanced Research Methods, 2020)



What is Research?

- Research is an organized and systematic way of finding answers to questions:
 - **ORGANIZED** because there is a structure / method for doing research. The research process has a number of steps to guide the researcher
 - **SYSTEMATIC** because there is a defined set of scientific procedures and principles which the researcher will need to follow in order to get reliable and accurate results

Adapted from Hanna Krasnova
(Advanced Research Methods, 2020)



What is Research?

- **Finding Answers** because every research seeks to answer a question or a number of questions
- Every answer is relevant: yes, no, maybe, or it needs further research
- **Research Questions** are central to research
- Research is focused on **relevant, useful, and important** questions
- Without a question, research has no focus, drive, or purpose

Adapted from Hanna Krasnova
(Advanced Research Methods, 2020)

Why Do We Conduct Research?

- Create/develop something new
- Cause something particular to happen
- Make sense of what is happening
- Predict what will happen

Who Needs Research?

- ✓ Academics and Scholars
- ✓ Policy-Makers
- ✓ Industry Leaders
- ✓ Users and Significant Others





Types of Research in Terms of Purpose

1. **Exploratory research** is undertaken when **few or no previous studies exist**. The aim is to look for patterns, hypotheses or ideas that can be tested and will **form the basis for further research**. Typical research techniques would include case studies, observation and reviews of previous related studies and data.
2. **Descriptive research** can be used to **identify and classify the elements or characteristics of the subject**, e.g. number of days lost because of cyberloafing. Quantitative techniques are most often used to collect, analyze and summarize data.
3. **Analytical research** often **extends the descriptive approach to suggest or explain why or how some thing is happening**, e.g. underlying causes of an action. An important feature of this type of research is in locating and identifying the different factors (or variables) involved.
4. **Predictive research** is to **speculate intelligently your future possibilities**, based on close analysis of available evidence of cause and effect, e.g. predicting when and where future industrial action might take place.

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(Advanced Research Methods, 2020)



Characteristics of a good and poor research papers I

Criteria	Poor Research Paper	Good Research Paper
Research problem	Unclear, unfocused	Focused, touches on academic debate
Literature review	A list of items Relevance unclear «by author» listing	Critical evaluation Table format «by topic» listing
Methodology	No justification for the choice No consideration of limitations	Cohesive design Clear link to research focus
Analysis and discussion	Unclear findings Little link to previous research No note on research contribution	Clear findings discussed Insight on the novelty of findings Links to past research
Conclusions	Inconsistent summary No limitations and directions for future research	Short but insightful summary Limitations and future research pointed out
References	Incomplete list / Inconsistent formatting Plagiarism	All citations included and properly formatted
General	Lack of flow in the paper «idea jumping»	«tight» writing Flow present Focus kept



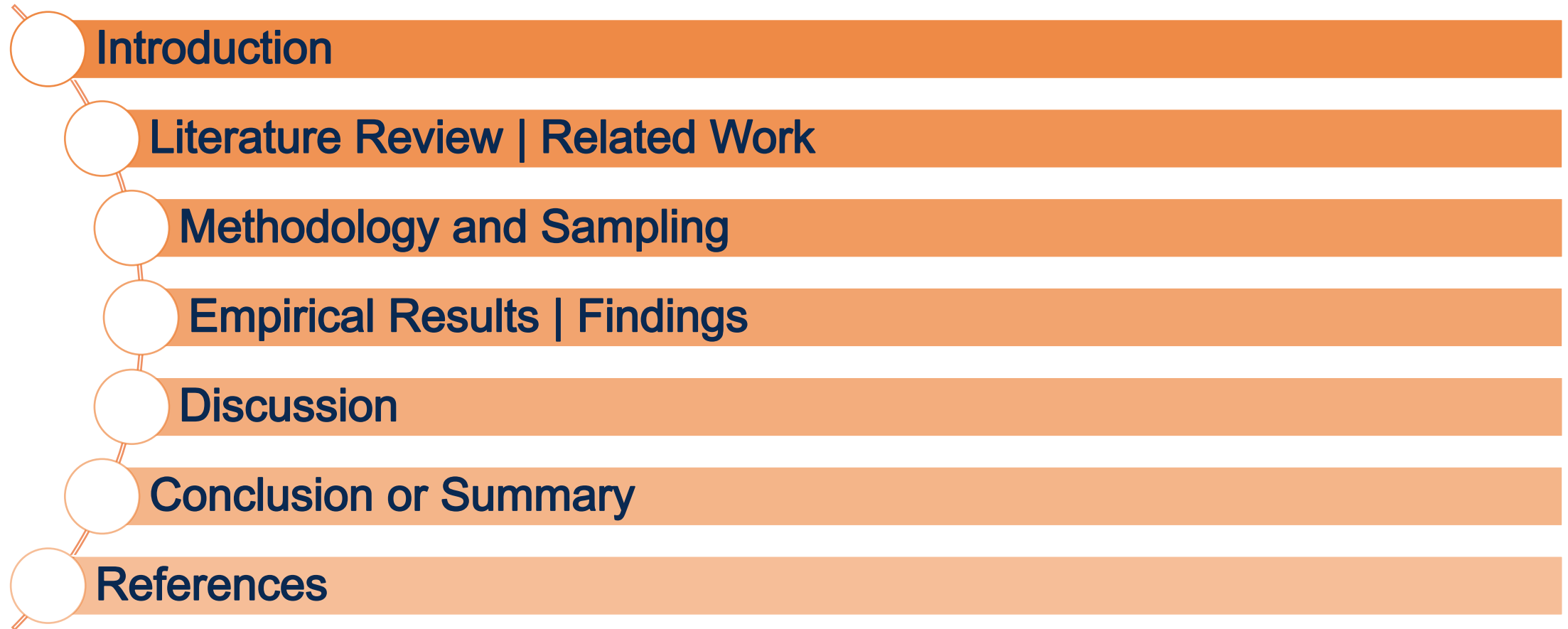
How to Conduct Your Research?

The classical research process usually involves the following steps:

- Identifying the research gap
- Formulating specific research questions
- Gathering/Reviewing the literature
- Developing specific hypotheses
- Developing a research design
- Collecting Data
- Analyzing the Data
- Writing the research paper



Typical Structure of an Academic Paper



Scientific Research Methods

Systematic Literature Review

- Prior Research
- Previous Literature Reviews
- Previous Empirical Studies

Quantitative Research

- Surveys
- Experiments
- Big Data

Qualitative Research

- Interviews
- Focus Groups
- Workshops

Show Passion | Work Hard | Have Fun 😊

PASSION LED US HERE

