

Methodology

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- **Very important** part of research proposal → should receive a lot of attention
- Explain clearly **how** you conducted your study
 - enable reviewers to **evaluate** the work performed
 - permit others to **replicate** your study
- **Balance** between **brevity and completeness**



Research design and methods:

- Overall design
 - Methods and techniques
 - Methods of analysis
 - Risks, anticipated pitfalls, and plans to overcome
- >
- Proceed from broad to specific
 - Provide context is before specific details are raised
 - Use flow chart to explain overall methodology as necessary

Purpose of Research Design / Methodology

- outlines *How* the research will be conducted
- identifies what type of data will be collected
- identifies how the data will be collected
- identifies how the data will be analysed
- states any limitations in regard to size of the project, the time available etc.

- Methodology section can be difficult and complicated → Use several subsections to make it easy to follow
- Be specific about the means of evaluating data, conducting the analysis
- Justify and explain your choice of methods and parameters
- If new, risky or unorthodox methods are proposed → include adequate justification, cite references
- Anticipate questions / objections of reviewer → provide answers pre-emptively as far as possible
- Make evident connections between research objectives and research methods

- Clear and sufficiently complete → others could repeat the work
- Assemble a simple collection of procedural outlines → turn this into prose
- Use future tense in methodology section in the proposal
- Provide references as necessary
- Use subheadings if necessary
- Do not include results in Methods
- Use figures to illustrate and clarify methods

- For chemicals → exact technical specifications, source or method of preparation
→ Avoid trade names of chemicals
- Describe statistical tests & comparisons made
- For every result there must be a method

Reviewers:

- Will study methodology carefully
- Decide whether the results can be trusted or not
- Can reject based on methodology

Example from FRGS

Detailed proposal of research project

(a) Research background including Hypothesis /Research Questions and Literature Reviews

(b) Objective(s) of the Research

(c) Methodology

Description of Methodology

Flow Chart of Research Activities (Please enclose in the Appendix)

Gantt Chart of Research Activities (Please enclose in the Appendix)

Milestones and Dates

(d) Expected Results/Benefit

Novel theories/New findings/Knowledge

Research Publications

Specific or Potential Applications

Number of PhD and Masters (by research) Students

Summary