Fundamental Steps of Thesis Writing

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Research protocol

- The protocol should Answer:

1. **WHY ?** Sets out the <u>study questions, rationale</u> and the relevant background <u>information</u>: that what are <u>gaps</u> in current literature? why we should conduct this study? Why is this study important? Will it fill the gap?

2. **HOW ?** Describes the <u>study design</u> and the rational for choosing it. Also describes Instruments / techniques to be used.

3. **Where**? The <u>settings</u> where you wish to conduct your study

4. **WHO ? Defines the targets and the study population and sample size.**

5. **WHAT? Identifies the variables to be measured and outcomes to be analyzed**

6. **SO WHAT? Comments on the expected significance of results and contribution to existing knowledge.**

How to choose a topic?

K (Known)	U (Unknown)	M (Me)
K column: what is known about the topic (examples of research, how were they framed, etc.) Ex: Open Heart Surgery: procedure, follow-up, success rate	U column: what is unknown about the topic (unanswered questions, gaps, contradictions, etc.) Ex: QOL of PTs undergone such surgery	M column : ME – what do you want to learn from your research Ex: To access the QOL of Patients undergone such surgery.

Fundamental Steps of Thesis Writing

❑ Introduction

❑ Review of Literature

❑ Objectives

❑ Methodology

❑ Research Findings/ Results/ Observations

❑ Discussion (Research Interpretation)

❑ Conclusion

❑ Recommendation

❑ Limitation.

Five 'C's while writing a literature review

Cite	Keep the primary focus on the literature pertinent to your research problem
Compare	The various arguments, theories, methodologies and findings expressed in the literature: What do the authors agree on? Who applies similar approaches to analysing the research problem?
Contrast	The various arguments, themes, methodologies, approaches and controversies expressed in the literature: What are the major areas of disagreement, controversy or debate?
Critique the literature	Which arguments are more persuasive and why? Which approaches, findings, methodologies seem most reliable, valid or appropriate and why? Pay attention to the verbs you use to describe what an author says/does (e.g. asserts, demonstrates, etc.)
Connect	The literature to your own area of research and investigation: How does your own work draw upon, depart from, or synthesise what has been said in the literature?

Developing a Search Strategy: Getting Started

❑ Identify the topic of research and explicitly define the research question.

❑ Breakdown the research question into main concepts in order to be able to identify keywords, phrases or synonyms relevant and logical to the search in order to minimize the number of irrelevant returns.

❑ For an effective search one can breakdown the search into its component parts following PICOT method i.e.

P- Patient/study population/subject

I- Intervention/indicator

C- Comparator/ Comparison/ Control

O- Outcome

T- Time

Eg: " Gap Analysis of Reproductive and Child Health services carried out for Pregnant women of Northern India "

Characteristics of a good research question

- **FINER**
  - Feasible
    - Adequate numbers of subjects?
    - Adequate technical expertise?
    - Affordable in time and money?
    - Is it possible to measure or manipulate the variables?
  - Interesting
    - To the investigator?
  - Novel
    - To the field?
  - Ethical
    - Potential harm to subjects?
    - Potential breech of subject confidentiality?
  - Relevant
    - To scientific knowledge/theory?
    - To organizational, health or social management and policy?
    - To individual welfare?

Aims should

Be Concise and brief.

Be interrelated; the aim is what you want to achieve.

Be realistic about what you can accomplish in the duration of the project.

Be ambitious, but not beyond possibility

Objectives: Specific tasks to accomplish research goals.

Objectives should be S.M.A.R.T –

Specific • Avoid general statements, include detail about what you going to do.

Measureable • There should be a definable outcome.

Achievable • Be realistic in what you hope to cover, don't attempt too much.

Realistic • Think about logistics.

Time constrained • Be aware of the time- frame of the project.

Aim = what you hope to achieve.
Objective = the action(s) you will take in order to achieve the aim

Methodology Section of the Thesis
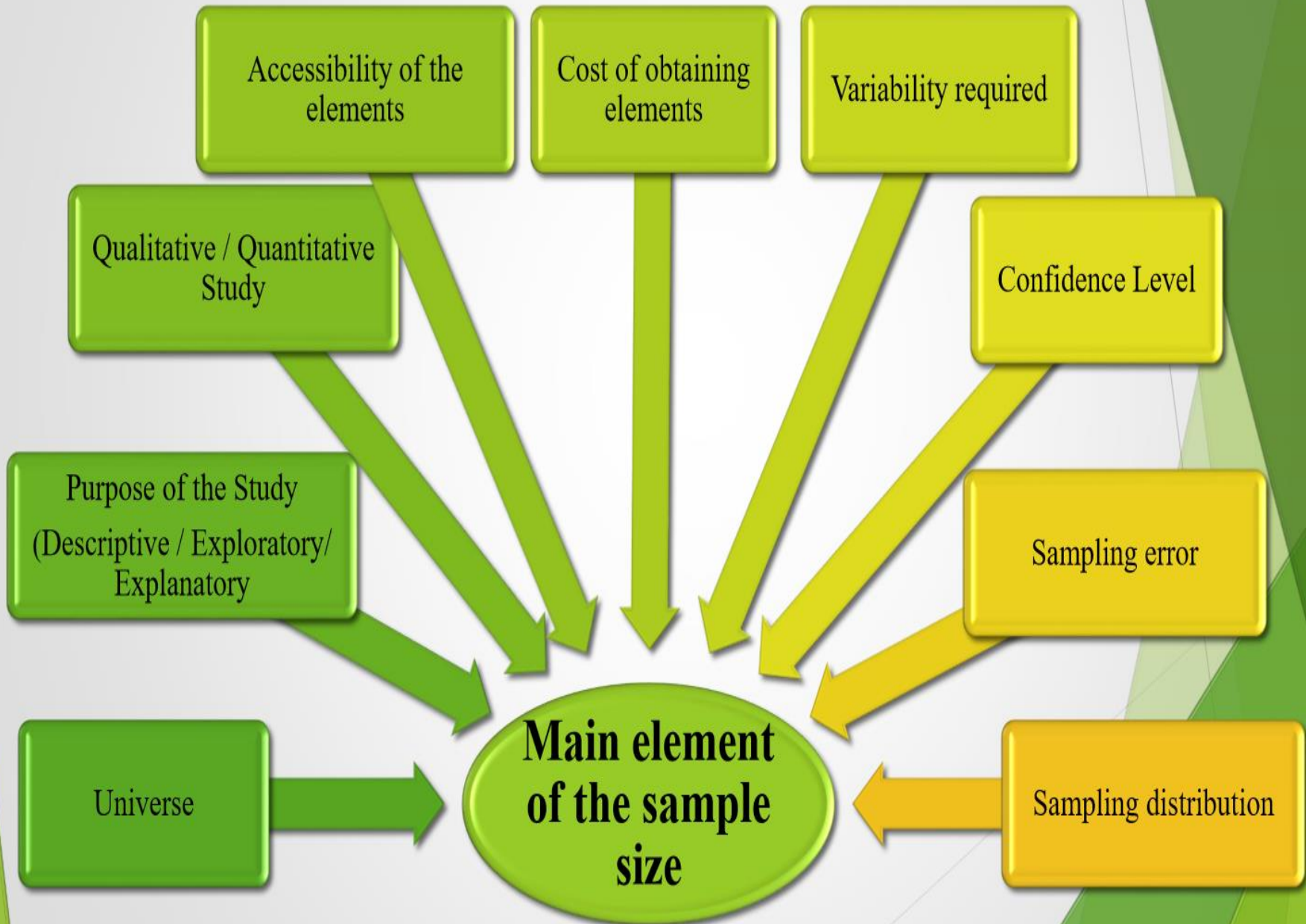
Area of the Study

Types of the Study
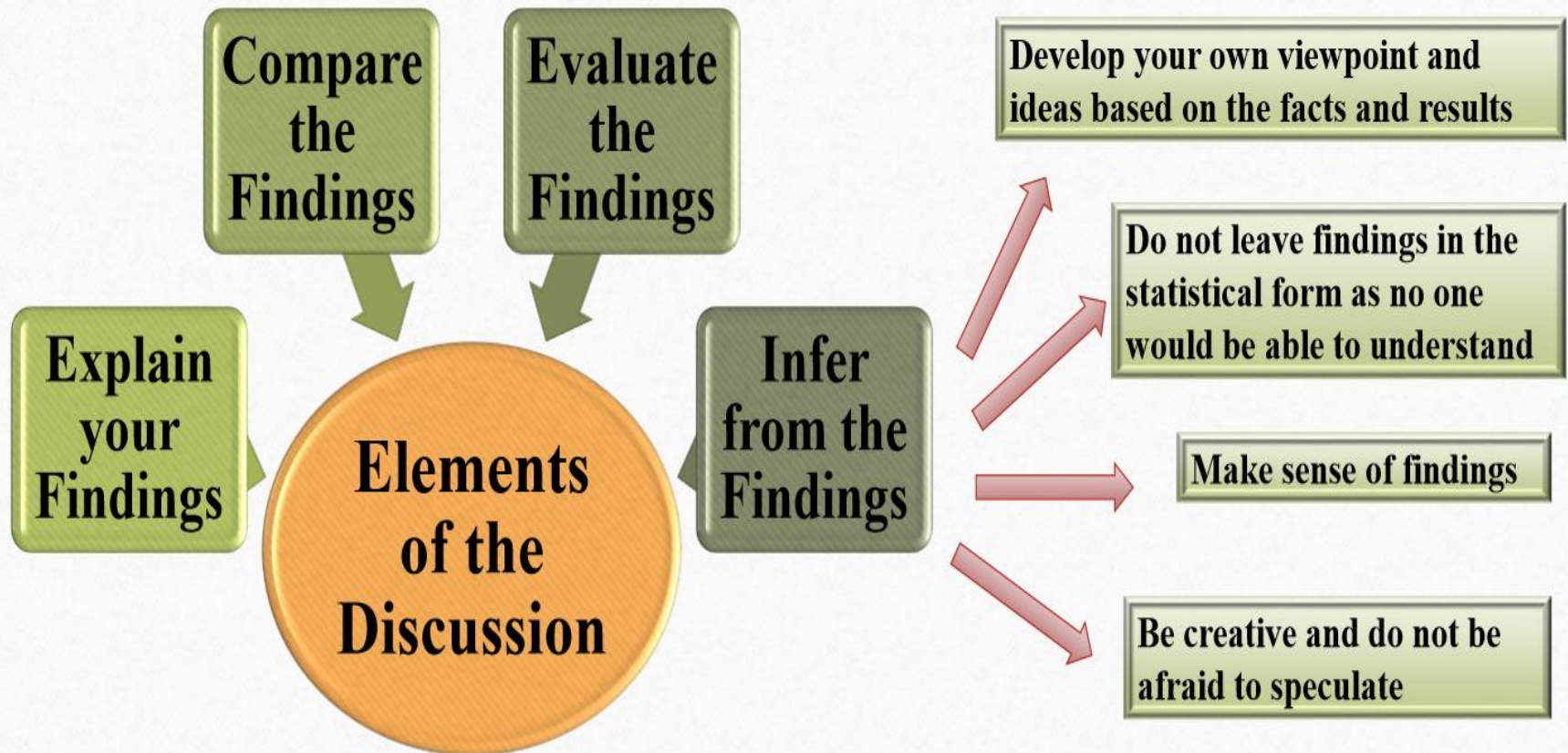
Tools of the Study

Sampling Techniques of the Study

Sample size of the Study

Inclusion & Exclusion criteria of the Study

Sample size of the Study

- Accessibility of the elements
- Cost of obtaining elements
- Variability required
- Qualitative / Quantitative Study
- Confidence Level
- Purpose of the Study (Descriptive / Exploratory/ Explanatory
- Sampling error
- Universe
- Sampling distribution

Main element of the sample size

Main Element of the Discussion

Compare the Findings

Evaluate the Findings

Explain your Findings

Elements of the Discussion

Infer from the Findings

Develop your own viewpoint and ideas based on the facts and results

Do not leave findings in the statistical form as no one would be able to understand

Make sense of findings

Be creative and do not be afraid to speculate

Common Words used in Discussion

determine, is essential, indeed, actually, always, assured, certainly, clearly, confirm, decided, doubtless, in fact, given that, inevitably, necessarily, no doubt, perceive, prove, surmise, reliable, unarguably, unquestionably, well-known, unequivocally, undeniably, surely, precisely, particularly

May, maybe, virtually tendency, usually, about, almost, apparently, assumingly, to a certain extent, conceivably, deduce, essentially, formally, generally, ideally, implication, imply, often, ostensibly, rather, somewhat, superficially, technically, seemingly, mainly, largely, occasionally, more or less, typically

How to write an effective Conclusion in the Thesis ?

❑In the Introduction, your task was to move from the general [the field of study] to the specific [the research problem]
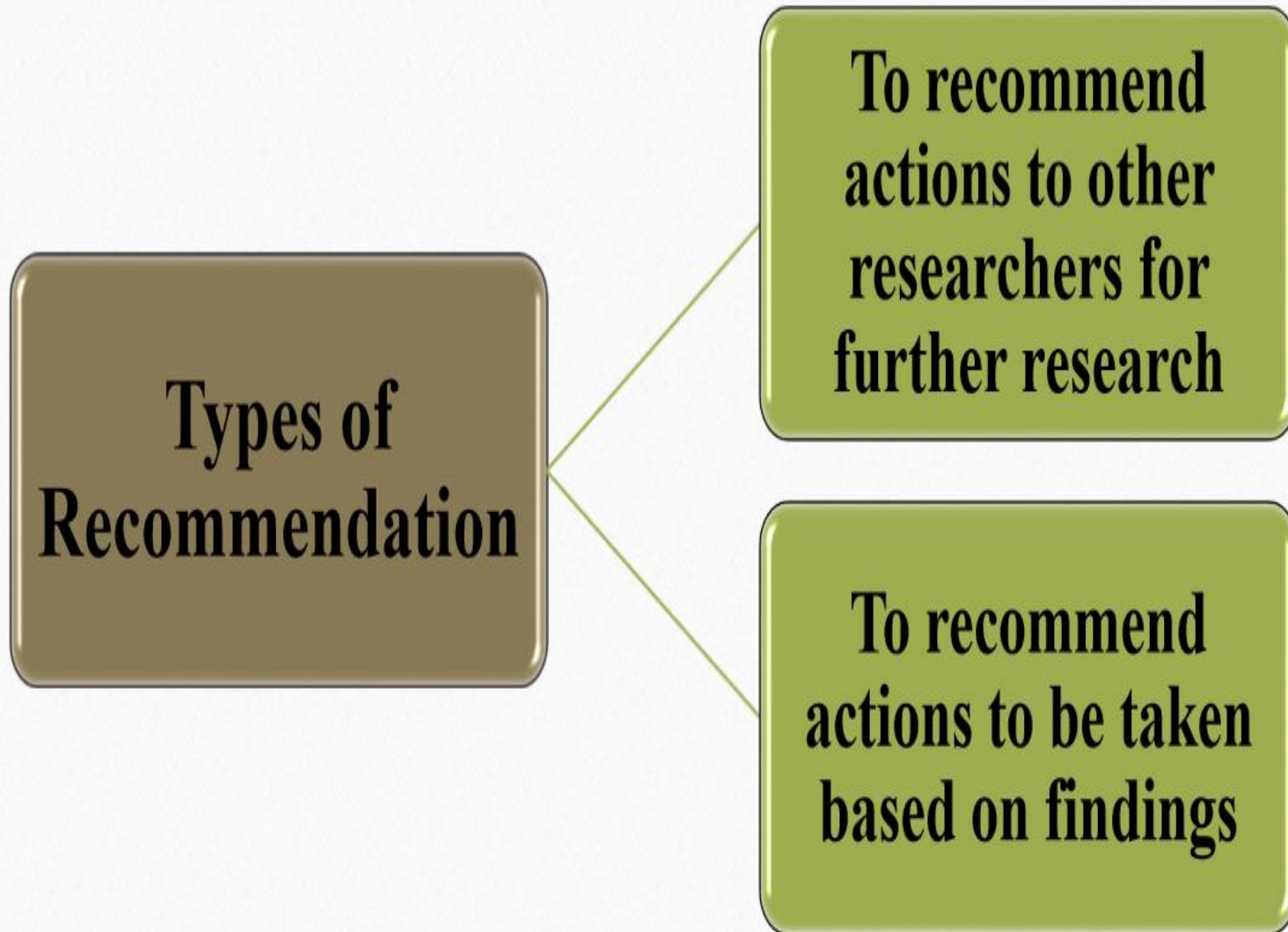
❑ However, in the **Conclusion**, your task is to move from a **specific discussion [your research problem] back to a general discussion** [i.e., how your research contributes new understanding or fills an important gap in the literature].

How to write an effective Conclusion in the Thesis ?

Recommendations should be:

- Logical- should flow logically from the conclusions

- Relevant- must meet the purpose and the scope as stated in the introduction section

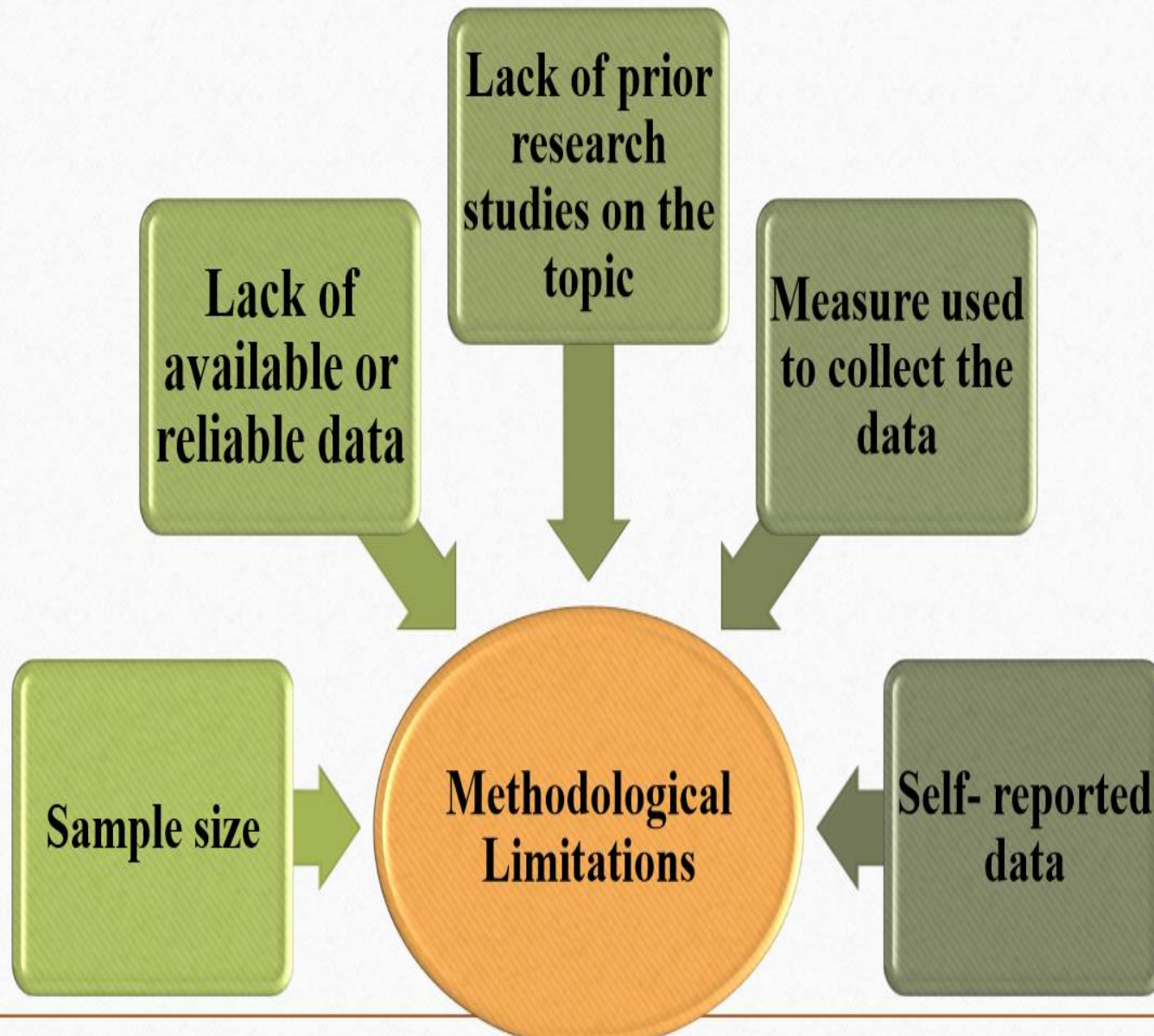- Feasible – must be practical and workable

Types of Recommendation of the Study

Types of Recommendation

To recommend actions to other researchers for further research

To recommend actions to be taken based on findings

How to write an effective Limitation of the Thesis ?

- Limitations, also known as the bounds, are influences that the researcher cannot control.

- The limitations of the study are those characteristics of design or methodology that impacted or influenced the interpretation of the findings from your research

Possible methodological limitations

Why reference?

- To avoid plagiarism

- Showing the breadth of research

- To acknowledge direct quotes

- To provide evidence to support arguments

- Allowing the reader to verify data

Tools for Proper Citation

Citation Generators: EasyBib, Citation Machine.

Reference Managers: Zotero, EndNote, Mendeley.

Plagiarism Detection Software: Turnitin, Grammarly, Copyscape.

Style Guides: Purdue OWL for APA, MLA, and Chicago formatting tips.