



Chapter 3 Methodology Cheat Sheet

A one-page quick reference for the research design, sampling, data collection, and analysis choices covered in *How to Write Chapter 3 of a PhD Thesis Proposal*. Keep this beside you while you draft — and while your supervisor is talking.

RESEARCH DESIGN — WHICH ONE FITS YOUR OBJECTIVES?

Design	Use it when your objectives ask...	Data looks like
Quantitative	"How much / how many," or test a relationship or effect	Numbers, statistics, scales
Qualitative	"Why" or "how" something is experienced or understood	Words, narratives, themes
Mixed-Methods	Some questions need numbers, others need depth	Both — specify sequence & priority

SAMPLING TECHNIQUES AT A GLANCE

Category	Technique	Best for
Probability	Simple random	Equal chance for everyone; strong generalisability
Probability	Systematic	Selecting at a fixed interval from a list/register
Probability	Stratified	Ensuring proportional representation across sub-groups
Probability	Cluster	Large, geographically spread populations (villages, schools)
Non-Probability	Purposive	Information-rich key informants; most qualitative studies
Non-Probability	Convenience	Fast access; weakest for generalisability — justify carefully
Non-Probability	Snowball	Hard-to-reach or hidden populations
Non-Probability	Quota	Filling target numbers per sub-group without full randomisation

DATA COLLECTION METHODS

Method	Structure	Typical use
Questionnaire	Structured, closed-ended	Quantitative data at scale
Interview	Semi-structured, guide-led	In-depth individual perspectives
Focus group discussion	Semi-structured, group setting	Diverse views in one session

Method	Structure	Typical use
Observation	Checklist-guided	Behaviour or process, participant or non-participant
Document review	Structured review	Existing policy, reports, records

DATA ANALYSIS & SOFTWARE

Data type	Analysis approach	Common software
Quantitative — descriptive	Frequency, central tendency, variability	SPSS, Stata, Excel
Quantitative — inferential	t-test, ANOVA, Chi-square, regression (linear/logit/probit)	SPSS, Stata, R
Qualitative	Coding, indexing, thematic framing	NVivo, Atlas.ti, manual coding

Don't forget these two sections — they're the ones examiners flag most often when missing: **validity & reliability** of your instruments (content, construct, face validity; Cronbach's Alpha for quantitative tools), and a clear **ethical considerations** plan (informed consent, confidentiality, ethical clearance).

Want the fill-in-the-blank version?

The PhD Thesis Proposal Toolkit includes an editable Word template with the full Chapter 3 structure pre-formatted, plus a Research Objectives Worksheet and Defense Prep Sheet — \$19, instant download.