A GUIDE FOR WRITING THE RESEARCH PROPOSAL

Masters and Doctoral candidates

Research and Innovation Division
University of Zululand

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***(NB**. All sections of the research proposal are highly recommended for you to complete.)*

1 A NOTE TO STUDENTS

Dear student,

1.1 Welcome to the University of Zululand and to the Research Dissertation/Thesis Project. The University is delighted to have you as part of its student community, and wishes you an enjoyable journey of discovery and growth in your studies.

1.2 This handbook is designed specifically for you as a practical guide for the development of the research proposal for your dissertation or thesis. ***It is for students doing mini-dissertation, full dissertation, or thesis***. It does not apply to Honours projects as such. But Honours students may find it useful. The document covers six major areas: expectations, the format for the research proposal, the process, timelines, rubric for evaluating the research proposal, and research ethics. There is an annexure with examples for reference purposes. The bulk of the handbook is spent explaining the structure of the research proposal. Take time to read carefully through the document.

1.3 Take note that you are the primary researcher for your project, with professional guidance by a supervisor/co-supervisor. Research proposal should be developed under the guidance of the supervisor(s) that the University assigned to you based on your topic. Do take this responsibility of designing and submitting a well thought through research proposal seriously. Aim to meet the prescribed deadlines for the approval of the proposal. The deadline to submit the research proposal as set out in your supervision agreement will be strictly adhered to, and only in Exceptional Extenuating Circumstances, supported by evidence, that consideration will be given to any request for its extension.

1.4 Take note also that the handbook is a guide. The quality of the work you submit is ultimately influenced by your self-application, i.e.: (a) academic maturity, (b) understanding of research process, (c) level of engagement and type of relationship with your supervisor(s). The proposal will give the University some indication of the likely quality of the dissertation or thesis to expect. So, do you best.

1.5 This handbook is part of the learning content for the master's or doctoral programme. In addition to this handbook, you should also have access to materials for the dissertation or thesis on the Faculty or Research and Innovation Division website, which will provide you with more learning content, and sample copies of past dissertations or theses. Aim to make use of the library resources.

1.6 The content of this handbook is updated from time to time, and all changes are reflected in the version of the handbook that is issued to you upon registration or that appears on the postgraduate studies website, at http://www.research.unizulu.ac.za/. Most updates are minor, and you can check the version of the handbook contents via the version release year found on the front page of the document, and compare this to the version release year of the previous PDF copy.

1.7 If you are studying your degree by research (M&D), you should contact your faculty or the Research and Innovation Division for further clarifications and information on any aspects of the Research Proposal Guide Handbook. If not, contact your faculty. The Research and Innovation Division can be contacted at the address below:

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2 EXPECTATIONS

2.1 The research proposal is a work plan, blueprint, or a statement of intent describing *what, why, how, where*, and *when* the research will be done. A well-planned and adequate research proposal shows where the research journey begins, the destination to be reached, and the strategy of getting there.

2.2 The structure of the research proposal at UNIZULU contains 19 sections that should be completed. The 20 headings can be grouped as follows: (a) ***preliminary pages*** – encompassing the first two headings, namely: Title page, and Table of contents, and (b) the ***body of the proposal*** – covering all the remaining headings. Each of these headings is discussed in section 3.1 to 3.20 below. **NOTE**. ***There will also be regular training workshop related to each topic or theme which you should also take advance of throughout the development of the proposal***.

2.3 The standard of writing in the research proposal is to be academic and scientific. This implies that you should be clear and avoid the use of unnecessary idioms, clichés, slangs, or street jargons. The structure, content and referencing must be coherent and consistent. **Aim to master at least one reference management system (e.g., Mendeley, Zotero**). The language must be grammatically correct. Spell-checks and language editing should be done before submitting the final research proposal. Remember, all pages should be numbered.

2.4 Your writing should be concise, giving focus to essential ideas. This way, you can manage the length of the research proposal document. The proposal is not the dissertation or thesis, and while it should contain enough information to indicate the viability of the intended research, it should not be overly detailed. Your supervisor will provide guidance on the length.

2.5 To ensure consistency across documents, it is recommended that you make use of Arial Font, size 12, with 1.5 line spacing for paragraphs. When making use of quotations, a line spacing of one (1) is recommended. You will not be penalized if you opted for a different font and line spacing. Discuss any changes with your supervisor(s).

2.6 Poor grammar and disorganized presentation of tables and figures are distractions for readers of your research proposal. Commit to having your **work edited** before submitting it for assessment and approval.

2.7 Follow the structure of the proposal **as closely as is feasible**. While the headings provided are generic, you are free to insert **additional headings**, as appropriate for your discipline or field of study. Take note however that the marking rubric used when grading the research proposal has marks allocated based on the generic structure set out in the structure above.

3 STRUCTURE OF THE RESEARCH PROPOSAL

PRELIMINARY PAGES

3.1 Title page

3.1.1 The title page has the following information: The title of the dissertation or thesis, the name of the candidate, your student number, the reason for submission of the project, the degree and field of study, the faculty, the supervisor(s), and the date of submission. The title page is sometimes referred to as the cover page.

3.1.2 The title of the dissertation or thesis should be carefully crafted. What is a title? It is a succinct summary of the focus of the research – comprising four main elements: a topic, a main action, a focus, and context. For example: “AN ANALYSIS OF THE ROLE OF TRADITIONAL LEADERSHIP IN PARTNERSHIP POLICING IN UGU MUNICIPALITY”. **The title and topic of your research study are not the same**. Topic is contained within a title, and is expressed in one or two words. For example, in the title above, the topic is (partnership policing); the main action is (analysis); the focus is what the study aims to achieve (Role of traditional leadership in partnership policing); the context is (Ugu Municipality). Sometimes, the sample cohort can be included as part of context.

3.1.3 At this stage, the title is usually viewed as a “working title”. It should preferably not exceed 15 words.

3.1.4 Discipline or field of study greatly influences the way the key elements of a working title are arranged. Consult your project supervisor for guidance.

3.2 Table of Contents

3.2.1 The table of contents provide a quick summary of the major sections of your research proposal, and the page numbers where to locate these sections. It is a compulsory element of your research proposal because it assists the University staff (e.g., supervisors and other academic staff who are assigned to read your work) to navigate through your submission.

3.2.2 The design or style of the table of contents is entirely up to you. Feel free to choose between *a single-level, subdivided, or multi-level* table of contents. A good example of a level 1 style heading would have the following: Introduction, Background to the study, Research Problem Statement, Literature Review, Methodology, and Reference. Sub-headings of each of these would be level 2 sub-sections. Sub-headings allow you to further describe the contents of each heading. Any further subsections would be level 3.

3.2.3 If you use appendices, tables and figures in your research proposal, be sure to include them in the table of contents of the proposal. (*NB. There is a slight variation to this requirement when you complete the thesis or dissertation because a separate page is created to accommodate list of figures and tables in these reports*). The body of the proposal should be reflected in the table of contents. Avoid putting the following in your table of contents: acknowledgement, abstract, and table of contents itself.

BODY OF THE PROPOSAL

3.3 Introduction

3.3.1 The introduction is a statement explaining to readers what you have done and what they are to expect in the research proposal. *It is usually written last*, after all the other sections of the proposal have been completed. There are two major themes normally covered in an introduction: (a) the topic; and (b) the structure of the proposal. Thus,

(a) Dedicate two or three sentences to explaining your research topic, and the aspect of the topic that your research places focus on, and why it is important. And,
(b) Dedicate three or four sentences to mapping out and describing the structure of your research proposal.

3.3.2 A typical introduction is shown in Box 1 below at **Appendix 1**. Pay attention to the structure.

3.4 Background of the study

3.4.1 The background and the rationale establish the scope, context, and importance of the research being planned by summarizing current understandings and debates about the ***topic*** – and prepare the way for the statement of the research problem, research questions, research aim or purpose, objectives or hypotheses.

3.4.2 Many PG students struggle to write the background and rationale because they failed to understand what is expected. Think of the background and significance of the study as the section that must answer the following questions for the readers:

(a) What am I studying?
(b) Why is this topic important to investigate?
(c) What is known about this topic currently; i.e., before I start my investigation?
(d) How will my study advance new knowledge, or new ways of understanding, or new practice?

3.4.3 The questions above illustrate three things. They convey that in a good "background and rationale of the study", you are to: (a) Summarise past research about the topic in a manner that lays a foundation for understanding the research problem; (b) highlight the gaps, weaknesses, deficiencies, or issues in the current body of work on the topic AND explain how your study will specifically address these gaps/ weaknesses, deficiencies or issues in the literature; and (c) discuss the wider contributions of your research for theory, policy and practice so that its value and importance can be seen.

3.4.4 Notice, therefore, that the "background and rationale of the study" is <u>not</u> a space to provide heavy description of social context or geographic locations. Rather it is a space to bring your readers up-to-date on the latest knowledge on your research topic, and to show where you fit-in. Of course, past studies were conducted in certain contexts that can be highlighted in the discussion. Secondly, this should tell you that your research proposal MUST begin ***after*** you have done a thorough search of the literature and identified the research gaps. Preliminary reading of relevant literature will help you to understand and theorise the social problem(s) you have observed and wish to investigate. Social problems must be theorised,

before being translated into research problem. Your supervisor will provide the necessary guidance.

3.4.5 So, you should have done some preliminary reading before starting to write the research proposal. Visit or access the search engines and databases in the library.

3.4.6 The approach to writing the "background and rationale of the study" may vary, depending on your writing style. A commonly used approach is one where the structure of the "background and rationale of the study" is conceived as an inverted triangle, or funnel. In this approach, the information is organised as follows:

(a) Discuss the more general aspects of the topic early in the background and rationale section: (e.g., overview on current research on the topic, and/or highlighting the importance of the topic).

(b) Then, narrow your analysis to more specific topical information that provides context" e.g., opposing an existing assumption, or revealing gaps/ deficiencies in existing research, etc so that a niche is evident)

(c) Finally, take focus (or place your research within the research niche) by further elaborating on the gap, issue or deficiency identified, on which the problem will be grounded. Discuss your intent, and the rationale for studying it. All of these set the scene for the statement of the problem.

3.4.7 If the research is part of a larger, multidisciplinary project, use the rationale to also indicate what part your research will play in the larger project.

3.4.8 In sum, the key point to note is that the research problem statement and question are basically a focused description of your research topic. By locating the problem statement within a discipline (see Fig. 1), you are able to locate and use the relevant literature, theories and concepts to guide and develop your research.

3.4.9 Aim to write with clarity and with logic in your argument. Be analytical in your writing, not descriptive. Readers form impressions about you based on your way of writing. A vague, disorganized, error-filled background and rationale will create a negative impression.

3.4.10 Reflection. Always go back and review the background and rationale later in the writing process – perhaps after writing the entire body of the proposal – because outcomes are unknown until you complete the investigation. Check that the arguments align with the other sections, especially in the problem and methodology. Feel free to re-write the entire background and rationale at that stage to ensure that it is correctly matching the overall structure.

3.5 Problem Statement and Research Question(s)

3.5.1 The problem statement is perhaps the most important aspect of conceptualising your research because it influences, guides, and directs the entire research process.

3.5.2 A **research problem** is an unambiguous and clearly expressed statement about an issue of concern, a difficulty or deficiency to be eliminated, a condition to be improved, or a troubling question that exists and unresolved in a scholarly field – in theory or practice – which points to a need for careful and systematic investigation in order to bring about better understanding.

NB. Based on the above explanation, you should realize that the research problem does not specify how something is to be done, or provide recommendation, or offer vague suggestion, or present a belief, feeling, emotional disposition, hearsay. It simply lays out a factual account of an aspect of reality.

3.5.3 The importance of the problem statement is to anchor the research questions, research objectives, or hypotheses that follow it, and to function as the foundation for the purpose or aim of the study. These collectively offer a framework for reporting your results when the actual investigation is conducted.

3.5.4 Considering that the problem statement is a follow-on from the background and rationale to the study, it does not have to be lengthy. Two or three standard paragraphs should suffice, which implies that you should place focus on only the essential ideas. A **good research problem statement** has the following characteristics:

(a) Depicts or expresses (i) a concern about a hidden, unexplained, or understudied issue that must be understood; or (ii) a relationship of some sort between two or more variables that have certain qualities or features that must be investigated to understand their connections, or their properties; or (iii) a concern about difference of some sort between two or more groups or interventions that have phenomena that must be compared /contrasted; or (iv) a concern about the dilemmas surrounding conduct, conscience, or a principle (moral, legal, etc.) that requires analysis of general rules and distinction of unique cases.

(b) Depicts a knowledge void or lack of clarity about a topic that is [will be] revealed in the literature review of prior research. This is why the literature review is conducted. It is there to substantiate your research problem statement.

(c) Depicts a key focus: i.e., demarcates clear boundaries or parameters of analysis.

(d) Unique. Does not duplicate the work of others[1]. Academically relevant and researchable. Feasible, considering the time scale of your study. The scope of your research project must be consistent with the time frame and level of effort available to you.

(e) Compelling. The problem described must be important and relevant to others.

3.5.5 **Sources of your research problem** can vary. For example:

(a) Conversation with practitioners, experts, or people in the public or private sector on issues in practice offers the opportunity to identify “real-world” problems that may be understudied or ignored by academics;

(b) Your personal experience or frustration with an issue/event that you have observed and which has no clear explanation at work, in your community/ neighbourhood, or family;

(c) Thorough reading of the literature on a topic (e.g., Uber-taxi model) in your

[1] Unless the purpose is to replicate.

specialism could reveal gaps in understanding the topic, or reveal that the topic has been under-researched. You could undertake investigation to (1) close the knowledge gap, (2) assess if the methodologies used in past research could be adapted to solve other problems, (3) judge if a similar investigation could be done but in a different setting, or in a different subject area, or involving a different sample group. Many research papers end by providing lines for further investigation. These could be useful sources to find new problems to study. Deductions from theory could also be tested in investigations.

3.5.6 The issues that you will pose research questions about should be discussed in the problem statement.

3.5.7 Your **research problem statement should culminate in a puzzling question** and sub-questions (or hypotheses) posed for investigation. The question(s) should be analytical in nature, and should be in keeping with the topic addressed in the problem, and be within your subject discipline.

In addition, the questions are normally explicitly listed after the problem statement [e.g., "*This study addresses four key sub-questions about Uber-taxi and employment laws in the Gauteng Province…"*].

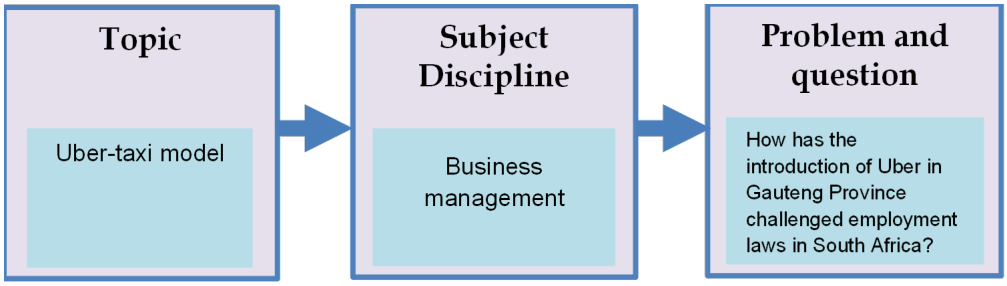

Fig. 1 Linking topic, discipline and problem question (Adapted from Brown, 2023)

3.5.8 When you pose research questions, endeavor to make them focused, answerable, significant, unbiased, intriguing, and appropriate. Your supervisor will guide you in the art of write good research questions that link to your problem statement and objectives. The **best research questions** are those that focus on one of the following:

(a) Reveal the key ideas or concepts that are understudied or hidden.
(b) Highlight a genuine dilemma, area of uncertainty, or point of confusion about a topic – as would have been discussed in the problem statement.
(c) Suggest the need for complex analysis or argument (instead of a mere description or summary)

3.5.9 **Influences of the research philosophy** or paradigm on the research question. In the research project, your preference for a research philosophy or paradigm – that is, qualitative, quantitative, or mixed methods – influenced your choice of the key research question(s).

3.5.10 **Quantitative** research philosophy assumes that reality is stable and can be measured objectively, whereas **qualitative** research philosophy assumes that reality is multiple and subjective, so many people can perceive the truth differently. **Mixed methods** research philosophy assumes a bit of both – that is, that some aspects of reality are stable and can be measured objectively,

while other aspects are subjective and, as such, not everyone can agree on the truth[2]. Thus[3]:

(a) In qualitative research, the main research question is framed to establish "understanding" or to "make sense" of a situation. It carries stems of "what", "why" and "how" in relation to the issue investigated. What happened, why it happened, and how it happened. e.g., "*What is the meaning of liberation for South African Blacks who experienced apartheid living in Soweto*?" or, "*How did Uber successfully penetrate the taxi market in Johannesburg, South Africa*?"

(b) In quantitative research, the key research question is framed to establish causality, relationship, difference, trends), or to test. It also seeks to determine "what" ([e.g., causality and relationship questions] …what is the relationship [or difference] between X and Y?); or "how" ([e.g., descriptive questions] …how many…? how frequent…? how does…?). A further disaggregation is to group the research questions as correlational or experimental type questions. e.g.:
"What is the relationship between the introduction of Uber in Gauteng and the increased taxi-violence in the province?" (correlational),
OR,
"*Does destination competitiveness explain the relationship between the taxi-business-model (Uber vs. traditional) adopted in Gauteng and level of profitability, after controlling for the effects of driver-behavior*?" (experimental).

(c) The main research question(s) in a mixed-methods research is different from the above. Close scrutiny of research question(s) in a mixed-methods research reveals that it embeds numeric (quantitative) and textual/image (qualitative) component within one overall question. e.g., ***"What is the relationship between Uber drivers' IQ levels and their perceptions of hindrances that prevent them from understanding road signage?"***

3.5.11 The main point here is that the research question(s) that you pose at this stage of the proposal influence **your choice of methodology**. Be smart about your questions, and avoid misalignment.

3.5.12 Use the ideas in this section, and at Box 2 (see **Appendix 2**), to guide you to write a research problem statement and related questions in your field of study.

3.5.1 The sub-questions breakdown the main research question into smaller, more manageable, pieces. The sub-questions are important because they provide the 'frame' on which you will lead for evidence to answer your main research question.

3.5.2 **The sub-questions incorporate concepts and constructs that you would have read about and discussed in your "background and rationale", "problem statement", or used in the "main research question"**: e.g., glass ceiling, internal appraisal system, interpersonal and situational factors; psychological mechanism.

3.5.3 Once your supervisor is appointed, arrange project milestones during your first meeting and expectations of the key aspects of the research proposal.

[2] (Creswell, 2009).
3 (Brown, 2023)

3.6 Research Aim and Objectives (or Hypotheses)

3.6.1 The research aim succinctly specifies the general purpose of your study (what you set out to accomplish), and hints at the intended strategy (how you intend to accomplish it).

3.6.2 **The aim**. The research aim is sometimes referred to as the purpose of the research. These two words are used interchangeably from time to time. As a rule, there should be one aim (or purpose statement), but several research objectives or hypotheses can flow from the one aim. Alignment of the *main research question* and the *research aim* (or the sub-research questions and the research objectives) is the number one priority at this stage. Misalignment can give the impression to readers that you are doing two different projects. So, avoid that mistake. Example of research aim aligned to main question:

Research question
What are the perceptions of women regarding the embeddedness of a glass ceiling effect in the internal appraisal systems at commercial banks?

Research aim
The aim of the study is to explore perceptions of women regarding the embeddedness of a glass ceiling effect in the internal appraisal systems of commercial banks. The influences of a range of interpersonal and situational factors and psychological mechanisms will be investigated to ascertain if the perceptions are real and the actions to mitigate the effect.

3.6.3 Notice the hints at the intended strategy or how you intend to accomplish the aim. The hints are taken from the sub-questions.

3.6.4 **Writing research aim and objectives is an art**, and you need to develop the requisite skills and obtain the necessary guidance from your supervisor(s) on how to do it. The aim /objective has three parts that you should look out for, namely, the:

(a) Stem *(i.e., the word "To…")*
(b) Verb (*i.e., an action word)*
(c) Main concepts (*i.e., constructs being investigated).*

3.6.5 The research aim is heavily influenced by the verbs. Common verbs are: "explore", "analyse", "describe", "explain", "assess", "evaluate", "compare", and "predict". This is not an exhaustive list of possible verbs. See example above.

3.6.6 The choice of verb depends on whether the research follows a *qualitative*, *quantitative*, or *mixed methods* philosophy. Your supervisor will guide you in the most appropriate verb for the different research philosophies.

3.6.7 **The research objectives**. The research objective has the same elements as an aim, and it is crafted following the same procedure. However, alignment should be done with the sub-research questions.

3.6.8 Each of your research objectives should be SMART: i.e., **Specific** – focused, clear, without ambiguity in the action to be taken; **Measurable** – have constructs from which to derive indicators; **Achievable** – carefully scoped for a timeframe; have resources to support it; **Relevant** – essential action for the project; and **Timebound** – can be done within available time.

3.6.9 Your supervisor will provide guidance. Here is an example of sub research questions re-constructed as research objectives.

Sub-questions

1. What interpersonal and situational factors are perceived by women in managerial positions to depict the 'glass ceiling' in appraisal system in the organization?

2. What psychological mechanism(s) facilitate the development of 'glass ceiling' sentiments among the women in the organization?

3. What interventions can be devised to mitigate influences from the identified interpersonal and situational factors on perceptions of a pervasive glass-ceiling in the appraisal system in the organization?

Research objectives

1. To describe the interpersonal and situational factors that women in managerial positions perceived to depict the 'glass ceiling' in appraisal system in the organization?

2. To determine the psychological mechanism(s) that facilitate the development of 'glass ceiling' sentiments among the women in the organization.

3. To devise interventions to mitigate influences from identified interpersonal and situational factors that perpetuate the glass-ceiling practice in appraisal system in the organization.

3.6.10 The **research hypotheses (where applicable)**. The research hypothesis is a stated assumption or prediction that will be tested, and either accepted or rejected by your research. It is a provisional answer to your research question(s). Researchers sometimes use hypotheses instead of **research questions** or **objectives**, merely due to personal preferences or in response to common practice in the discipline / subject area.

3.6.11 The use of hypotheses is common in the natural sciences (as opposed to the social sciences).

3.6.12 Your supervisor(s) will guide you in the writing of hypotheses. Remember, all hypotheses should be anchored on existing knowledge, models and theories. When hypotheses are written, they illustrate a relationship between two or more variables – grouped as (a) independent variable, (b) dependent variable, and (c) confounding, or extraneous variable.

3.6.13 A hypothesis can be written in any of the following formats

(a) The ***if…then*** format - (e.g., **If** a female manager is supervised and appraised by a male director in the commercial bank, **then** her perception of differential treatment or glass-ceiling will be heightened).

(b) The ***correlations or effects*** format - (e.g., The frequency of appraisal meeting between female managers supervised by male directors has a positive effect on female perception of differential treatment and ultimately glass-ceiling).

(c) The ***group comparison*** format - (e.g., Female managers supervised and appraised by female directors will have a weaker perception of differential treatment than those who supervised and appraised by male directors).

3.6.14 The null hypothesis will also form part of your discussion with your supervisor(s), and part of the tools you can use in your research proposal. The null hypothesis takes the position that there is *no relationship* between the variables. When you

see the symbol (H_0), it represents the null hypothesis.

3.6.15 The alternative hypothesis to the null hypothesis is your normal research hypothesis, above – symbolized as (H_1). Take a look at the examples:

(a) H_0: The frequency of appraisal meeting between female managers supervised by male directors has no effect on female perception of differential treatment and ultimately glass-ceiling.

(b) H_1: The frequency of appraisal meeting between female managers supervised by male directors has a positive effect on female perception of differential treatment and ultimately glass-ceiling.

3.7 Contributions of the Study to Knowledge (Theory) and Practice /Policy

3.7.1 It is common practice in a research proposal to discuss the intended contributions that the research project will make once it is executed. Scientific research is supposed to lead to development because research is not an end in itself. Discuss those developments, uses, value, and benefits that will accrue from your study.

3.7.2 Broadly speaking, scientific research can produce contributions in two main domains: (a) to **fundamental understanding**, which is called knowledge, and (b) to **applied use**, which is called practice and policy. Your research problem identifies a gap or deficiency in our knowledge or body of literature on a topic. By doing so, you are emphasizing both the need for knowledge production and discovery as well as the contribution you anticipate to make through your research.

3.7.3 Your research proposal and project will be weak if the contribution element is not addressed effectively, regardless of the conceptualisation and methodological quality of the study. Both master's and doctoral research must add value in some way. Master's research is not expected to produce something that is entirely different from what is already known: e.g., confirm something already known by adding new information to the body of existing knowledge or developing an intervention to local problem. Doctoral research is expected to produce something original and to advance or expand the body of knowledge, practice, or the creatives. The proposal should therefore state clearly what the intended contribution will be.

3.7.4 When designing the research proposal, think in terms of inter-construct relationships. Discoveries from new inter-construct relationships, that have been tested and proven, produce theoretical contribution (Mode 1 knowledge). Knowledge gaps emerges from unexplored, understudied, inter-construct relationships within disciplines. There is another feature of knowledge production, commonly referred to as mode 2 knowledge that you can also endeavour to develop as contribution – i.e., knowledge from engagement scholarship. This is applied, or practice-based, knowledge, which is richly informed by context. Discuss these modes of knowledge production with your supervisor(s) so that you are clear about the kind of theoretical, practice and policy contribution you can make.

3.7.5 You can make knowledge or theoretical contribution by developing new understandings, validating or invalidating previous research methods, devising new and innovation ways to undertake an experiment, or developing new substantive theory or model. Your research contribution can also target policy and practice. In practice, your study can contribute to improve policy and process, or it

can lead to the roll out of interventions.

3.7.6 When writing your contribution, think ahead to the findings, as per your research sub-questions, and make speculations about the likely contributions. Consider the following at **Appendix 3**. Box 3 shows how to write practical contribution of the study.

3.7.7 Write statements that are lucid and convincing.

3.8 Literature Review

3.8.1 In all scientific research, the literature review forms an integral part of the conceptualisation of the research, and the discussion of the findings later on. It is used in the research proposals as well as the final dissertation or thesis report as evidence that justifies the research problem – convince readers that there is actually a gap in the body of knowledge on the topic. There are other reasons for it: It facilitates your understanding of the broad subject area; It facilitates your understanding of the key theoretical frameworks; It introduces you to other research conducted within the same topic area.

3.8.2 The literature review examines, summarises, and critically deliberates on recent (and historically important) research work, and other information sources that are relevant to your proposed study. It is a “review” not a “report”; so be critical and analytical in your writing. Avoid being descriptive.

3.8.3 The literature that you review should not be irrelevant to your study aim or objectives or research questions, or hypotheses. The review should evaluate recent and relevant research which has addressed similar issue to those covered in your Aim and Objectives, Questions, or Hypotheses. This way, you can demonstrate sufficient theoretical support for the research questions to be answered, or hypotheses to be tested in your research project.

3.8.4 **Sources** of literature can be many and varied. Have regular discussions with your supervisor(s) about sources of literature.

Table 1: Possible sources of literature

PRIMARY	SECONDARY	TERTIARY
Published Research studies	Newspapers	Indexes
Theses /dissertations	Books	Abstracts
Conference reports	Journals	Catalogues
Company reports	Some government publications	Encyclopedias
Some government publications	Archives	Dictionaries
Unpublished manuscripts		Bibliographies

3.8.5 The most useful source for your literature will be research studies (typically published in journals). Have regular discussions with your supervisor(s) about where to look to locate literature: e.g., Library, academic search engines (e.g., google scholar, SABINET). Have regular discussions with your supervisor(s) about how to search the sources for literature. Planning your search and identifying your key words for your search are all important. **Participate** in the regular training sessions on literature search organised by the Library or the Research Office.

3.8.6 A **relevance tree** is a useful tool to help you as you plan your literature search. It

allows you to map out your initial ideas on a topic. Have regular discussions with your supervisor(s) about aspects of your relevance tree.

3.8.7 **When writing** the literature review, try to address the following issues:

- Conceptual and operational meanings of all the key concepts or constructs in the aim, objectives, questions, hypotheses, study title, or any other aspect of the study. Different schools of thought when it comes to defining a specific concept/construct. Theories or models in the discipline that support these concepts /constructs.

- A summary of relevant past studies that investigated the concepts/ constructs (bibliography) that are relevant to your study topic. Have discussions with your supervisor(s) on the aspects to consider as you do the review. One example of what to consider:

    (i) Possible relationships between the chosen constructs (e.g., a correlation between gender of Uber driver and job satisfaction)
    (ii) Possible differences between groups on the chosen constructs (e.g., differences between male and female Uber drivers with regard to educational level)
    (iii) The context in which the constructs were previously investigated (e.g., among Uber drivers in Johannesburg), and those involved.
    (iv) The results of analysis and discussion involving the selected constructs / concepts
    (v) Possible untested propositions or gaps involving the constructs
    (vi) Different approaches to measuring the constructs.
    (vii) Limitations in the previous studies.

3.8.8 Notice then that, within your review, it is important that you discuss research studies – i.e., what the researchers aimed to do, how they designed the investigation, what they found, and how they interpreted those findings. Have regular discussions with your supervisor(s) about the techniques to review a research article.

3.8.9 The skills to review a **journal article** will help you to read and understand a research article, help you to use what you read, and help you to write the review critically and analytically. Here are questions to ask yourself as you read a research article on a topic:

(a) What was the aim of the study?
(b) What was the context of the study?
(c) What theory/theories used as a framework?
(d) What design/methodology did they use (think design, data collection, participants)?
(e) What did they find?
(f) What did they conclude?
(g) What were the strengths and weaknesses of the study?

3.8.10 For a **research proposal**, your literature review will not be detailed or fully developed. You will only need breath over depth – focusing on the main relevant studies, and the issues linked to your topic, aim, objectives, and questions. A more in-depth review and analysis will be undertaken in the dissertation/thesis.

3.8.11 Observe **academic integrity** in your literature review work. One way to describe academic integrity is by referring to the elements that it encompasses: i.e., your values, behaviour, and conduct in all aspects of your practice. For you, the focus

is to avoid misconduct or academic corruption. Such practice is unethical. Your research supervisor(s) are skilled in identifying 'ethical' as well as 'unethical' practice in the presentation of your literature review.

3.8.12 Academic corruption or misconduct undermines the standing of the University, and your standing, in the academic community. **Plagiarism is a misconduct that is frown upon in academia, and so is the use of Artificial Intelligence (AI)** tools such as Chat-GPT which generates texts. AI tools cannot be cited as an author. The use of such technology for research writing is cheating and is regarded as a misconduct. All efforts will be made detect and The University relies on software such as Turn-it-in to detect plagiarism.

3.8.13 Familiarise yourself with the University Guidelines on Research Ethics, and where you feel uncertain about a practice, consult your research supervisor(s).

3.9 Theoretical Framework or Conceptual Framework

3.9.1 One of the most valuable component of your research work is the theoretical or conceptual framework that underpins it. DEVELOP A FRAMEWORK THAT FITS YOUR STUDY as appropriate. The framework is vital because it acts as lens or roadmap through which you develop your arguments in the thesis or dissertation. You cannot proceed in your research project without a lens because you would be no better than a blind "walking"; i.e., without a basis to justify and contextualise your research results later. The framework serves as the foundation for the study.

3.9.2 Discuss the difference between a theoretical and conceptual framework with your supervisor(s). Spend time reading extensively about these two frameworks because you are expected to master them. Your research problem, and type of research questions have a major influence on the framework that you develop. Use one of the two frameworks as appropriate, NOT both.

3.9.3 **Theoretical framework** is a foundational review of existing formal and substantive theories, with the sole purpose to formulate a roadmap upon which the study can be grounded, and on which you can develop the arguments you utilize in the research proposal and thesis. The point about the "*argument you will use in the research proposal and thesis*" is worth noting because in the research proposal and the thesis, you will have to argue from a particular point-of-view. Your supervisor(s) will provide the necessary guidance.

3.9.3.1 Your subject discipline / field contains many theories – which were developed by past researchers to either aid in making predictions, or in explaining phenomena. Familiarise yourself with these theories and models, focusing only on the ones linked to your **research topic**. By 'locating' your project proposal within a well-defined field, you alert your supervisor(s) of the underlying assumptions that anchor and inform your approach to the study.

3.9.3.2 The theoretical framework you adopt has an influence on the way you approach a research topic, or vice versa. In other words, two doctoral students with the same research topic (within the same subject area), can approach the topic quite differently, depending on the theoretical approach taken. For example, two PhD students in ***economics*** are interested in the topic of '**wealth inequality**'. One student opted to

investigate the problem through the classical economics lens, while the other opted to research it through the Keynesian economics lens. These two frameworks would trigger quite different explanation and interpretations. In the field of education, a behaviourist theoretical approach to classroom 'behaviour management' would draw on different assumptions and explanations than a cognitivist theoretical approach.

3.9.3.3 Table 2 below shows examples of common theories across fields and **disciplines** in the natural and social sciences, and humanities.

Table 2: Examples of commonly used theories within and across disciplines

Natural sciences	Social sciences	Humanities
Biology: Cell theory, Germ theory; Evolution theory; Natural selection theory	▪ Gender theory ▪ Change theory ▪ Identity formation ▪ Systems theory ▪ Cognitive theory ▪ Sense of community theory ▪ Community of Inquiry ▪ Behavioral theory ▪ Queer theory ▪ Feminist Theory ▪ Critical race theory ▪ Self-efficacy theory ▪ Functionalist theory ▪ Relational theory ▪ Marxist theory ▪ Intersubjectivity theory ▪ Transformational theory ▪ Developmental theory ▪ Relational theories ▪ Situational theories ▪ Natural law theory ▪ Positive law theory ▪ Marxist law theory ▪ Realist Law theory ▪ Management / leadership theories	Arts ▪ Imitationalism theories ▪ Formalism theories ▪ Instrumentalism theories ▪ Emotionalism theories History ▪ Heroic theory ▪ Historical determinism ▪ Historicism ▪ End of history ▪ Counterfactual theory ▪ Clash of civilization theory ▪ Social Darwinism ▪ Societal collapse theory Philosophy ▪ Critical philosophy of history ▪ Speculative philosophy of history Language /communication ▪ Language acquisition theories ▪ Communication theories ▪ Linguistic theory ▪ Symbolic interactionism
Astrology: Big bang theory; Cosmic expansion theory		
Chemistry: Atomic theory, Kinetic theory		
Physics: Quantum field theory; Gravitation theory; Motion theory; Archimedes principle; Relativity theory		
Hydrology: Deterministic model; Stochastic model; Empirical model; Conceptual model; Physically based model		
Mathematics: Probability theory; Kinetic and Boltzmann equations; Percolation theory; number theory; Algebraic K-theory; Approximation theory; Asymptotic theory; Automata theory		
Computer science: State machines theories; Computational complexity theories; Program correctness theories; and Cryptography theories.		
Botany: Allometric theory; metabolic theory; and biomechanical theory		
Agriculture: Agricultural location theory; Oasis theory; Land-use theory		

(Sources consulted: Lester, F. (2005); Lysaght, Z. (2011); Trifiletti, L., Gielen A., Sleet, D., & Hopkins, K. (2005); Grant & Osanloo (2014.

3.9.3.4 A take away from the above, then, is that the theoretical framework is extracted and summarised from existing theories or models, which link to your research topic and it shows the theoretical underpinnings of your research project. The theoretical framework is **NOT** a literature review: i.e., not a critical evaluation of studies related to your topic or research questions /objectives / hypotheses. Do not confuse them. In your research proposal, they are separated for this reason.

3.9.3.5 To craft the theoretical framework, you need to look closely at:

- Your research problem statement
- Your research question(s), aim, objectives, or hypotheses
- Literature review
- Research topic (not the title).

3.9.3.6 Theoretical frameworks are usually associated with quantitative studies. This type of framework provides theory-driven input to current thinking.

3.9.3.7 Your research supervisor(s) will guide you on the art of writing a succinct and clear theoretical framework. In using the above listed information, you can begin a three-stage process of writing your framework, as follows:

- **Identify and group the main concepts or constructs** from your topic, research problem statement, research questions, aim. Objectives or hypotheses. Look at the literature review for definitions of these concepts or constructs. The literature review can also assist you to make connections among the concepts. It can also show you how past researchers have used the concepts. Find the appropriate theories that embed these concepts. All these represent starting points for the theoretical framework.

- **Critique, evaluate, explain, and synthesize** relevant theories. Have a look at the relevant theories /models that past researchers have adopted, and compare and evaluate them. Integrating theories from different disciplines to make your unique framework is possible, provided that its suits your research topic and problem. Once you have discussed the relevant theories, you can specify the operational definitions that suit your study and explain why.

- **Explain how your study will make use of the** ideas synthesized from the relevant theories. Alongside the critique of the theories, you should show in the theoretical framework how the research will make use of the ideas, and/or even how you will take those ideas a step further. Part of this 'use in a different' way could include you combining different theories in a new or unique way.

  In your study, you may develop the framework because you want to test if a theory is true in a specific, or previously unexplored, context; or because you want to use the particular theory as a basis for interpreting your research findings; or because you want to challenge the theory in your study. Whatever the case, explain and discuss how you aim to use the ideas.

3.9.3.8 Your role is to build the most appropriate framework drawing on established principles and claims, and discuss these within the context of your study.

3.9.3.9 You supervisors will expose you to examples of theoretical frameworks developed around different problems.

3.9.4 A **conceptual** framework is a mapping of variables that illustrates the various relationships between the key concepts, or characteristics, or properties you want to investigate in your research. A graphical representation of the concepts showing the expected relationships is a common component of a conceptual framework.

3.9.5 For many PG students, visualizing the variables or concepts is the first step in shaping the conceptual framework. The benefit of this visual representation is in showing the interplay or relationship between the concepts or variables that you will measure /or investigate, and in developing the arguments that you will use in your thesis.

3.9.4.1 Your research questions or objectives or hypotheses represent the

starting point for building your conceptual framework because they reveal what you want to focus on in the study, and they contain the variables (i.e., independent, dependent, control). Discuss your research questions/objectives or hypotheses with your supervisors and agree on the variables and on the phrasing of the statement **before** you begin to develop your conceptual framework. Significant alterations the phrasing of your research questions or objectives or hypotheses often lead you to make changes to your conceptual framework.

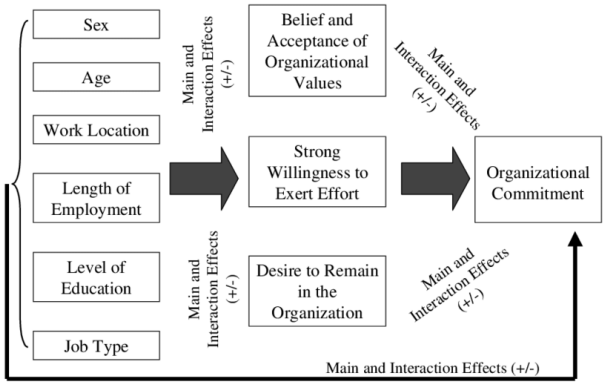

Fig. 2 Visual representation of concepts in a framework (Taken from Carr & Eagles, 2023)

3.9.4.2 Including moderator, mediating, control, and/or confounding variables in your framework, so as to show their anticipated influence on the relationship between the independent and dependent variables, as required, is necessary, and it communicates to your supervisor(s) that you have made a thorough reading of the literature. A thorough reading of your literature is paramount to identify these variables. Devote as much time to the literature appraisal because the conceptual framework is usually extracted, and frame out, from the **review** of **literature** in past studies on your topic.

3.9.4.3 As doctoral or master's student, you need to be aware that conceptual frameworks possess ontological, epistemological, and methodological assumptions, and each concept within a conceptual framework plays an ontological or epistemological role (Guba & Lincoln, 1994; Miles & Huberman, 1994; Jabareen, 2009). Discuss these roles with your supervisors. The conceptual framework is not a random identification of disparate ideas. It is carefully developed based on a logic.

3.9.4.4 It is to be noted that the points made about graphical representation above notwithstanding, conceptual framework can also be written in plain text (i.e., without the visual element). However, this option is not common.

3.9.4.5 Conceptual frameworks are usually part of **qualitative research**. This is because there is no theory testing in qualitative research. The purpose of qualitative research is to understand, or make-sense of, a phenomenon within a real-world context through the use of certain methods such as interviews and observation. The conceptual framework is helps you to clarify your concepts, organise your ideas, and to show how they are interrelated, so that you can make convincing arguments, especially later when the data is analyzed and the findings discussed.

3.9.4.6 So, what is to expect from a conceptual framework? After you have put the ideas or concepts together, your next task is to discuss the interrelationships. Your supervisors expect to see a clear discussion of '*understood fact-based conditions* or statements' that illustrate your prescribed thinking for solving the identified problem. Leshem and Trafford (2007) stated it more concisely, as thus: These conditions provide a rationale for beginning the study, executing the study, and coming up with the problem resolution.

3.9.4.7 **Building a conceptual framework**. A useful approach to follow when building a conceptual framework will involve the following steps (Glaser & Strauss, 1967; Strauss, 1987):

- Mapping the selected data sources. Literature review.
- Extensive reading and categorizing of the selected data. Concept or variable identification and naming.
- Deconstructing and categorizing the concepts. Find the attributes of the concepts.
- Integrating concepts. Look for concepts with similarities and group them together.
- Synthesis, resynthesis, and making it all make sense. Look holistically at the framework, ensuring all aspects are covered, and multiple variables (moderator, mediating, confounding, control, etc) are included.

3.9.4.8 You supervisors will discuss different examples of conceptual frameworks with you. Discuss various drafts of your conceptual framework with your supervisor(s).

3.10 Research methodology

3.10.1 The research methodology is the single most important component of your research proposal because it **legitimizes the study**, and justifies, guides and evaluates the methods that produce data and analysis of such data, which form the basis of knowledge production.

3.10.2 Successful defense of your research proposal hinges on having a valid research methodology. A research proposal with a clearly articulated research problem statement and questions, objectives, or hypotheses but a poorly designed methodology cannot be defended successfully, neither in terms of the **science** nor the **ethics**. The research ethics requires the research proposal to be grounded on a sound methodology that increases the likelihood that the results produce will be credible and convincing. There are other benefits to having a sound research methodology in place:

- a specific plan to follow throughout
- aids replication of the study in future
- encourages transparency and fosters audit trail.
- Encourages scientific and systematic planning and execution

3.10.3 **The pillars of methodology**. In the methodology of all scientific research, consideration must be given to four standard components, namely: (a) the philosophical basis of the research; (b) the research approach; (c) the research design; and (d) the methods involved in the inquiry. The choice made in relation to the specifics in each of these is influenced by the research problem being

investigated. Your supervisors will guide you in matching the problem and the methodology.

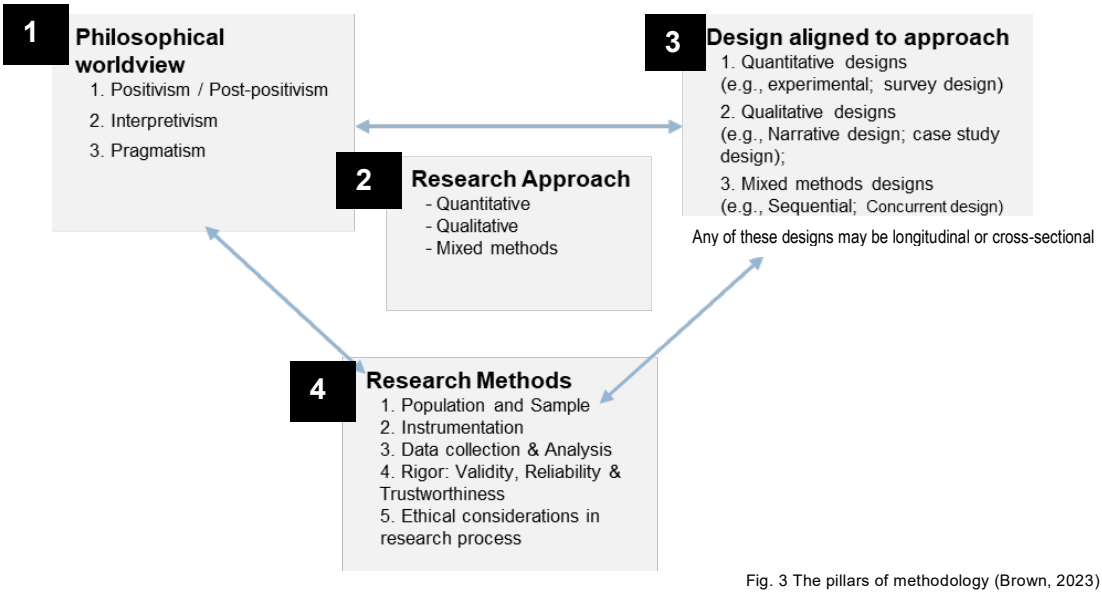

Fig. 3 The pillars of methodology (Brown, 2023)

3.10.3.1 Based on Fig 3, the **structure** of your research methodology should typically contain the following sections, depending on the nature of your research problem:

1. **Structure of the Methodology**
1.1 Research philosophy
1.2 Research approach
1.3 Research design
1.4 Study population and context
1.5 Study sample, sample size, sampling technique(s), and procedure
1.6 Data collection method: (1.6.1) Design of instrument; (1.6.2) Procedures; (1.6.3) Piloting
1.7 Reliability and validity of the data collection instrument *(if quantitative)*
1.8 Data trustworthiness *(if qualitative)*
1.9 Data analysis method and procedures
1.10 Ethical considerations in the study

3.10.3.2 Spend time understanding each of the sections of the research methodology listed above. Talk to research experts or your supervisors, attend conferences, read books and journal articles, visit research laboratories to find out more, and engage with fellow PG candidates on each of the themes.

3.10.3.3 Each pillar of the research methodology requires you to **make choices**: i.e., choice of a research philosophy, choice of a research approach, choice of research design(s), and choice of methods. Each choice or decision made must be clearly **justified**. In other words, outline the option selected and discuss WHY.

3.10.4 *Philosophical basis of the research*

3.10.4.1 All research is subject to a variety of underlying philosophical issues. Since you will have to defend your research in Faculty Higher Degrees forum and at local and international conferences when you make

presentations in future, it is useful that you develop a basic understanding of the philosophical aspects of your research.

3.10.4.2 Each of us, as human beings, operates within a certain philosophical framework – i.e., with a set of ideas and belief systems about life, about reality, about what constitutes knowledge, and about how knowledge is produced. This framework resides in our mind as researchers, but it manifests in our actions and significantly affects our approach to the design and execution of scientific research. You may believe there is one **verifiable and stable reality**, but another person may believe there **exist multiple realities** that are not fixed or stable. These ways of thinking are reflections of your **ontology** (Patton, 2002), and they affect how you approach the research.

Secondly, since the research you embarking on is to produce knowledge, the way you go about the inquiry is influenced by what you think knowledge is or is not. The way in which you come to know (what you know), and your acceptance of, and trust in, such sources, may be different from another person. Many disagreements about what is (or is not) knowledge result from differences about the sources used to generate that knowledge, and uncertainty about the limits of truth. These questions about the nature of knowledge and truth are reflections of your **epistemology** (Carter & Little, 2007), and they affect how you justify and evaluate knowledge and knowledge production. Epistemology exists in your mind, but it manifests through your choice of methodology.

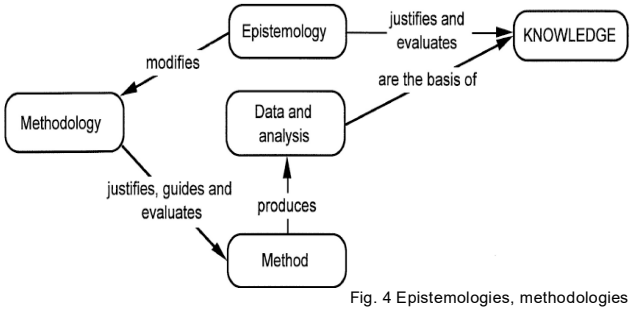

Fig. 4 Epistemologies, methodologies and methods (Carter & Little, 2007)

There are **three** (3) commonly used philosophical views that shape methodology development. And your task is to choose one of these and explain why (see Fig 3). These three types of research philosophies are:

(1) Positivism or post-positivism philosophy;
(2) Interpretivism philosophy; and
(3) Pragmatism philosophy.

The abovementioned is not an exhaustive list but it correctly represents the field and many of the other categories that some scholars regard as philosophical categories are merely variants of one of these three. For example, constructivism and postcolonial indigenous paradigms are variants of the interpretivism philosophy. The **justification for choosing** a philosophy for your research should be grounded in the ontological and epistemological assumptions, principles, and value systems of the philosophy. Discuss these issues with your supervisor(s).

3.10.4.3 Table 3 provides a comparison of the three common research philosophies.

Table 3: Comparison of the three common research philosophies

Analysis factor	Research philosophies		
	Positivism or post-positivism philosophy	**Interpretivism philosophy**	**Pragmatism philosophy**
Reason for doing the research	To discover laws, principles, and theories that are generalizable, and can govern the universe	To understand, make-sense of, and describe human nature and actions, and structures framing human functions	To determine principles, and theories that are generalizable, but also to understand, or make-sense of, human nature
Ontological assumptions	There is one reality, knowable within probability. Can be objectively measured. Post-positivists modified this belief slightly by noting that the researcher and the subject of study, while independent, can be strongly influence by the researcher background (theories, hypothesis, knowledge)	There are multiple socially constructed realties. Reality is subjective. Shaped by social, political, cultural, economic, race, ethnic, gender, and disability values. Also shaped by connections in the environment, the cosmos, the living and the non-living	Accepts that some aspects of realty are stable/fixed and can be measured objectively, while other aspects are subjective and as such not everyone can agree on the truth.
Epistemology - nature of knowledge & truth	Knowledge is objective What count as truth is precise observation and measurement that is verifiable	Knowledge is subjective; idiographic; dialectical; relational. What count as truth is context dependent (e.g., physical world, vs. cosmos world, vs. illusion)	Knowledge is both subjective and objective. What count as truth is the integration of both the objective and subjective.
Other philosophical underpinnings	Informed mainly by realism, idealism and critical realism. Objectivist - objects have existence and meaning, independent of human consciousness: "data is out there"	Informed by hermeneutics and phenomenology	Informed by critical realism, hermeneutics and phenomenology. Research outcomes are not totally objective, nor unquestionably certain.
Research approach	Quantitative	Qualitative	Mixed methods /Abductive – i.e., combination of QUAN and QUAL (transformative /emancipatory)
Research design	True experimental design; Quasi-experimental design; Correlational design; Survey design (descriptive) Case study (descriptive)	Phenomenological design; Ethnographic design; Participatory design; Case study; Action research design; Grounded theory design; Archival Research design; Narrative design	Sequential design Concurrent design
Data collection techniques	Mainly Questionnaires, observations, tests, and experiments	Mainly Interviews, participant observation, pictures, photographs, diaries, objects, and documents. Also, indigenous knowledge systems techniques; focus groups; language frameworks	A combination of techniques in the other two philosophies
Role of the researcher	Detached from the research process	Part of the research process. Reflexivity: Examine own role in research process. Bracket view.	Detached in some aspects of the research process. And part of the research process in other aspects.
Knowledge interest	To formulate laws and principles of general nature	To understand and make sense of the meaning that the group ascribe to their social reality	To understand and make sense of the meaning. But also to formulate laws / principles of general nature

(Sources consulted: Chilisa (2011); Crotty (1998); Brown (2023); Ponterotto (2005); Trochim (2002); Eichelberger (1989); Saunders et al (2012)

3.10.4.4 Be consistent when selecting and explaining your research philosophy. Consistency suggests that your research philosophy, approach, ontology, design and methods are aligned and in agreement. The research approach, design and methods associated with the **positivism philosophy** cannot be used in a study that follow the **interpretivism philosophy** because the assumptions and belief systems are different. In Table 3, the arrow shows

the path to follow to be consistent.

3.10.5 The Research Approach

3.10.5.1 What research approach is called for, considering the research philosophy and research questions/objectives or hypotheses that you have developed from the problem statement? This is a key question that you have to answer at this stage. Your choice of research approach is influenced by the research philosophy you selected above (see Table 3). Discuss your choice with your research supervisor(s).

3.10.5.2 The research approach associated with the research philosophy that you have selected may be *quantitative, qualitative, or abductive* (Saunders et al, 2012). In your research proposal, select an approach and thoroughly **discuss why** you prefer the one you have selected. In that discussion, demonstrate why the other approaches are inappropriate, and explain why your chosen approach is the best one to understand the research problem, and its fit with the research philosophy and the anticipated research design.

Table 4: Research approaches and possible key points to justify selection

Quantitative approach	**Qualitative approach**
❖ It focuses on quantifying the collection and analysis of data. Relies on measuring variables. It utilizes **numerical data** and analyses measurement variables through a variety of statistical techniques. ❖ Emphasis is placed on evaluating trends, quantifying and testing relationships between variables, etc. ❖ Variables also are operationally defined to encourage verification and replication of study ❖ The inquiry is designed to be value-free. Reality is separate from human being. ❖ Uses the scientific methods of gathering data to achieve objectivity and neutrality in research process ❖ It emphasizes facts, and empiricism (direct experience) as basis for knowledge. ❖ It rejects metaphysical speculation as sources of knowledge. ❖ Ethics is an important issue throughout the study.	❖ It focuses on **non-numeric** information in the collection and analysis of data. It analyses non-numeric data through a variety of content analysis techniques in order to understand people's social reality as experienced, including their feelings, experience, stories, attitudes, development, belief, interactions, relational issues, etc. ❖ Emphasis is placed on understanding the **phenomenology** [i.e., people's beliefs, stories, experiences, attitudes, behavior, interactions, relational, connections] and **hermeneutics** (text, interpretations) ❖ The inquiry is designed to be subjective; cannot be value-free because reality is socially constructed and cannot be separated from the researcher. Reality is in the mind, and in relationships. Truth lies within the human experience. ❖ You, the researcher, gather most of the data. This calls for self-disclosure in the research process. Who are you? you will need to describe yourself, your values, ideological biases, relationship to the participants, and closeness to the research topic. ❖ Ethics is an important issue that the researcher addresses throughout the study: access to study site; establishing participant trust.
Mixed methods approach	
❖ The mixed methods approach embraces (a) inductive logic, i.e., the discovery of patterns, (b) deductive logic, i.e., testing of theories and hypotheses; and (c) abductive logic, i.e., uncovering and relying on the best set of explanations to understand one's results. ❖ Mixed method approach recognises your role as the researcher by embracing your prior experience as an unavoidable but necessary element in the research process – connecting the researcher, the subject of study, and the theory ❖ It combines the qualitative and quantitative approaches and reasoning to make logical inferences. The specific aspects of these approaches being used should be discussed. ❖ In this approach to research, the logic of creativity and common-sense is given priority over the logic of justification. it does not seek to test a theory or to generate one but it may seek out ways to further improve an existing one. It draws heavily on inferences. ❖ Particularly useful when confronted with 'surprising facts' or 'puzzles' in the research process that need to be explained. A pragmatic explanation or interpretation is then put forward by the researcher.	

(Sources consulted: Haig (2005); Thomas (2010); Chilisa & Ntseane (2010); Wilson (2008); Neuman (1998); Mertens (2009); Ponterotto (2005); Johnson and Onwuegbuzi (2004); Creswell, Fetters and Ivankova (2004).

3.10.5.3 In addition, part of your justification for the approach should be spent illustrating how past researchers have applied the approach to investigate similar research problem and the advantages that ensued. The reference

to past studies that utilized the approach enhances the credibility of your argument and the validity of your claims.

3.10.5.4 As you outline your approach to the study, remember to specify whether your **research is cross-sectional** or **longitudinal**. *Cross-sectional research* is useful in that it provides a fairly quick approach to investigate a subject by offering a snapshot of the state-of-affairs or situation at a particular point in time. Cross-sectional research is the most popular format adopted for higher degree studies because the work needs to be completed within a specific time period. The spirit of cross-sectional research is that it allows you to anchor your investigation on the characteristics of a sample taken at one moment in time (e.g., data collected from a group of 1st year students; a census, or a photographer taking a still picture of a scene at a particular moment in time. All of these examples represent cross-sectional research). In a study that follows the cross-sectional framing, the investigator accesses the sample group once, and collects a set of suitable data within a short period of time. The key here is time. The benefit of a short time is that it reduces time-related variability. By contrast, longitudinal study is one that runs for an extended period of time, with multiple points of data collection or interactions with the sample group. A social science researcher who designs a *study of the development of crime in inner city areas of Durban that are in decline and suffering increasing social deprivation,* would take a long-term view and adopts a longitudinal perspective.

3.10.5.5 A quantitative, qualitative, or mixed methods/abductive research approach can be associated with either a cross-sectional or longitudinal framing. A more concise description of your research approach is to specify if it is a:

(a) quantitative cross-sectional approach; or quantitative longitudinal approach
(b) qualitative cross-sectional approach; or qualitative longitudinal approach
(c) mixed-methods cross-sectional approach, or mixed-methods longitudinal approach

3.10.5.6 Discuss these issues with your supervisor(s). And participate in research forum to develop your understanding of research approaches further.

3.10.6 The research design

3.10.6.1 The research design refers to the overall **strategy** and **protocols** that you have chosen to follow in order to systematically investigate the research problem and produce valid results (Leedy, 1997). The design can be likened to a **blueprint** used when building a house for three reasons:

(a) It is a framework for action. It points to the way to go. It shows the logical and systematic way that the investigation is to be carried out, thereby acting as a bridge between your research problem (i.e., questions /objectives or hypotheses) AND the research execution.

(b) It contains the blueprint for methods: i.e., procedures for sample and site selection, data collection, data analysis, measurement, verification, and interpretation.

(c) It allows you to remain in control of the study. The research design allows you to explore and critique all the factors that are likely to impact the results of your study (Durrheim, 2004). As such, you can forecast what may happen.

3.10.6.2 Describe the particular research design that your study will fill follow, and discuss explicit reasons for your decision, and the benefits that will accrue to the investigation from adopting that blueprint. The alignment and consistency of **research design** to the research philosophy and approach should be emphasised. Indicate the design 'fit' to the research problem, the role you will play as the researcher, and the priority, sequence, visualization and validation of the data presentation and reporting process. Also indicate how your location within the chosen research design and philosophy shapes how you view the world, and the reality that you seek to investigate. Burrell and Morgan (1979; 2005:24) assert: "…to be located in a particular paradigm is to view the world in a particular way".

3.10.6.3 The research design section should convince the reader that the study is carefully considered and that all the necessary safeguards have been put in place for a rigorous research process; i.e., the process achieving the quality of rigor. **Rigor**, at a *methodological level*, refers to adherence to procedural standards; being methodical, careful, logical and orderly in all your activities during the research process – making sure that all the parameters that could impact negatively on the findings are managed and controlled.

3.10.6.4 There are a variety of well-established research designs, developed and aligned with different research philosophies. Some are more appropriate for a particular research philosophy, while others are more suitable for a completely different research philosophy. Fig. 5 shows typical examples. These designs are tried and tested strategies that you can adopt. The choice of research design depends on the characteristics of the research problem.

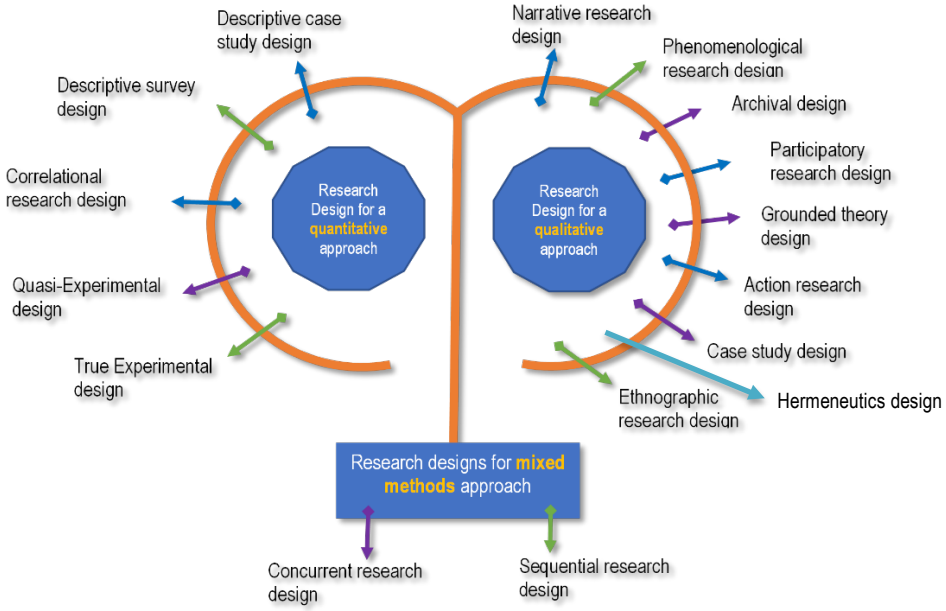

Fig. 5: Research designs with associated research approach (Brown, 2023).

3.10.6.5 Each design serves a particular purpose. Each design also contains its own set of protocols to follow for particular method. Your discussion should show how you maximize the advantages associated with the chosen research design.

3.10.7 Study population and context

3.10.7.1 Your research proposal should address the study population from which you intend to take your study sample. There are many definitions of a study population; you can review them to gain a better understanding of the concept. What is important is that the group that share the set of common characteristics that you are keen to study constitutes the population (De Vos, 1998). Providing a full description of this group is important because you may need to make generalisation to the study population after completing the study.

3.10.7.2 The study population is not limited to human beings. It can be animals, geographic locations, objects, measurements, and so forth. The point to note is that the group should have something in common. Have discussion with your supervisor(s) about **target** population and **accessible** population. Describe both of these populations and explain the reason for their consideration. Sometimes the target population is not accessible to you as the researcher, resulting in you having to settle for the accessible component of the targeted group. A typical example is where a study defines all pregnant teenagers (or stray dogs) in South Africa as its target population but confines the investigation to an accessible population of all pregnant teenagers (or stray dogs) in the Zululand municipality.

3.10.7.3 Discuss the set of criteria used to define your target and accessible population. Discuss the **eligibility criteria** with your supervisor(s). These criteria specify the characteristics that people in the population must possess in order to be included in the study (Polit & Hungler 1999:278). Furthermore, the nature of some studies is such that they are quite **sensitive to context**. Context refers to particular features of the setting or circumstances in which the investigation is being done. Discuss (where applicable) the relationship between your study and the contexts of your accessible/ target population so that readers can understand it from the outset. Recognizing the context is a key part of good practice in investigation.

3.10.7.4 Discuss the population size and how it was determined. The size can either be counted (actual headcount) or estimated.

3.10.8 Study sample, sample size, sampling technique(s), and procedures

3.10.8.1 You should adequately discuss the following three components of this section of the research proposal: study sample, related sample size(s), and the sampling procedure(s). The **sample** is the elements (i.e., who or what) that have been selected (from the target /accessible population) to participate or used in a study (Polit & Hungler 1999). The "**who**" may be an individual; group of people. The "**what**" may be organisms (e.g., animals; plants); objects; artifacts (books, newspaper, reports, photos); social structures; organisations; process; etc.). *The people are often referred to as subjects, participants, or informants.* Describe the characteristics of the sample in sufficient detail, and discuss the rationale for relying on sample(s) instead of utilizing the entire population. Time, expense, and fatigue are usually key motivating factors. Discuss the concept of "**unit of analysis**" with your supervisor(s).

3.10.8.2 Secondly, you should specify the **sample size,** and discuss the justification for it. How many 'elements' is an important question to answer at this stage? The research philosophy, approach, and design that you have selected have a massive **influence on the size** of your sample and sampling procedures. For a research study that follows a *positivism (quantitative) philosophy* to be effective, it is necessary to select a sample size that is truly representative of the target population; this is necessary for the generalizability of the results. A research study that is following an *interpretivism (qualitative) philosophy* is less bothered about the representativeness of the sample size relative to a target population because its results are context bounded.

(a) Positivism (quantitative) research philosophy. If your research proposal follows a ***quantitative approach***, and it is located within the positivism research philosophy, give clarity of the appropriate sample by discussing:

- Sampling frame (where applicable)
- Number of subjects. The means use to calculate the needed sample size (e.g., whether software or spreadsheets, and why). The power value.
- The criteria use to determine the sample size (e.g., research design; data analysis methods), and why.
- The significant values adopted (margin of error to expect) and why.
- The variability of the population and its influence on the sample.

(b) Interpretivism (qualitative) research philosophy. If your research proposal follows a ***qualitative approach***, and it is located within the *Interpretivism* research philosophy, give clarity of the appropriate sample by discussing:

- Number of participants or objects, and why
- The criteria use to determine the sample size (e.g., the study purpose; research design; data analysis methods), and why.

(c) Pragmatism (mixed methods) research philosophy. If your research proposal follows a ***mixed methods approach***, and it is located within the pragmatism research philosophy, give clarity of the appropriate sample by drawing from the issues listed at the bullets in the paradigms mentioned above.

3.10.8.3 All research proposals submitted to the HDC and UZREC are expected to have a clearly define sample, sample size, and sampling technique(s).

3.10.8.4 **Sampling procedures.** The research design, approach and philosophy also influence the sampling techniques that you can utilise. There are two categories of sampling techniques, depending on the design of your research project: Probability and Non-probability sampling techniques.

3.10.8.5 Discuss the different types of probability and non-probability sampling techniques with your supervisor(s). Visit the library and read extensive on these techniques. **Probability sampling techniques** have their advantages and disadvantages. Likewise, **Non-probability sampling techniques** have their advantages and disadvantages. Discuss how these advantages and disadvantages influence your choice of technique.

3.10.8.6 Probability sampling techniques are more suited for a study that follows the *positivism (quantitative) research philosophy*, whereas non-probability

sampling techniques are more suited for a study that follows the *interpretivism (qualitative) research philosophy*. A study following the *pragmatism (mixed methods) research philosophy* can draw from both the probability and non-probability sampling techniques.

3.10.8.7 The decisions you make about the sampling technique and its associated procedures should be fully justified so that the readers can understand the rationale for your choices. In addition, discuss the sampling techniques that are appropriate for the different research designs. Table 5 to 7 shows examples.

Table 5: Possible sampling techniques for research with qualitative research design

Sampling technique	**Research designs for study with qualitative approach**							
	Case study design	*Narrative research design*	*Phenomenological research design*	*Grounded theory design*	*Ethnography research design*	*Participatory research design*	*Action research design*	*Archival design*
Non-probability	Convenience sampling	Convenience sampling	Convenience sampling	Theoretical sampling	Convenience sampling	Convenience sampling	Convenience sampling	Convenience sampling
	Purposive sampling	Purposive sampling	Purposive sampling	Purposive sampling	Purposive sampling	Purposive sampling	Purposive sampling	Purposive sampling
	Quota sampling	Quota sampling	Quota sampling		Quota sampling	Quota sampling	Quota sampling	
	Snowball sampling	Snowball sampling	Snowball sampling		Snowball sampling			

LoBiondo-Wood & Haber (1998); Burns & Grove (2001); De Vos (1998); Polit and Hungler (1999)

Table 6: Possible sampling techniques for research with quantitative research design

Sampling technique	**Research designs for study with quantitative approach**				
	True experimental design	***Quasi-experimental design***	***Correlational research design***	***Survey design***	***Case study design***
Probability	Systematic random sampling	Simple random sampling	Stratified random sampling (proportional & disproportional	Stratified random sampling (proportional & disproportional	Stratified random sampling (proportiona disproportional
			Cluster random sampling	Cluster random sampling	
Non-probability		Purposive sampling		Purposive sampling Convenience sampling	Any non-probability sampling
		Convenience sampling; Quota sampling		Quota sampling	

LoBiondo-Wood & Haber (1998); Burns & Grove (2001); De Vos (1998); Polit and Hungler (1999)

Table 7: Possible sampling techniques for research with mixed methods design

Sampling technique	**Research designs for study with mixed methods approach**	
	Concurrent design	***Sequential design***
Probability	Stratified random sampling (proportional & disproportional	Simple random sampling
	Cluster random sampling	Stratified random sampling (proportional & disproportional
		Cluster random sampling
Non-probability	Purposive sampling Convenience sampling	Purposive sampling
	Quota sampling	Convenience sampling; Quota sampling

3.10.8.8 The examples in Table 5 to 7 are given as guide to assist you in your decision making to ensure that you align the sampling procedures with the research design, approach and philosophy. This is not an exhaustive list of examples. It is possible to find difference in opinion about the particular sampling technique allocated to particular research design. Such difference is a normal part of the discourse on methodology.

3.10.9 Data collection method

3.10.9.1 The data collection method is another key component of your research methodology. Your first step is to draw up a data requirement table, which can allow you to align your research questions/objectives or hypotheses with study sample group(s), and the data collection instrument.

Table 8: Data requirement table

Research questions / Objectives	What are you measuring	How will be measured	Reason for choice of data collection method	Sample group
1. e.g., to explore the perceptions of 1st year university students toward using Uber taxi	e.g., student perceptions	e.g., Standardised questionnaire	Large number of respondents; and need to explore gender issues in the responses	1st year university students

3.10.9.2 The data requirement table should be done for each research question /objective or hypothesis. Describe your data requirements. You must be very clear about how each objective or hypothesis will be met, or how each research question will be answered.

3.10.9.3 Describe and justify the data collection instruments that you have chosen. Indicate how these instruments were designed, and whether they are standardized or non-standardized tools. If the instrument is not standardized, discuss whether such requirement is necessary in the context of your study. As you develop your project, you will also be required to discuss the structure of the data collection instrument(s), and in the case of a questionnaire, or related tools for quantitative data gathering, the reliability statistic (e.g., Cronbach Alpha) of the instrument(s). Piloting testing of the data collection instrument helps you to improve the tool in various ways such as spotting difficulties with sentence structure, ambiguity in instructions, checking the time taken to complete the responses to the items, and so on. Use the data from piloting to check the reliability statistics.

3.10.9.4 Participate in seminars that can teach you how to design different types of data collection instruments.

3.10.9.5 Another aspect of the data collection to discuss is the procedure for data collection. The **procedure** is influenced by the data collection methods adopted. Explain the procedure in sufficient detail.

3.10.10 Reliability and validity [of the data collection instrument (if quantitative)]

3.10.10.1 If your data collection process involves a questionnaire, or test, you will need to discuss the reliability and validity of the instrument. The reliability and validity apply to the data collection tool not the data collected from the tool at this point. Reliability and validity are two interrelated concepts.

3.10.10.2 There are standard software packages available that you can use to calculate the **reliability** of your data collection tool. A typical example is the Cronbach Alpha which is available in the SPSS, SAS or related

statistical package. Discuss the method(s) used to calculate the reliability value, and the assumptions associated with the value you have taken as acceptable.

3.10.10.3 **Validity** however is treated differently. In the development of your data collection instrument, there are three components of validity that you need to explain and demonstrate how they are achieved, namely: (a) Face validity; (b) Content validity; and (c) Construct validity. There are established strategies you can follow to achieve each of these validity for your data collection tool. Discuss what each of these concepts mean and describe the strategies you have used, or intend to apply, in your study.

3.10.10.4 There are times when quantitative studies are designed around the use of secondary data where **meta-analysis** of published numeric data is involved, or where **pooled re-analysis** of original primary dataset from multiple sources is involved. The establishment of validity in these cases is different from when developing the data collection instrument. If you are planning a meta-analysis, or **pooled re-analysis** of original primary dataset, observe the rules pertaining to validity. In these cases, you are expected to explain the tests that you will perform to detect *threats to validity*.

3.10.10.5 You **cannot calculate the reliability** of a data collection tool that is used to collect non-numeric data. That is why issues of reliability does not apply to data collection tools used in **qualitative** research work. The same is true of validity. You cannot work out content or construct validity of an interview protocol or an observation schedule or any other data collection tools used in qualitative research. Consequently, if you are undertaking qualitative research, you should **ignore** this section of the methodology. Focus instead on the section on trustworthiness of data.

3.10.11 Data trustworthiness (if qualitative)

3.10.11.1 Qualitative researchers do not put focus on the data collection tools, but rather on the **findings** when establishing credibility. The emphasis is therefore on the concept "trustworthiness". That is, the degree of trust, or confidence, that readers have in the results (Lincoln & Guba, 1985). The measure(s) to establish trustworthiness in the result are the central concepts that you must explain in your research proposal.

3.10.11.2 To achieve the quality of trustworthiness, explain how your research proposal will meet the **four criteria of trustworthiness**. Discuss the criteria of trustworthiness with your research supervisor(s). A summary of one model of criteria is shown in Table 8. There are other models. In your explanation, put emphasis on the 'how' aspect, so that readers can understand your thought processes and actions.

Table 8: Trustworthiness criteria

Criteria	Strategy to achieve the criteria
Credibility	Demonstrating prolonged engagement; Demonstrating persistent observation; Demonstrating peer debriefing; Employing triangulation; Demonstrating member checking; Providing verbatim transcription; Bracketing
Transferability	Purposive sampling; Producing thick description, rich data; robust data
Dependability	Use of overlap methods (a kind of triangulation); Expert checking analysis; and Use of all the strategies shown in credibility above
Confirmability	Providing audit trail; Reflexive journaling; Performing a literature review; Providing evidence that support interpretations

(Source: Whittemore (2001); Merriam (1995); Leininger (1994) Lincoln & Guba (1985))

3.10.12 Data analysis method(s) and procedures

3.10.12.1 Data analysis allows you to find new insights in your dataset. Your approach to data analysis is influenced by your research philosophy or approach, or design - which are shaped by the kind of research questions /objectives or hypotheses you stated, or the kind of data you collected.

3.10.12.2 Consult with your research supervisor(s) about qualitative data analysis methods; quantitative data analysis methods; and mixed methods data analysis techniques. Specify and describe the data analysis methods you intend to use, and explain why you have opted for these techniques. Describe the procedures associated with the method you have selected. Specifying the procedures will assist replication of the study in future. It also allows the reader to verify if there had been mis-steps in the analysis process.

3.10.12.3 **Quantitative data analysis**. If your data is numeric and must be subjected to quantitative analysis methods, discuss how the data will be cleaned and prepared (validate, edit, code) for analysis. In addition, you need to specify the kind of statistics you will use. **Descriptive** statistics is one group of techniques you can use. Describe the particular descriptive statistics (e.g., frequency, percentage, mean, mode, median, standard deviation, maximum and minimum, percentile) you have chosen and why. **Inferential** statistics is another group of techniques you can use. Describe the particular inferential statistics (e.g., regression, ANOVA, t-test, Chi Square) you have chosen and why. **Consult** with a statistician to ensure that you collect appropriate data that will answer your research hypotheses or questions.

3.10.12.4 **Qualitative data analysis.** If your data is non-numeric and must be subjected to qualitative analysis methods, discuss how the data will be coded and prepared for analysis. **Content**/thematic analysis, **discourse** analysis, **grounded** theory analysis, and **narrative** analysis are common qualitative data analysis techniques (Bogdan and Biklen, 1992). Describe the particular technique you have chosen and why. Outline the steps involved in the analysis technique chosen.

3.10.12.5 ***Mixed-methods data analysis***. Mixed methods data analysis borrows from the quantitative and qualitative techniques. However, the aim of mixed-methods data analysis is to achieve **data integration**. If your data is a mixture of numeric and non-numeric data, discuss how the data will be coded and prepared for analysis. Describe the seven steps involved in the mixed-methods data analysis process: Data Reduction; Data Display; Data Transformation; Data Correlation; Data Consolidation; Data Comparison; and Data Integration (Onwuegbuzie and Teddlie, 2003).

3.10.13 Research Quality

3.10.13.1 Ethical ***considerations and safety in the study.*** All scientific studies are obligated to give consideration to ethics and ethical issues. In research **involving human beings**, there are well established ethical practices and principles that should be observed. Likewise, in research **involving animals**, there are well established ethical practices and principles that should be observed. A third category is research **involving secondary**

data. This category of research must also abide by certain ethical practices and principles.

3.10.13.2 The University's Research Ethics Policy requires you to conduct your research work from an ethical stance. You need to consider issues such as confidentiality, informed consent, data and participant protection. You need to ensure that you conduct yourself and your research in compliance with the expectations of the context where the research is being done. "**Beneficence**" is the requirement to serve the interests and well-being of others, including respect for their rights.

3.10.13.3 The University Research Ethics Policy requires you to provide evidence that you have considered all the ethical issues within your project and have put in place means to deal with them. Discuss these ethical issues and the measures you have put in place to achieve them.

3.10.13.4 If you are doing research that involves **human beings**, the basic ethical issues that you ought to discuss and demonstrate how they are being achieved are the following:

- ***Informed consent***
  (i.e., consent letter from the organisation, and from individual participants). You should disclosure as much information as possible about the research so that the individual can make an informed decision. Inform participants on what the research is for, who will conduct the research, how the personal information will be used, who will have access to the information and how long the information will be kept for, how the data will be used, about their voluntary participation, etc.
- ***Debriefing***
  How will participants be debriefed (written or oral)? If they will not be debriefed, give reasons. Attach the written letter informing them of the debriefing, and later when the research is executed, attach the debrief notes or transcript for the oral debrief.
- ***Withdrawal* from investigation**
  Participants should be told explicitly in writing that they are free to leave the study at any time without jeopardy. Discuss exactly how and when this will be explained to participants. Participants also have the right to withdraw their data in retrospect, after you have received it. Explain how they will do this and at what point they will not be able to withdraw (i.e., after the data has been analysed and disseminated).
- ***Protection of participants***
  Are the participants at risk of physical, psychological or emotional harm greater than encountered in ordinary life? If yes, describe the nature of the risk and the steps you will take to minimise such risk.
- ***Confidentiality and anonymity***
  The personal data that you collect from participants implies that you know who they are. Confidentiality implies that you remove all identifying information from your report so that participants are anonymous. You should always protect a participant's anonymity unless he/she has given his/he permission to be identified; (if that is the case, this should be stated on the Informed Consent Form). Describe the measures you will put in place to keep participants' personal data confidential and to store consent forms and data separately and securely.
- ***Data Protection***
  Describe the measures you will put in place to protect the data you have collected and keep it private within the context of use of the study. The measures you use to protect the data will be influenced by the nature of the

data. Password is a common strategy used to protect numeric and text data. As part of data protection, your research proposal should fully explain how research data will be stored and managed. Digital format of storing research data to consider include cloud-based storage options on Google Drive and Microsoft OneDrive. Consult with your supervisor(s) on the appropriate storage option.

- ***Participant observation*** *(if applicable)*
  If participant observation is to be conducted without prior consent, describe the situations in which such observations will take place, and say how local cultural values and privacy of individuals and/or institutions will be taken into account.

3.10.13.5 If you are doing research that involves **animals**, you should show respect for animals as fellow sentient beings. Discuss the measures you will take to avoid or minimize animal suffering. Discuss the appropriate animal husbandry practices that you will follow. The basic ethical issues that you ought to raise and discuss to demonstrate how they are being achieved in your study in order to safeguard animal welfare are the following:

- ***Four R-principles: Replace, Reduce, Refine and Responsibility***
- ***Five freedom-principles***
- ***Five domain-principles***

3.10.13.6 The above principles encompass the following which you should demonstrate: Respect for animals' dignity; Responsibility for considering options (*Replace*); The principle of proportionality: i.e., responsibility for considering and balancing suffering and benefit; Responsibility for considering reducing the number of animals (*Reduce*); Responsibility for minimising the risk of suffering and improving animal welfare (*Refine*); Responsibility for maintaining biological diversity (avoid depopulation issues); Responsibility when intervening in a habitat; Responsibility for openness and sharing of data and material; Requirement of expertise on animals; and Requirement of due care (Mohr, 2023).

3.10.13.7 If you are doing research that involves **secondary data** (e.g., [a] reports, letters, documents, newspaper articles, image data; [b] routine data from management information system; [c] data from data warehouses) (Tripathy, 2013), there are ethical issues to consider. Concerns about the use of secondary data largely revolve around (a) confidentiality, depending on the number of identifying information on it, (b) issue of consent to have access to the data, and (c) potential harm to individual.

3.10.13.8 In research involving use of secondary data, the basic ethical issues that you ought to discuss and demonstrate how they are being achieved are as follow:

- ***Informed consent***
  Some data may be in the public domain while others not. Discuss consent requirements that you will need to observe in order to have access to the secondary data. If the data is freely available in the public domain on the Internet, in reports, open-source journals, or books, then permission for further analysis is implied. Indicate such, and request a waiver for consent, but explain how ownership acknowledgement of the original work will be achieved. If the research is part of another research project and the data is not freely available, except to the original research team, explicit, written permission for the use of the data must be obtained from the research team (Tripathy, 2013).

- ***Privacy / Confidentiality and anonymity***
  The board just needs to confirm that the data is actually anonymous. Or if not, how anonymity will be achieved. However, if the data contains identifying information on participants or information that could be linked to identify participants (e.g., newspaper articles), then you should discuss how individuals' privacy and the confidentiality of the data will be protected.

- ***Data Protection***
  As part of data protection, your research proposal should fully explain how research data will be stored and managed. Digital format of storing research data to consider include cloud-based storage options on Google Drive and Microsoft OneDrive. Consult with your supervisor(s) on the appropriate storage option.

  When statisticians are undertaking *pooled re-analysis* (in meta-analysis of secondary data), they are obligated to do so using the original primary dataset. Access to such data must be requested and consent obtained. In addition, such dataset should be appraised against the original agreement when the data was collected and declaration made to the Ethics Committee about how to ensure the continued protection of that data against unauthorized access, loss or destruction. You should also explain the (a) duration of storage and (b) the permission secured to use this data beyond the original purpose when consent was given.

  Data in the public domain may not need to meet the above requirement but you should describe how you will protect the integrity of the work being analysed. For example, specify all the safeguard against misinterpretation during reinterpretation of text data especially that the secondary data is without background context (Szabo & Strang, 1997).

- ***Conflict of interest and data sources***
  Since existing relationships, or past activities by the researcher, could potentially create a conflict of interest, it is crucial that you report transparently on this issue in the ethical approval application. How many of the published work that will be used in the study were written or created by yourself, or your relatives? Family relationship with the data sources should be discussed. The credibility of the sources that will be used should also be discussed and a statement given about the criteria that will be used to judge the secondary data sources to include. It would be unacceptable to use secondary data sources accused of, or found to be involved in, the falsification of data.

3.11 Intellectual Property

3.11.1 Reflect on your research project, and include a statement indicating what intellectual property rights could arise from the research, and what would be done to ensure that rights are adequately protected. Possible commercialisation opportunities should also be mentioned.

3.12 Resources Required and Project Plan

3.12.1 Write a statement indicating the nature of the resources required to conduct the research, whether the University resources are adequate, and if not, what would be

done to overcome the inadequacies.

3.12.2 Include a Gantt chart showing the major activities you need to undertake to complete your research on time. (Use MS Project for developing the Gantt chart, if possible). A minimum of 15 activities (across the research process) across the research process is normally expected for the plan to reasonably reflect what you need to do to complete your dissertation.

3.13 Feasibility of the Study

3.13.1 Write a statement concerning the feasibility of the research in terms of infrastructural and financial resources, time constraints, and the accessibility of information.

3.14 Knowledge Dissemination plan

3.14.1 In addition to producing the thesis/dissertation, you can engage in scholarly activities by writing and publishing articles.
3.14.2 Write a statement indicating how and where you intend to disseminate the results generated from your research. It is important that candidates and supervisors present the research at conferences and that parts of the research are published in accredited journals. Describe your dissemination plan.
3.14.3 Possible ways to disseminate your work include publication in journals, books or book chapters, peer-reviewed conference proceedings, policy briefs, seminars, and so on.

3.15 Preliminary division of the Thesis / Dissertation Chapters

3.15.1 While faculty or disciplinary conventions often prescribe particular structure for the research thesis or dissertation report, a typical report consists of the following elements:

3.15.2 The **Structure** of your final submission should be:
Title Page (relatively brief and specific)
Abstract / Executive Summary ('overview' – maximum 1 page)
Acknowledgements (of those who helped)
List of acronyms (Showing meaning of abbreviations used in the report)
Table of Contents (list of chapters/page numbers)
List of Figures and Tables (both are included within the text and each type has its own independent consecutive numbering throughout)
Chapter 1: Introduction (covers the background / research problem statement, research questions, aim and specific objectives, or hypotheses, significance, etc)
Chapter 2: Literature Review (A survey of related literature linked to your research questions definitions of main topic, identification of 'key' authors, themes, previous research, specific objectives, or hypotheses, major concepts, etc)
Chapter 3: Research Methodology (Research philosophy, approach, design and methods; ethical considerations)
Chapter 4: Data presentation and Discussion (findings/results; and a discussion)
Chapter 5: Conclusions and Recommendations (must be based on previous analysis and reflect literature and original research questions, objectives, or hypotheses; the recommendations must result from conclusions)
References (list of books/articles 'cited' in the text using an appropriate referencing format)
Bibliography (other literature which influenced the work)
Appendices (anything which would disrupt the 'flow' for the reader within the text, e.g. charts, tables, etc.)

3.15.3 There are a number of conventions and guidelines which you can follow when putting your work together. The above is just an example.

3.16 References and / or Bibliography (compulsory)

3.16.1 The reference is a list of books/articles 'cited' in the text. The University does not prescribe a specific referencing style and in consultation with their supervisors, candidates are free to adopt the most suitable style, following disciplinary conventions. Be consistent in the format adopted.

3.16.2 The bibliography is the other literature which influenced the work.

3.17 Candidate's declaration (compulsory)

3.17.1 A declaration by the candidate in which it is indicated that the candidate is aware of the University's research and ethics policies and procedures and intends complying with the relevant requirements. The declaration should also contain a statement of originality and a plagiarism declaration.

3.18 Supervisor declaration (compulsory)

3.18.1 A declaration by the supervisor(s) in which it is indicated that appropriate supervision had been given, that the proposal has been quality assured, and that the proposal is submitted with supervisor approval and consent.

4. THE PROCESS

4.1 When the writing of the research proposal is finished and you are ready to submit it to the university, the following steps must be followed (Note that all correspondence must be electronic):

- **Step 1:** The supervisor arranges with the HOD that the candidate presents the proposal at a departmental seminar for comment.
- **Step 2:** The candidate revises the proposal in light of the comments received and thereafter submits an electronic version of the proposal to the supervisor.
- **Step 3:** The supervisor (not the candidate) submits the electronic version of the proposal to the Faculty research representative.
- **Step 4:** The Faculty research representative sends the electronic version of the proposal to three reviewers, at least one of whom must be from the candidate's department. Supervisors and co-supervisors may not be reviewers. Should a department not have a sufficient number of staff members who are qualified or suitably experienced to review a proposal, an external person who is versed in the discipline could be used.
- **Step 5:** The reviewer completes a feedback report on the proposal within 2 weeks and submits it electronically to the faculty research representative.
- **Step 6:** The Faculty research representative e-mails the reviewers' reports to the supervisor.
- **Step 7:** The candidate addresses and/or incorporates the suggested changes / comments.
- **Step 8:** After the revision the supervisor e-mails the final proposal to the Dean's secretary and arranges a presentation of the proposal to the faculty.
- **Step 9:** Immediately after the presentation the supervisor, Dean/Deputy Dean, staff members from the specific department as well as the faculty research representative discuss the proposal and suggest final changes if necessary.
- **Step 10:** The proposal is sent to the faculty ethics representative.

- **Step 11:** Once ethical clearance is received the HOD submits to the Dean of the Faculty:
  (1) A letter to be presented at the Faculty Board indicating that the proposal has been presented to a Faculty panel (giving names of the members of the panel) and that the panel has found it acceptable. Attached to the letter are the cover page of the proposal and the letter from the Faculty Ethics Committee.
  (2) The full proposal document, together with the necessary faculty clearance documents for onward submission to the Research Office.
- **Step 12:** The Research Office staff will record the documents in its databases and present them, via the Registrar's Committee Section, to the University's Higher Degrees and Research Ethics Committees for final approval.

5. TIMEFRAMES

5.1 Normally research proposals should be accepted by the respective Faculty structures and ultimately by the appropriate Senate committees (the Higher Degrees Committee and the Research Ethics Committee) within the following timeframes:

- A **Coursework Master's** candidate should submit a proposal within 8 months of registration and gain acceptance within 12 months.
- A **full-time Master's candidate** should submit a research proposal within 4 months of conditional registration and gain acceptance within 6 months.
- A **full-time Doctoral candidate** should submit a research proposal within 6 months of conditional registration and gain acceptance within 8 months.
- A **part-time Master's or Doctoral candidate** should submit a proposal within 8 months of conditional registration and gain acceptance within 12 months.

5.2 The date of acceptance of a proposal is the date upon which approval of both the Higher Degrees Committee and the Research Ethics Committee has been obtained.

5.3 Should the timeframes not be met, the **supervisor shall report the delay** to the HOD, give reasons for the delay and suggest appropriate action to be taken in the matter. The HOD shall in turn report the matter to the committee charged with overseeing postgraduate degrees in the Faculty. The relevant faculty committee shall consider the HOD' report and take appropriate action.

5.4 Normally such action shall be de-registration of the candidate, but in appropriate circumstances the deadlines may be extended for no more than three months. No further extensions will be permitted.

6. EVALUATION OF RESEARCH PROPOSALS

6.1 When completed, the research proposal will, in the first instance, be formally assessed by a Faculty committee to ensure that the nature of the proposed research and the research methodology, and the overall quality of the research proposal meet the required University standards. The following criteria will be considered:

- Compliance with the stipulated format
- The conceptualisation of the research, including the specification of the background, problem, research questions, objectives, or hypotheses, significance, related literature, framework, etc.
- The suitability of the research methodology

- The ethical considerations
- The feasibility of the research
- The scientific integrity of the research

6.2 Faculties may specify additional evaluation criteria, so be sure to locate the relevant Faculty guide for further information.

6.3 Each faculty will have its own processes for this evaluation, but normally the candidate will present the proposal to the committee in the form of a seminar, so that questions, comments, and suggestions can be fed back immediately. Where research proposals have not been accepted, the candidate must be advised in writing of the reasons therefor. If revision is necessary, the proposal must be resubmitted and reassessed by the faculty committee (not necessarily by means of a seminar). If the proposal is not accepted, this should be regarded as a normal process of growth in preparing a proposal, not as a failure or disgrace.

6.4 The research proposals that have been accepted are then presented, via the Research Office and the Registrar‘s Division, to the University Higher Degrees Committee and the University Ethics Committee for formal approval at the University level. Any of these committees may:

- Approve the proposal, with or without conditions.
- Decline approval and refer the proposal back to the candidate for revision.

7. A STATEMENT ON RESEARCH ETHICS, CONTRACT CHEATING, AND PLAGIARISM

7.1 The University is committed to ensuring that all research is conducted with integrity and in a manner that protects the rights of all participants. In particular, the University aims to create and maintain a research environment in which the underlying values of human dignity, equality, non-discrimination, social justice and fairness are respected. This means that researchers are enjoined to conduct research that is socially and ethically relevant, to pursue truth, intellectual honesty and openness to ideas, and to maintain the highest professional and ethical standards.

7.2 All research and research-related activities must comply with the appropriate ethical standards, and ethical concerns are not restricted to activities aimed at human and animal research or the gathering of research information, such as the conduct of surveys or interviews, the processing and analysis of research data, and the reporting of research findings.

7.3 Plagiarism constitutes a breach of academic integrity, compromises the integrity of the individual(s) involved, and damages the reputation of the academic community. The University has a responsibility to uphold academic integrity and to promote trust in scholarly work undertaken at the Institution and to prevent plagiarism within the Institution.

7.4 All candidates must study the University‘s policies on research ethics and plagiarism, and consider in their proposals the specific ethical issues raised by their research. Particular forms of research, such as human health research, research involving animals, or children and other vulnerable persons, give rise to special ethical considerations; but there are also ethical issues associated with conflicts of interest, supervision, co-authorship, publication of research findings.

7.5 **The set of guidelines must at all times be read in conjunction with the University’s policies related to research, ethics, plagiarism, and POPI, and must all times be subject to the provisions of the said policies.**

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APPENDICES

Appendix 1: Box 1: Sample introduction

Introduction

Citizen evaluation of civil servants' performance and the performance of national bureaucracies in terms of policy implementation remains a major part of the political development in South Africa. The multiple reports of street protests about poor basic services illustrate the scale of the concern about unsatisfactory basic service delivery among citizens across different municipalities. This research proposal was designed to investigate the kind of interactions that prevail between the local municipality and its communities, and the influence these interactions have on the success or failure of basic service delivery. Intervention can be developed if there is evidence exploring the kinds of embeddedness network at play between civil servants and citizens in local communities, and the sort of connections and environment in which civil servants operate.

The research proposal starts off by presenting the background to the problem and the context within which this study will be conducted. This is followed by a statement of the problem and the major research question(s) that will be investigated. It then proceeds to state the purpose or aim of the study and the related research objectives. There are no hypotheses stated because they were deemed redundant for the design of this study. Instead, focus is given to explaining the anticipated significance (contribution) of the study for theory and practice, critiquing the literature review, and outlining the theory that will guide the research. The methodology, possible intellectual property and ethical issues are then delineated and discussed, before summarizing the resource requirements, feasibility assessment, knowledge dissemination plans and the anticipated structure of the chapters of the full thesis. The proposal concludes with the reference section and the declarations from the researcher and the supervisor(s).

Appendix 2: Box 2: A step-by-step approach to working out the problem and question

Stages:

(a) Locate an area or topic in which you have an interest e.g., - Appraisal systems.
(b) Locate the issue within the topic which you wish to explore in detail e.g., - Women's experience of appraisal.
(c) Describe the problem (i.e., gap, deficiency, contradictions, etc.) detected and needing a solution in practice or theory – based on your conversations with public/private sector, personal experience, reading the literature. e.g., - The 'glass ceiling' effect in promotion /advancement. Clearly discuss the nature of this problem, and its known or estimated extent: *(e.g., feelings that glass the ceiling effect is embedded in appraisal systems; female disadvantaged).* Discuss the importance of investigating it (e.g., *diversity promoted in company policy and in legislation on equal opportunities)*, and the contribution you will make.
(d) Crystalize the issues in the problem statement into a main question, and derive sub-questions. Place the questions within the context within which it will be studied. E.g.:

What are the perceptions of women regarding the embeddedness of a glass ceiling effect in the internal appraisal systems at [company/ institution] commercial banks where they work?

Sub-questions

2. What interpersonal and situational factors are perceived by women in managerial positions to depict the ‘glass ceiling’ in appraisal system in the organization?
3. What psychological mechanism(s) facilitate the development of ‘glass ceiling’ sentiments among the women in the organization?
4. What interventions can be devised to mitigate influences from the identified interpersonal and situational factors on perceptions of a pervasive glass-ceiling in the appraisal system in the organization?

Appendix 3: Box 3: Example of contribution

Contributions of the study

Practice

The Human Resources Division in charge of employee appraisal, and administration of the organisational policy on equity and diversity, can be informed through the study about the perceptions of the glass-ceiling effect in the appraisal systems. Evidence of the presence of glass-ceiling in the way appraisal is practiced will be helpful in isolating the root causes of the problem and contribute to a better understanding of the categories of these causes in term of those that are interpersonal in nature, and others that are situational in character. Dismantling female managers’ perception of differential treatment and ultimately sentiments of a glass-ceiling from their male supervisors requires that the HR act on these factors.