

METHODOLOGY

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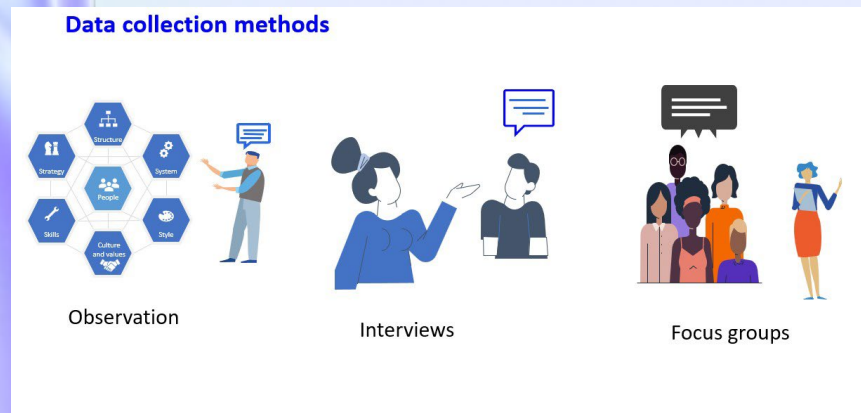
DBA MBA BBA

FIML AFAIM PMP

September 2024

Methodology

The methodology in a thesis outlines the overall strategy and reasoning behind the research project. It includes the methods, techniques, and procedures employed to gather, analyse, and interpret data. Essentially, it details how the research was carried out.



Methodology

An approximate plan for a 50,000 words Doctor of Business Administration thesis, completed in 24 months.

Chapter	% of the Thesis	Pages	Months
Chapter 3 Methodology	18	30	4

Methodology

Methodology chapter in the thesis outlines the primary methodology employed to collect the data that will be used to address the research hypotheses.

While some theses may utilise multiple methods to gain diverse perspectives on the phenomenon under investigation, as advocated by Easterby-Smith (1991) and Gable (1994), the constraints inherent in most thesis projects often necessitate a single dominant methodology.

This primary method is selected based on its suitability for addressing the specific research problem and associated gaps identified in Literature Review Chapter. Secondary methodologies may be employed in a supporting role, such as aiding in the formulation of research questions or operational definitions. For instance, interviews might be conducted to refine survey questionnaires or to confirm unexpected findings. However, the primary focus of Methodology Chapter remains on the principal methodology, with secondary methods discussed briefly if applicable.

(Chad Perry, 2012)

Methodology

Methodology Chapter should provide a detailed account of the data collection procedures, allowing another qualified researcher to replicate the study. This means offering sufficient information for a "reasonably knowledgeable colleague" to reproduce the data collection and analysis process (Lindsay, 1995, p. 14). Additionally, the chapter should demonstrate the candidate's thorough understanding of the methodology. While it can be assumed that the examiner possesses a solid undergraduate foundation in methodology and research experience (Brown, 1996, p. 49), the same cannot be assumed of the candidate. Therefore, students must include enough detail to showcase their grasp of the methodology and its procedures, even if it requires only a few sentences with references. For advanced techniques like structural equation modeling, which are typically covered in postgraduate courses, more comprehensive explanations may be necessary. This ensures that examiners, who might need to be "brought up to speed" on such techniques, fully comprehend the details and rationale behind their use, compared to when basic techniques are employed.

(Chad Perry, 2012)

Methodology

Examiners must verify that all critical research methods and procedures were rigorously adhered to by the researcher. For example, a thesis using regression analysis should detail the pilot study, address response bias, and validate regression assumptions. A thesis employing factor analysis should include preliminary tests like Bartlett's and scree tests, and discuss issues such as sample size and rotation methods. Similarly, a survey-based thesis should systematically address population, sampling frame, sample design, and sample size (Davis & Cosenza, 1993).



(Chad Perry, 2012)

Methodology

Students must demonstrate a deep understanding of both the core procedures and the methodological controversies within their chosen field. This includes familiarity with the body of knowledge surrounding the methodology, akin to their understanding of theoretical frameworks in Literature Review Chapter. For instance, qualitative researchers should be aware of how validity and reliability are conceptualized in their approach, referencing key works like Easterby-Smith et al. (1991) and Lincoln & Guba (1985). This knowledge is often demonstrated when justifying the methodology and describing research procedures. Mere procedural details are insufficient. Students must discuss the advantages and disadvantages of alternative methods, justifying their choices (Davis & Cosenza, 1993). For example, when using a Likert scale, they should address the ongoing debate about its measurement level and provide evidence to support their decision (Newman, 1994; Madsen, 1989; Schertzer & Kernan, 1985; Kohli, 1989).

(Chad Perry, 2012)

Methodology

Students must demonstrate familiarity with controversies and authoritative positions in their methodology, similar to their approach in Literature Review Chapter. For example, qualitative methodology should address validity and reliability as discussed by Easterby-Smith et al. (1991) and Lincoln and Guba (1985). This familiarity should be evident when justifying the methodology and describing research procedures.

It's important to balance providing necessary details without overwhelming the examiner. Referencing relevant literature and using its language can help achieve this. For instance, when discussing sample design, reference works like Emory & Cooper (1991) and Frazer & Lawley (2000), and outline the steps based on literature (Malhotra et al., 1996; Smith, 2000; Rubin, 1996).

Methodology

Students must demonstrate knowledge of procedures and provide evidence that they have been followed, such as dates of interviews or survey mailings. Appendices should include copies of instruments used, examples of computer printouts, and any other relevant information. Well-constructed tables in Data Analysis Chapter should suffice for analysis verification, so not all printouts need to be in the appendices, though they should be kept in case the examiner requests them. Appendices should contain all necessary information for an interested reader, without requiring them to seek additional resources.

Methodology

Details of the methodology are essential for both qualitative and quantitative research (Yin, 1989). Qualitative theses may require more detail due to the researcher's influence on subjects, such as selection, responses, and use of notes and recordings. Students should occasionally use 'I' in the methodology chapter to reflect their involvement and potential biases. For example, a researcher might describe their characteristics to highlight possible biases (Pettigrew, 1999, p. 151). Generally, Doctoral research needs at least 350 survey respondents or 35-45 interviews in multiple case studies.

Methodology

Methodology chapter outlines the research methodology, including a survey using a specific need for achievement instrument. The chapter defines constructs employed in questionnaires and interviews to assess hypothesised relationships of the thesis, developing an interval scale for the questionnaire. While some experts advocate for developing new instruments for doctoral research, the use of established measures requires justification through reliability and validity studies or piloting. Multi-item measures can enhance reliability and validity for constructs previously measured with single items. Although reusing instruments can be original, qualitative pilot studies are recommended to ensure appropriateness and avoid potential examiner concerns.

(Chad Perry, 2012)

Methodology Chapter Outline – Justification Section

The chosen methodology is justified in terms of the research problem and the literature review. For instance, a qualitative methodology is appropriate for research problems involving people's constructions of meanings that have not been previously explored (Hassard, 1990). Yin (1989, p. 17) provides a useful reference for writing about this.

Some theses demonstrate an awareness of the strengths and weaknesses of the positivist and phenomenological paradigms, which serve as a basis for discussing the choice of methodology (Phillips & Pugh, 1987, p. 55; Orlikowski & Baroudi, 1991; Easterby-Smith et al., 1991, pp. 22-32; Patton, 1992, pp. 1-63; Newman, 1994, Chapter 4; Perry & Coote, 1994; Perry, 1998b; Guba & Lincoln, 1994).

Methodology Chapter Outline – The Unit of Analysis Section

The unit of analysis and subjects or sources of data in the Methodology chapter are clearly defined.

This includes explicit references to steps such as deciding the population, the sampling frame, the sample, and the sample size. For case study research, these aspects are discussed in detail by Perry & Coote (1994) and Perry (1998b).

Methodology Chapter Outline – The Instruments or Procedures Section

The instruments or procedures used to collect data are thoroughly described in this section, including how the dependent variable was measured. Details of pilot studies are provided, along with explicit concerns about specific procedures used to handle internal and external validity (as discussed in Yin, 1989, p. 41; Parkhe, 1993, pp. 260-261; and for qualitative research, Lincoln & Guba, 1985, pp. 290-294). Note that the boundaries of external validity were implicitly addressed in the Introduction Chapter.

Methodology Chapter Outline – The Instruments or Procedures Section

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The administration of instruments or procedures is detailed in this section, including specifics on when, where, and by whom they were conducted. Non-response bias, a critical issue discussed by Armstrong & Overton (1977), is addressed, along with response rates, dates, and protocols of interviews (Yin, 1989). These details ensure the research is reliable and can be replicated.

(Chad Perry, 2012)

Methodology Chapter Outline – Limitations Section

The limitations of the methodology should be clarified and justified in this section. For example, practical limitations on the sampling frame or size of the questionnaire in survey research might be addressed, such as missing certain types of respondents due to their religious beliefs. Parkhe (1993, p. 255) discusses possible limitations of the case study methodology that should be considered in a thesis.

Additionally, any special or unusual treatments of data before analysis should be noted, such as special scoring of survey answers. Evidence that the assumptions of analytical techniques were met should be provided, including ensuring sample sizes were large enough and testing for normality assumptions (Hair et al., 1995, discusses these assumptions for each multivariate technique).

Methodology Chapter Outline – Validity and Reliability Section

Validity and reliability issues and how they were addressed are discussed in this section. In qualitative research, these issues are addressed following the approach formulated by Lincoln and Guba (1986).

The computer programs used to analyse the data are specified, with justifications for their use (e.g. SPSS). For example, the choice of using chi-square instead of a Wilcoxon test is explained, which may require a brief description of the type of data and references to similar procedures used in comparable circumstances.

Ethical issues of data collection are also addressed.

Methodology Chapter Outline – Validity and Reliability Section

Methodology chapter should demonstrate that other variables potentially influencing the results were controlled within the research design, either by holding them at one or two set levels or by properly measuring them for later inclusion in statistical analyses (e.g., as a variable in regression analysis).

This is a crucial consideration for examiners.

Methodology Chapter Outline – Development and Justification of Statistical Hypotheses

To fully demonstrate competence in research procedures, the statistical forms of hypotheses should be explicitly developed and justified in a thesis.

Some students may confuse statistical hypotheses with the more abstract propositions developed towards the end of a literature review. Propositions are framed in a form that most experts would agree with, such as “smoking causes cancer.” In contrast, statistical hypotheses developed in Methodology Chapters are ready for statistical testing and follow the format of a formal null hypothesis of zero difference (e.g., “there is no association between smoking and cancer”) and an alternative hypothesis of some difference.

The null and alternative hypotheses can be either directional or non-directional. A directional hypothesis requires different forms of statistical tests of significance than a non-directional hypothesis. For example, a directional hypothesis allows for a one-tailed test of significance.

(Chad Perry, 2012)

Methodology Chapter Outline – Aspects of a unified thesis

Qualitative research	Quantitative research
Research problem: how? why?	Research problem: who (how many)? what (how much)?
Literature review: exploratory - what are the variables involved? constructs are messy research issues are developed	Literature review: explanatory - what are the relationships between the variables which have been previously identified and measured? hypotheses are developed
Paradigm: critical realism/interpretive	Paradigm: positivist
Methodology: for example, case study research or action research	Methodology: for example, survey or experiment

(Chad Perry, 2012)

Methodology Chapter Outline – Ethical Considerations

The next to last section of Methodology Chapter should address the ethical considerations of the research. Key references on this topic include Emory and Cooper (1991), Easterby-Smith et al. (1991), Patton (1992), Lincoln and Guba (1986), and Newman (1994, Chapter 18). Students may also include completed forms required for Australian Research Council (ARC) grant applications and reports in the appendices, which can be obtained from their university's Research Office.

It is essential for the thesis writer to verify that references accurately reflect what is stated in the thesis. For example, if the thesis cites Smith (1995) on sample size for a multivariate technique, the student must have read Smith's article or an abstract confirming this information.

Methodology Chapter Outline – Summary

In summary, writing Methodology Chapter is akin to an accountant creating an ‘audit trail.’ The student should treat the examiner as an auditor, demonstrating knowledge of and justification for the correct procedures and providing evidence that they have been followed.

Methodology – Conclusion

The methodology chapter of a doctoral thesis is a critical component that outlines the research design and procedures used to address the research questions. To ensure a clear and rigorous presentation, consider the following key steps:

Develop a Clear Outline: A well-structured outline provides a logical framework for your methodology. Begin by creating a preliminary outline that includes the essential sections, such as research design, sampling, data collection, and data analysis.

Consult Relevant Literature: Review existing studies in your field to identify effective methodologies and potential pitfalls. Analysing how other researchers have approached similar questions can provide valuable insights and guidance.

Justify Research Design Choices: Clearly explain the rationale behind your chosen research design. Discuss why this approach is appropriate for addressing your research questions and how it aligns with relevant theoretical frameworks.

Provide Comprehensive Detail: Err on the side of providing too much detail rather than too little. Ensure that all methodological decisions are thoroughly explained, including the reasons for your choices and any potential limitations. Cite

Supporting Literature: Back up your methodological decisions with references to relevant literature. This demonstrates the credibility of your approach and enhances the replicability of your study. By following these guidelines, you can develop a

Methodology – Conclusion

Provide Comprehensive Detail: It is better in providing too much detail rather than too little. Ensure that all methodological decisions are thoroughly explained, including the reasons for your data collection choices and any potential methodology limitations.

Cite Supporting Literature: Back up your methodological decisions with references to relevant past and current literature. This demonstrates the credibility of your approach and enhances the replicability of your research study.

By following these guidelines, researcher can develop a robust and well-structured methodology chapter that effectively communicates your research design and its underlying rationale.

The methodology chapter should not only cater to the examiners but also be crafted to benefit future researchers seeking similar research methods. It should be detailed yet easy to read, providing clear and comprehensive descriptions of your research design choices. This approach ensures that your work is not only evaluated effectively but also serves as a valuable resource for others in the field.

References

- A Structured Approach to Presenting Theses: Notes for Students and Their Supervisors by Chad Perry (20 May 2012)
- <https://gradcoach.com/research-methodology-chapter/>



THANK YOU

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