



GUIDELINE: LAYOUT OF A DOCTORAL THESIS

Technical and editorial requirements, examples of the front matter or preliminaries (title page to the end of the List of Figures), formatting of the contents and examples of the rear matter or appendices

Directors: B Anderson (Principal and Chief Executive Officer), M Burger
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RESEARCH • DESIGN • EDUCATION

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Introduction

A thesis is a formal document based on a research project undertaken for a doctoral degree. The structure and presentation of the thesis should comply with international conventions as customised by the Da Vinci Institute in this document. It should communicate effectively with the relevant research, innovation, professional and employer communities. It should be noted that a flawed research project cannot be “disguised” in an elegant report. Equally so, good research can sometimes be obscured by poor structuring, language and technical editing - and a general careless approach.

This document first summarises the technical and editorial requirements a thesis must comply with. Second, it offers examples of the front matter or preliminaries (title page to the end of the List of Figures), the formatting of the contents and examples of the rear matter or appendices.

Section 1 Technical Aspects

Font and line spacing

Use a clean uncluttered font (e.g. Calibri, Verdana, Arial or Times New Roman, font size 11 and 1.15 line spacing. Justifying the text creates a more professional appearance. Keep in mind that supervisors and examiners could be reading your thesis late at night; thus, they must be assisted by making your thesis ‘reader friendly’ from a technical point of view.

Margins

The left and right margins must be set at 2.5 cm.

Paragraph/section structure

Use the following numbering system to differentiate between different levels of content:

- 1.1 First-order heading**
- 1.1.1 Second-order heading**
- 1.1.1.1 Third-order heading*

-
-

The numbering system may be adapted according to specifications by the supervisor or specific online program used to create the list of content and headings within the text. This example is provided for those students who are not clear about what style to follow.

Preferably, keep the same font size for text and headings.

Do not underline headings or parts of the text for emphasis or for any other reason – the two most acceptable conventions for emphasising text are **bold** and *italic*, if really necessary.

Citations

The sources of any information used in the text of the thesis should be explicitly acknowledged and properly included in the List of References.

Citing such sources should be standardised. The Da Vinci Institute uses the Harvard method for referencing sources. The following examples are provided to distinguish them from the rest of the text and cover the most common cases. Incidentally, note the difference in size between these two fonts:

- The surname, year of publication and page number(s) should be cited In the case of a direct quote (page can either be indicated by p. or by : - as long as it is standardised throughout the document and List of References):

In the words of Johnson and Smith (2005: 305), “The frequency of ...”

- Cite only the surname and year of publication, if it is not a direct quote:

Johnson and Smith (2005) found that the frequency of...
Alternate: The frequency of ... (Johnson & Smith, 2005).

- Three and more authors: **Cite all the authors the first time** and thereafter only the surname of the first author followed by *et al.* and the year of publication:

According to Smith, Marks, Venter and Anderson (2001), open-source software opened new perspectives for small and medium enterprises.

Subsequent format: On this issue Smith *et al.* (2001) ...
Or: ... at low cost (Smith et al., 2001).

- **Wikipedia must not be cited** as a source because it is not peer-reviewed. Always try to access the original source of information (i.e. in which information was first published) and restrict to an absolute minimum relying on and citing secondary sources. Should only a secondary source be accessible (Peters, in the following example) the secondary source and **not** the non-accessible primary source (Botha) should be cited and included in the List of References:

In his review article, Peters (2004) referred to the following recommendations made by Botha as far back as 1986: ...

- Personal interview:
Second-order cybernetics is ... (Davis to Author, 2012)
- Personal communications should be used very sparingly, but always be clearly indicated as such in the text and List of References: P. R. Samuels emphasised that ... (Personal communication, 10 February 2007).

Page Numbering

Pages should be numbered at the bottom. The number does not appear on the title page. The front matter (from the title page to the end of the List of Figures) should be small Roman numbers (i, ii, ...)

and the text (from the first page of Chapter 1 to the last page of the Appendices) should be Arabic numbers (1, 2, ...).

Footnotes

Avoid using footnotes as far as possible – if the information is important enough to mention, it can most of the time be included in the text (albeit perhaps parenthetically). It is recognised that there will be cases in certain study areas where some documents will need footnotes for additional explanation.

Composition of the thesis

A thesis normally consists of the following sequence of distinct elements, examples of each presented in Section 2 below:

- Title page
- Declaration of Authenticity
- Da Vinci Copyright Information
- Acknowledgements
- Abstract
- Table of contents
- List of tables
- List of figures
- Chapters
- References
- Appendices

Section 2: Example

The following pages represent examples of the layout and formatting of the contents for a thesis.

TITLE OF THE THESIS

Full names + Surname of Candidate

Student number: xxxxxxx

Thesis submitted in fulfilment of the requirements for the degree

Doctor of Management in Technology and Innovation

at

The Da Vinci Institute for Technology Management

Supervisor: A Tom, PhD

Co-supervisor: F Davids, MSc

20XX



Declaration of Authenticity

I declare that the research project, *Title of the thesis: subtitle*, is my own work and that each source of information used has been acknowledged by means of a complete Harvard Referencing System. This thesis has not been submitted before for any other research project, degree or examination at any university.

.....
(Signature of student)

.....
(Date)

....., <Country>
(City/town of student's residence)

Da Vinci Copyright Information

This thesis may not be published either in part (in scholarly, scientific or technical journals), or as a whole (as a monograph), by the researcher or any other person unless permission has been obtained from The Da Vinci Institute.

I agree that I have read and that I understand the copyright notice.

.....
(Signature of student)

.....
(Date)

Acknowledgements

Acknowledgements

It is appropriate to acknowledge the contributions and support of the following role players and support mechanisms, if they actually impacted on the course of the study:

- Supervisors
- Other substantive research support
- Employer and professional colleagues
- Friends and family members

Keep the acknowledgements sober and balanced.
Preferably do not exceed one page.

Abstract

The abstract is the most-read part of the doctorate thesis and should in a succinct and structured way summarise the work reported in the thesis.

- It should preferably be only one page of \pm 300 words.
- An obvious approach would be to briefly state the background to the problem, the research methodology, findings, discussions, conclusions and recommendations.
- In terms of content, the abstract should stick very closely to the thesis itself and under no circumstances include any new information or cite references.
- Do not include any sub-headings.
- List 4-5 keywords at the end.

Table of Contents (Example)

| | | |
|------------------------------------|--|----------|
| <i>Declaration of Authenticity</i> | ii | |
| Da Vinci Copyright Information | iii | |
| <i>Acknowledgements</i> | iv | |
| <i>Abstract</i> | v | |
| <i>List of tables</i> | vi | |
| <i>List of figures</i> | vii | |
| <i>List of acronyms</i> | viii | |
| | | |
| Chapter 1 | Introduction | 1 |
| | | |
| Chapter 2 | Literature Review | |
| | | |
| Chapter 3 | Research Methodology | |
| | | |
| Chapter 4 | Findings | |
| | | |
| Chapter 5 | Discussion of the Findings | |
| | | |
| Chapter 6 | Conclusions and Recommendations | |
| | | |
| References | | |
| | | |
| Appendices | | |

Notes

A thesis is a research document and it stands to reason that readers would often consult the document to obtain information on a specific issue and that requires relative completeness and absolute accuracy of the table of the contents!

- Normally do not reflect more than three levels of subheadings, e.g. #1.3, 1.3.3, and 1.3.3.1.
- In order to enhance readability, headings in the table of contents should preferably not exceed one line. On the odd occasion of an unavoidably long heading in the body of the thesis, it should be abridged, e.g. the following heading, Experiment 2: The effects of utilisation of the two-step innovation model in technology transfer in Mpumalanga, could be shortened to, Experiment 2: Results of the two-step model in Mpumalanga.
- Restrict the size of left indentations, tabs, to a minimum, to minimise empty white space.
- Rather obvious, but often overlooked: use the same letter type as in the body of the thesis; also use the same font size, i.e. avoid different font sizes in the table of contents to emulate the headings in the text.

List of Tables

- 1.1 Summary of previous solutions
- 2.1 Summary of Johnson's recommendations
- 2.2 Summary: Authors and their organisational diagnoses
- 3.1 Structure of the customer questionnaire
- 3.2 The sample: Demographic characteristics

Description of Research design and methodology in chapters

It is very important to note the following about the description of research design and methodology:

- First the research design and methodology is briefly described in Chapter 1 and written in the **future tense** because it still forms part of the **students** planning of his/her entire research.
- Once the research is completed the students returns to Chapter 1 and changes the description on the process followed from future tense to past tense where applicable. Chapter 1 provides the **reader** a view on the context of the entire research which has already been completed.
- The chapter on the research methodology and process, as well as the analysis of results will similarly be written in the **past tense** where applicable.

All the guidelines for the Table of Contents also apply to the List of tables and the List of Figures. Do note that

- All tables should have titles added below the title and source should be added where applicable
- Headings should contain all the essential information that an informed person would require to understand what the table is intended to communicate
- Information (column and row headings as well as the body of the table) should be accurate, short, clear and explicit
- If the information was culled from a publication or some other source, the source should be acknowledged explicitly immediately below the table
- A table should not spill over from one page onto the next; if the table is unusually comprehensive a fold-out page should be considered.

List of Figures

- 1.1 Summary of previous solutions
- 2.1 Johnson's recommendations
- 2.2 Summary: Authors and their organisational diagnoses
- 3.1 Structure of the customer questionnaire
- 3.2 The sample: Demographic characteristics

A figure is normally included in a publication, if the complexity of a process can be better represented in a diagram or picture (to name two types of figures) than in words.

All the guidelines for the **Table of Contents** and the **List of Tables** also apply to the List of Figures. Do note that

- All figures and Tables should have a title/label above the figure/table/ image and the source should be below the tale/figure/image
- Headings should contain all the essential information that a person would require to understand what the figure/table/image is intended to communicate
- Information (e.g. in text boxes) should be accurate, short, clear and explicit; a diagram can easily become confusing, if the verbal information is not well organised
- If the figure/table/image was extracted from a publication or some other source, **the source should be acknowledged explicitly immediately below the figure/table/image**

List of Acronyms

| | |
|-------|---|
| ASSAf | Academy of Science of South Africa |
| CEO | Chief Executive Officer |
| CSIR | Council for Scientific and Industrial Research |
| DBSA | Development Bank of Southern Africa |
| DTI | Department of Trade and Industry |
| OECD | Organisation for Economic Cooperation and Development |
| Wits | University of the Witwatersrand |

In principle, the use of acronyms or abbreviations should be restricted to the absolute minimum, especially in the case of uncommon ones (e.g. those that are unique to a specific organisation). Good practice is to spell out the full proper noun (followed by its acronym between brackets) the first time it appears in **that** chapter, where after the acronym can be used in the rest of the particular chapter. Repeat this process in each new chapter.

- ... the Council for Scientific and Industrial Research (CSIR) announced ...

If list of acronyms is used it should be added in front of thesis. See Table of Contents

1. Chapter 1: Introduction

1.1 Introduction

1.2 The Research Problem

1.2.1 *Effects of Skills Acquisition*

1.2.1.1 Training techniques

- Use the above example outline numbering system of not more than three levels (1.1, 1.1.1, 1.1.1.1), there after use bullets
- The chapter number should represent the first digit of the numbering system, e.g. the sections in Chapter 4 should start with 4.1 and then proceed to 4.2, 4.2.1 and 4.2.1.1.
- Align the text left, irrespective of the level of the heading, in order not to end up with large areas of white space and little text!

Please note that the outline below refers to what content to put where and does not necessarily provide the final section heading names.

Chapter 1 Introduction

1

- Introduction
- Research Context / Background Information
- Problem statement
- Purpose/Aim and Objectives of Study
- Research Questions / Hypotheses
- Research Philosophy: Ontology, Epistemology, Axiology
- Research Methodology (Brief)
- Theoretical/Conceptual Frameworks (Brief)
- Significance of the study
- Delimitation and scope of the study
- Brief Chapter Overviews
- Conclusion

Chapter 2 Literature Review

The appropriate section header Grounded Research Studies: Data Collection

- Introduction
- Broad context theory base: Theoretical/Conceptual Frameworks
- Literature Details (works organised by ideas or topics)
- Conclusion

Chapter 3 Research Methodology

- Introduction
- Research Design
- Research Philosophy
- Population and Sampling Strategy
- Data Collection Instruments
- Data Analyses
- Pilot Study
- Limitations
- Ethical Considerations
- Conclusion

Chapter 4 Findings

- Introduction
- Primary Research Findings
- Secondary Findings from the Literature
- Conclusion

Chapter 5 Discussion of the Findings

- Introduction
- Discussion of sections and sub conclusions
- Discussion of sections and sub conclusions
- Discussion of sections and sub conclusions
- ...
- Conclusion

Chapter 6 Conclusions and Recommendations

- Introduction
- Summary of Findings
- Conclusions
- Summary of Contributions
- Future Research

References (Harvard style)

Author, P.S. (2006). *Title of a book*. London: Publishing House.

Contributor, A.M. (2006). Title of a chapter in a book. In P.S. Author (Ed.), *Title of book*. London: Publishing House. pp. 101-134.

Editorial. (2008). Future without technology. *Sunday Times*, April 21, p. 23.

Davidson, J. (2008). GM foods: The answer to shortages. *Sunday Times*, April 21, p. 31.

Games people play. www.gamespeopleplay.co.za (Accessed 16/07/2011).

Masters, P.J. (2007). *Title of dissertation*. Unpublished master's dissertation. Johannesburg: Da Vinci Institute.

Davis, C. (2012). Interview with the author. Johannesburg, 10 March.

Republic of South Africa. (1997). *Constitution of the Republic of South Africa, 1996 (Act 35 of 1997)*. Cape Town: Government Printer.

Researcher, L.M. (2005). Title of the article. *Journal of Whatever*, 20(3) pp. 102-108.

Researcher, M.M., Assistant, P.L. & Professor, A.B. (2006). Title of the article. *American Journal of Whatever*, 45(3) pp. 91-96.

Samuels, P.R. (2007). *Personal communication*. Johannesburg, 10 February 2007.

Scholar, P.C. (2005). *Title of conference paper*. Paper presented at the 12th Annual Conference of the International XYZ Association, London, UK, 12-15 September.

Scientist, V.C. (2012). *Title of the contribution*. [Full website address] (Date accessed)

Task Group Y. (2007). *Report on whatever was investigated*. Johannesburg: Eskom Holdings.

The List of References should include all sources of information directly and indirectly **used** in the thesis. Do not include other sources that may be relevant, but not actually used in this list. A bibliography, being a more or less exhaustive list of sources of information on a particular topic, should not be included in a thesis.

An adapted version of the Harvard referencing style should be used; the most common cases are illustrated above.

- References should be listed in alphabetical order across categories of sources; in the case of more than one publication by the same author the references should be listed in chronological order.
- Do not differentiate between different sub-categories of sources (e.g. journals and books).
- Entries must be accurate.
- Author or title of website should be referenced and the link of website added behind.

APPENDICES

Appendix A: Letter(S) of Permission to Conduct the Study

Appendix B: Data Collection Instruments

Include as appendices information such as the following:

- Copies of data-gathering instruments, e.g. questionnaires, interview schedules
- Geographical maps used in the study , e.g. for sampling
- Site maps, e.g. factory lay-out, if necessary to understanding part of the study
- Transcriptions of essential parts of interviews (qualitative research)
- Analysed raw quantitative data
- Large correlation or other numerical matrices
- Other essential illustrative material

All appendices should be properly listed in the Appendices, as well as discussed and cross-referred in the text.

Appendix C: . . .