



**GUIDELINES**

**FOR**

**DOCTORAL THESIS**

## TABLE OF CONTENTS

Introduction	1
Section 1: Technical aspects	1
Font and line spacing	1
Section/paragraph structure	1
Citations	2
Page numbering	3
Footnotes	3
Composition of the thesis	3
Section 2: Examples	3
Title Page	4
Spine	5
Title Page	6
Declaration	7
Acknowledgements	8
Summary	9
Table of Contents	10
List of Tables	11
List of Figures	12
List of Acronyms	13
Chapters 1...n	14
List of References	15
Appendices	16
Section 3: Submission processes	17
Research proposal	17
Examination of the thesis	17

# The Da Vinci Institute for Technology Management

## Guidelines for Thesis

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

This document firstly summarises the technical and editorial requirements a Da Vinci thesis must comply with. Secondly, 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 and thirdly, it discusses the submission process.

### 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 or 12pt and 1.15 line spacing (chosen for this document). Justifying the text creates a more professional appearance. (Keep in mind that supervisors and examiners could be reading your thesis late at night – assist them by making your thesis ‘reader friendly’ from a technical point of view.)

##### Paragraph/section structure

Use the following numbering system to differentiate between different levels of content (also see Chapter a few pages further):

**1.1 First-order heading**

**1.1.1 Second-order heading**

*1.1.1.1 Third-order heading*

- 
- 

(The above system of section/heading numbering has not been followed in the present root document in order to avoid confusion with examples such as the above.)

Preferably keep the same font size for text and headings. Note: please do not underline headings or parts of the text for emphasis or for any other reason – the two modern (post-Remington typewriter) conventions for emphasising text are **bold** and *italic*.

### Citations

The sources of any information used in the thesis should be explicitly acknowledged and properly included in the List of References. Citing such sources should be standardised. The following examples (here given in Times New Roman to distinguish them from the rest of text) 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:

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).

- 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 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 centre (the pages of this document have been numbered at the top for obvious reasons). 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 information is important enough to mention, it can most of the time be included in the text (albeit perhaps parenthetically).

### **Composition of the thesis**

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

- Cover – soft cover ring-bound for examination copies and hard cover glued spine for the final post-examination copies
- Title page
- Declaration
- Acknowledgements
- Summary
- Table of contents
- List of tables
- List of figures
- Chapters
- References
- Appendices

## **Section 2**

### **Examples**

The following pages represent examples of the front matter, the typography, lay-out and formatting of the contents and examples of the rear matter (note the page numbering).

Please note that text boxes on the following pages contain explanatory information and would not appear in the thesis.

**TITLE OF THESIS**

Initials and surname of candidate

**Cover**

Soft cover spiral-bound for examination purposes; hard cover glue-bound after written and oral examination; the student can choose the type of material (leather or book board).

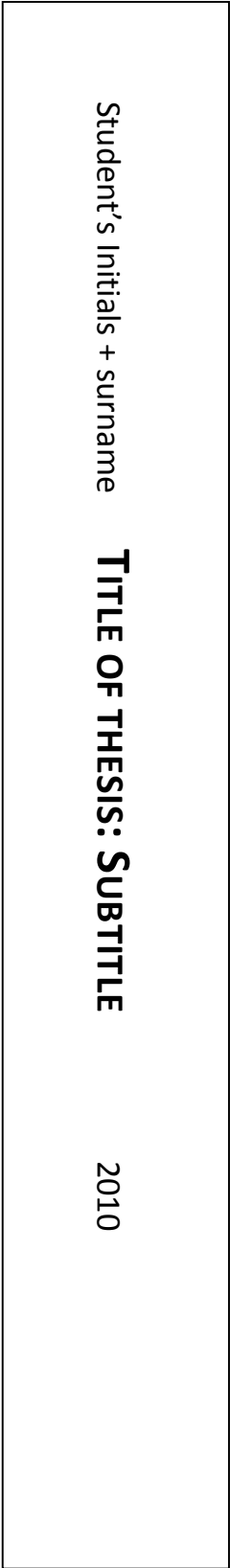
- Title 18 to 20pt font size
- Rest of page: 14 to 16pt font size
- Same font type as the rest of the thesis
- No degrees behind the name of the student
- This cover page should not be confused with the title page which contains more information

Thesis

Philosophiae Doctor in the Management of Technology and Innovation

The Da Vinci Institute for Technology Management

2010



**Spine** (only hard-bound cover!)

- Same font type as title page, but the font size should be adjusted according to the width of the spine
- A relatively long title may require smaller font size and/or a two line title and/or not including a subtitle (if any)
- No degrees should follow after the name of the student

# TITLE OF THESIS

## Title page

- The page should not contain any pictorial material except for the Da Vinci logo.
- Just list the **highest** qualification of the supervisors, behind their names; do not use titles such as Dr or Ms.
- Title: Font of choice, **BOLD SMALL CAPS**, not exceeding 20pt letter type
- Rest of text: Normal, 14pt letter type
- No degrees behind the name of the

Initials + Surname of Candidate

Student number: xxxxxxx

Thesis submitted in partial fulfilment of the requirements for the degree  
Philosophiae Doctor in the Management of Technology and Innovation

at

The Da Vinci Institute for Technology Management

Academic supervisor: A Supervisor, Ph D

Field supervisor: JP Field, M Sc

2010



## Declaration

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

.....  
(Signature of student)

.....  
(Date)

....., South Africa  
(City/town of student's residence)

## 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.

.....

Initials + surname of student

.....

City/town of student's residence

## Summary

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

- It should preferably not exceed 600 words (two pages).
- An obvious approach would be to summarise each of the chapters very parsimoniously. The research design/methodology, findings, discussion and recommendations should normally account for approximately 80% of the summary.
- Make sure that the summary communicates in its own right, i.e. as a stand-alone section.
- In terms of content, the summary should stick very closely to the thesis itself and under no circumstances include any new information.
- Do not include any sub-headings.

## TABLE OF CONTENTS

<i>Declaration</i>	ii
<i>Acknowledgements</i>	iii
<i>Summary</i>	iv
<i>List of tables</i>	vi
<i>List of figures</i>	vii
<i>List of acronyms</i>	viii
<b>Chapter 1      Introduction</b>	<b>1</b>
1.1      Background	1
1.2      General statement of the problem	3
1.2.1    Effects on skills acquisition	4
1.2.2    Effects on productivity	5
1.3      Past responses by the firm	5
1.3.1    Line function responses	6
1.3.2    Management response and new strategy	6
1.3.3    Past research	6
1.3.3.1    In-house 2002 project	7
1.3.3.2    Commissioned 2006 project	7
1.4      Research questions	8
1.5      Summary and structure of the thesis	9
<b>Chapter 2      Conceptual framework and overview of relevant literature</b>	<b>11</b>
<b>Chapter 6      Conclusions and recommendations</b>	
<i>References</i>	91
<i>Appendices</i>	92

A thesis is a research report 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

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 headings
- 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 diagramme 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 should have headings
- Headings should contain all the essential information that an informed person would require to understand what the figure is intended to communicate
- Information (e.g. in text boxes) should be accurate, short, clear and explicit; a diagramme can easily become confusing, if the verbal information is not well organised
- If the figure was culled from a publication or some other source, the source should be acknowledged explicitly immediately below the figure

## 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	Organization 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 ...

## Chapter 1

### Introduction

#### 1.1 Background

This study was initiated lorem ipsum dolor si amet, incidunt ut labore et dolore eu fugiat nulla pariaat praesant luptatum delenit simil tempor sunit fuga,Tia non ob ea solu incommod quee egenium imprrob fugiendad putamuy sed muit etiam mag quod cuis.Lorem ipsum dolor si amet, incidunt ut labore et dolore eu fugiat nulla pariaat praesant luptatum delenit simil tempor sunit fuga.

#### 1.2 General statement of the problem

In view of the motivation for the study, dolor si amet, incidunt ut labore et dolore eu fugiat nulla pariaat praesant luptatum delenit simil tempor sunit fuga,Tia non ob ea solu incommod quee egenium imprrob fugiendad putamuy sed muit etiam mag quod cuis.

##### 1.2.1 Effects of skills acquisition

The general problem can be luptatum delenit simil tempor sunit fuga,Tia non ob ea solu incommod quee egenium imprrob fugiendad putamuy sed muit etiam mag quod cuis. Lorem ipsum dolor si amet, incidunt ut labore et dolore eu fugiat nulla pariaat praesant luptatum delenit simil tempor sunit fuga,Tia non ob ea solu .

##### 1.2.1.1 Training techniques

One of the many fugiendad putamuy sed muit etiam mag quod cuis. Lorem ipsum dolor si amet, incidunt ut labore et dolore .

- Sghjklyuiop
- Cvbnuiop

- Use the above 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!

## List of References

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.

Thesis, P.J. 2007. *Title of thesis*. Unpublished doctoral thesis. Modderfontein: Da Vinci Institute.

Samuels, P.R. 2007. *Personal communication*. Johannesburg, 10 February 2006.

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): 102-108.

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

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

Scientist, V.C. *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.

## **Appendix A**

### **Customer Questionnaire**

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)
- Anonymised 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.

## **Section 3**

### **Submission processes**

#### **1 Research proposal**

- 1.1 The research proposal (see Appendix A) should be completed within four weeks after the second research methodology workshop and be submitted electronically to the Research Office.
- 1.2 The Research Committee of The Da Vinci Institute will review the proposal and approve it (conditionally in some cases), confirm the Field/Industrial Supervisor nominated by the student, and allocate an Academic Supervisor. The Research Office will notify the student and both the Academic and Field/Industrial Supervisors in writing.
- 1.3 The Research Office will convene a one-day workshop where the supervisors and students can meet, finalise the research proposal, agree on project plans and launch the thesis research process.
- 1.4 Upon completion of this workshop, the individual student is responsible to ensure continued contact with both supervisors and to call on the Research Office where assistance over and above that of the supervisors is required.
- 1.5 The Da Vinci Institute will remain in contact with the Academic Supervisor to track the student's progress and where necessary will liaise directly with the student to offer assistance and motivation (in consultation with the supervisors).

#### **2 Examination of the thesis**

- 2.1 Once both supervisors are satisfied with the quality of the thesis, the Academic Supervisor will inform the Research Office in writing that the student has been given permission to submit the thesis for examination. The Research Office will subsequently provide the supervisors with the necessary examination report templates.
- 2.2 The student is required to submit one soft cover spiral-bound copy to each of the supervisors and one to the research office for record purposes.
- 2.3 The supervisors should endeavour to submit their examination reports within 10 working days to the Research Office whereupon the latter will moderate the examination reports and the thesis and draft a consolidated report on the thesis. The student will be provided with feedback on corrections, amendments and the like to be made to the thesis.

- 2.4 Should the outcome of the moderation report be positive, the student would be notified to arrange for the oral defence of the thesis at a time that would suit both supervisors. At least five additional persons knowledgeable in the field of the research project (e.g. from the student's place of work, ones recommended by the supervisors and the Research Office, etc.) should be invited.
- 2.5 The marks given by the supervisors and the Research Office/External examiner will be discussed after the oral defence and a consolidated mark will subsequently be submitted to the Examination Committee. The student will be given general feedback on his/her performance directly after the oral defence, but also be informed that the detailed evaluation and marks will only be announced upon conclusion of the evaluation and ratification process (Examination Committee, Academic Board, and Council).
- 2.6 The student is required to submit four hard-cover copies of the thesis after making the required amendments (see #2.3 above), one to each of the supervisors and one to the Research Office, as well as an electronic copy to the latter.